Usenet Newsgroup Archive: rec.radio.amateur.antenna

2007-01 - 2007-04

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Date span: 2007-01-01 through 2007-04-30

Source text: rec.radio.amateur.antenna.txt

Source item: https://archive.org/details/usenet-rec

Messages included in this PDF: 5,384

Message records with no readable body available in the source text: 1

Messages are presented chronologically by archived date.

Binary or encoded payloads are not printed as blocks of encoded text; a placeholder appears where such material was detected. The original source text is unchanged.

1. Re: Welding Rod J-Pole Possible?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-01 06:31:41 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <hV1mh.41370$sp7.37440@newsfe14.phx>
Source record: 47265

"Bryan" <bryan.swadenerNOSPAM@comcast.net> wrote in message
news:EKCdnRiQhMUN9grYnZ2dnUVZ_rylnZ2d@giganews.com...
> Jim exclaimed:
> > Bull----. It is NOT a bazooka, it is a simple ground plane with bent
over
> > rods.
> >
> > STOP TRYING TO CONFUSE THE GUY. It is a simple ground plane with
> removable
> > radials. STOP POSTING ABOUT THE STUPID BAZOOKA.
> >
> > Jim

> Alright, it's not a bazooka; it's a decoupling sleeve (thank you for the
> enlightenment). Semantics aside, it will do what the OP wishes it to, and
> in a physical representation that will work within his constraints.
>
> Regards,
> Bryan

Either way, do we know the impedance? That is an "easy build" and I want to try some single-band, no-tuner HF antennas. I cut one for 350 MHz receive-only some years back (for the Blue Angels' radios at an air show) and it worked fine.

One more thing: Assuming a nominal 50 ohm match can usually be made, is there any drawback to tuning the thing by making the braid a little longer than calculated, moving the end of the braid up and down to find the best match and then securing the end? I mean, if you don't mind a somewhat lumpy-looking sleeve. (I'm a bit lumpy-looking, myself.) The decoupling capacitance would be reduced by both the decrease in length and the increase in spacing, but the changed value would be, in effect, part of the tuning.

"Sal"

2. Re: Welding Rod J-Pole Possible?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-01 07:31:14 UTC
From: Bryan <bryan.swadenerNOSPAM@comcast.net>
Message-ID: <EaCdneBpLvNUJQXYnZ2dnUVZ_vipnZ2d@giganews.com>
Source record: 47266

Sal M. Onella wrote:
>
> Bryan wrote:
> > Jim exclaimed:
> > > Bull----. It is NOT a bazooka, it is a simple ground plane with bent
> over
> > > rods.
> > >
> > > STOP TRYING TO CONFUSE THE GUY. It is a simple ground plane with
> > removable
> > > radials. STOP POSTING ABOUT THE STUPID BAZOOKA.
> > >
> > > Jim
>
> > Alright, it's not a bazooka; it's a decoupling sleeve (thank you for the
> > enlightenment). Semantics aside, it will do what the OP wishes it to,
and
> > in a physical representation that will work within his constraints.
> >
> > Regards,
> > Bryan
>
>
> Either way, do we know the impedance? That is an "easy build" and I want
to
> try some single-band, no-tuner HF antennas. I cut one for 350 MHz
> receive-only some years back (for the Blue Angels' radios at an air show)
> and it worked fine.
>
> One more thing: Assuming a nominal 50 ohm match can usually be made, is
> there any drawback to tuning the thing by making the braid a little longer
> than calculated, moving the end of the braid up and down to find the best
> match and then securing the end? I mean, if you don't mind a somewhat
> lumpy-looking sleeve. (I'm a bit lumpy-looking, myself.) The decoupling
> capacitance would be reduced by both the decrease in length and the
increase
> in spacing, but the changed value would be, in effect, part of the tuning.
>
> "Sal"

It's a dipole, so it should look like 50-75 ohms to the feedline. I'm not
sure I follow your line of thinking in regard to moving the shield up/down.
Bryan

3. Re: Discussion points on a long term Prognosis for AMATEUR RADIO

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-01 07:51:53 UTC
From: jeffreyh@Hawaii.Edu
Message-ID: <enaeip$bo8$1@news.hawaii.edu>
Source record: 47267

Dan <winstonsalemve@yahoo.com> wrote:

>"Rick" <ricknj10@hotmail.com> wrote in message
>> What does this have to do with antennas.?

>AR licensee numbers are declining
>NO AR= NO need for antennae

That's complete BS. In 1979 we had 1/3 the number
of licensees that we have today, yet the '79 WARC
gave us three new HF bands. We do not need large
numbers to keep what we currently have.

Please abide by the followup-to line above.

No 73 for you,
Jeff KH6O

Chief Petty Officer, U.S. Coast Guard
Mathematics Lecturer, University of Hawaii System
--

4. Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-01 12:40:29 UTC
From: "wizard12342002@yahoo.com" <wizard12342002@yahoo.com>
Message-ID: <1167655229.508078.212740@h40g2000cwb.googlegroups.com>
Source record: 47268

I would like to propose a grounding arrangement for my [hypothetical] antenna and get some feedback on it. I have access to the solid-copper cold-water pipe that enters my home through the basement wall close to the basement floor. This pipe is used [in addition to cold water] for the service entrance [circuit breaker box] ground. I was thinking of putting an antenna outside on a pole and running the coax into the basement. Then I would strip back several inches of the outer jacket of the coax [axposing the braided shield] and connect the coax braid to the cold water pipe using several hose clamps. This should ground the coax directly to the service ground - the single point ground for the house. I would add an arrester near the ground point. I would then run the coax upstairs [about 10 feet] to the radio, where it would [via the PL-259] connect to the transceiver chassis. The radio chassis will be electrically bonded to peripheral equipment chassis'.

It seems that in the unlikely event [low altitude, semi-urban area] that the antenna were struck by lightning, the energy [albeit significant] would have no reason to propagate up to my station. Even though it may elevate my house ground by thousands of volts [with respect to some other ground point], the station should ride up with it - and little current should flow in the coax at the station.

Am I whistling Dixie?

Thanks,

-JJ

5. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-01 12:57:45 UTC
From: Dave <noone@nowhere.com>
Message-ID: <r42dnQKD8rIImATYnZ2dnUVZ_rGinZ2d@crocker.com>
Source record: 47269

<wizard12342002@yahoo.com> wrote in message
news:1167655229.508078.212740@h40g2000cwb.googlegroups.com...
>I would like to propose a grounding arrangement for my [hypothetical]
> antenna and get some feedback on it. I have access to the solid-copper
> cold-water pipe that enters my home through the basement wall close to the
> basement floor.

bad start

> This pipe is used [in addition to cold water] for
> the service entrance [circuit breaker box] ground.

thats bad news

> I was thinking of putting an antenna outside on a pole and running the
> coax into the
> basement.

nope, not the way to do it right.

> Then I would strip back several inches of the outer jacket
> of the coax [axposing the braided shield] and connect the coax braid to
> the cold water pipe using several hose clamps. This should ground the
> coax directly to the service ground - the single point ground for the
> house.

except the single point shouldn't be 'inside' the house.

> I would add an arrester near the ground point. I would then run
> the coax upstairs [about 10 feet] to the radio, where it would [via the
> PL-259] connect to the transceiver chassis. The radio chassis will be
> electrically bonded to peripheral equipment chassis'.

the radio chassis should be connected to the same single point ground, and
not via just the coax shield.

>
> It seems that in the unlikely event [low altitude, semi-urban area]
> that the antenna were struck by lightning, the energy [albeit
> significant] would have no reason to propagate up to my station. Even
> though it may elevate my house ground by thousands of volts [with
> respect to some other ground point], the station should ride up with it
> - and little current should flow in the coax at the station.
>
> Am I whistling Dixie?

6. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-01 16:42:31 UTC
From: chuck <nospam@nospam.org>
Message-ID: <1167669815_16085@sp6iad.superfeed.net>
Source record: 47270

wizard12342002@yahoo.com wrote:
> I would like to propose a grounding arrangement for my [hypothetical]
> antenna and get some feedback on it. I have access to the solid-copper
> cold-water pipe that enters my home through the basement wall close to
> the basement floor. This pipe is used [in addition to cold water] for
> the service entrance [circuit breaker box] ground. I was thinking of
> putting an antenna outside on a pole and running the coax into the
> basement. Then I would strip back several inches of the outer jacket
> of the coax [axposing the braided shield] and connect the coax braid to
> the cold water pipe using several hose clamps. This should ground the
> coax directly to the service ground - the single point ground for the
> house. I would add an arrester near the ground point. I would then run
> the coax upstairs [about 10 feet] to the radio, where it would [via the
> PL-259] connect to the transceiver chassis. The radio chassis will be
> electrically bonded to peripheral equipment chassis'.
>
> It seems that in the unlikely event [low altitude, semi-urban area]
> that the antenna were struck by lightning, the energy [albeit
> significant] would have no reason to propagate up to my station. Even
> though it may elevate my house ground by thousands of volts [with
> respect to some other ground point], the station should ride up with it
> - and little current should flow in the coax at the station.
>
> Am I whistling Dixie?
>
> Thanks,
>
> -JJ
>

I'm sure not an expert on the subject but ARRL ran a good multipart
series in 2002 that might address some of your questions.

http://www.arrl.org/tis/info/pdf/0206056.pdf
0206056.pdf (application/pdf Object)

Good luck!

Chuck

-----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

7. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-01 17:03:36 UTC
From: Caveat Lector <CL@nowhere.com>
Message-ID: <t9bmh.41803$WM3.26722@newsfe11.phx>
Source record: 47271

Maybe read PolyPhaser | The Authority On Lightning & Surge Protection

http://www.polyphaser.com/

Happy New year -- CL

8. Re: Welding Rod J-Pole Possible?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-01 17:10:19 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <aafip25f45fevobkddbffdt0rqgm3tfbld@4ax.com>
Source record: 47273

On Sun, 31 Dec 2006 22:31:41 -0800, "Sal M. Onella"
<salmonella@food.poisoning.org> wrote:

>Either way, do we know the impedance? That is an "easy build" and I want to
>try some single-band, no-tuner HF antennas.

Hi OM,

The sleeve dipole makes for a pretty tall HF radiator and puts one end
quite close to ground where a ground plane design, if you matched the
heights of the feed points, would probably show less loss.

As for impedance, it would be close to a conventional dipole - 70 to
75 Ohms. However, the proximity of earth (for HF) would alter that.
Further, the jacket material that covers the outer braid is notorious
for being rather lossy in its own right. When you draw the braid back
over it, it creates a lossy transmission line with that material
between the drawn back braid, and the jacketed braid it is covering.
This does not normally concern most who build this style of antenna as
it is one of those "precious" details that is argued endlessly while
others put it to good use.

>One more thing: Assuming a nominal 50 ohm match can usually be made, is
>there any drawback to tuning the thing by making the braid a little longer
>than calculated, moving the end of the braid up and down to find the best
>match and then securing the end?

It'll work just fine.

>The decoupling
>capacitance would be reduced by both the decrease in length and the increase
>in spacing, but the changed value would be, in effect, part of the tuning.

This is the first I've heard of "decoupling capacitance." The lower
arm of the vertical dipole is just that, the lower arm. It's
proximity to the feed line will certainly impact the state of tune,
but there is no claim to decoupling built into this design. You will
have to provide for the usual considerations in that regard (but most
neglect that too to no particular pain).

73's
Richard Clark, KB7QHC

9. Even a Caveman could do it

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-01 17:11:36 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <459940ca$0$5755$4c368faf@roadrunner.com>
Source record: 47272
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

"DaveC" <wntu4@yahoo.com> wrote in message > >Now if you will excuse me I need to start studying for >my General.

Good one Dave. When you start "studying" for your general you will see how dumbed down and simple it is and you might marvel at why the QPC would have ever even bothered to commit such a "test" to publication. It may also occur to you that, as the the Geico commercial says, it is so easy a caveman could do it. Actually I would move back perhaps 25 million years earlier in the evolutionary cycle and say it is so easy, even a monkey could do it.

And monkeys it will be.

The new Monkey General class :-)

10. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-01 17:14:20 UTC
From: Bob Miller <NOSPAM@neosoft.com>
Message-ID: <v9gip2tsipechb9khog870c76gai42r1dd@4ax.com>
Source record: 47274

try

http://www.w8ji.com/ground_systems.htm

bob

11. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-01 17:27:30 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <sjgip21t1v28o9jif3lstsjqa4q50l5a01@4ax.com>
Source record: 47275

On 1 Jan 2007 04:40:29 -0800, "wizard12342002@yahoo.com"
<wizard12342002@yahoo.com> wrote:

>I would like to propose a grounding arrangement for my [hypothetical]
>antenna and get some feedback on it. I have access to the solid-copper
>cold-water pipe that enters my home through the basement wall close to
>the basement floor. This pipe is used [in addition to cold water] for
>the service entrance [circuit breaker box] ground.

Hi OM,

You have the classic service ground connection.

>I was thinking of
>putting an antenna outside on a pole and running the coax into the
>basement. Then I would strip back several inches of the outer jacket
>of the coax [axposing the braided shield] and connect the coax braid to
>the cold water pipe using several hose clamps.

This qualifies, in most respects, to code for grounding a continuous
wire and employing a method prescribed by code, clamping. However, it
would seem that clamping might deform the coax. You should
investigate your local code for alternatives as well as for
compliance.

>This should ground the
>coax directly to the service ground - the single point ground for the
>house. I would add an arrester near the ground point.

Then you are breaking the run instead of just simply stripping the
jacket. Check code.

>I would then run
>the coax upstairs [about 10 feet] to the radio, where it would [via the
>PL-259] connect to the transceiver chassis. The radio chassis will be
>electrically bonded to peripheral equipment chassis'.

This is also classically known as a suicide connection. If you were
holding the PL-259 shell in one hand, and touched any, poorly
maintained metal chassis of the transceiver while plugging it in (or
removing it); then you might just be the fuse in a circuit about to
blow. I've seen my buddy draw sparks with just such an arrangement
before I convinced him to run a real, separate ground.

73's
Richard Clark, KB7QHC

12. slow code under a new name?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-01 18:07:27 UTC
From: Mark@kb9rqz.aprs
Message-ID: <bajip2tsbfd1ikfaffajkg99h97r3dg7u2@4ax.com>
Source record: 47277
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

On Mon, 1 Jan 2007 12:11:36 -0500, "Stefan Wolfe" <stefan@eml.com>
wrote:

>"DaveC" <wntu4@yahoo.com> wrote in message > >Now if you will excuse me I
>need to start studying for >my General.
>
>Good one Dave. When you start "studying" for your general you will see how
>dumbed down and simple it is and you might marvel at why the QPC would have
>ever even bothered to commit such a "test" to publication. It may also occur
>to you that, as the the Geico commercial says, it is so easy a caveman could
>do it. Actually I would move back perhaps 25 million years earlier in the
>evolutionary cycle and say it is so easy, even a monkey could do it.
>
>And monkeys it will be.
>
>The new Monkey General class :-)
>
>
same vile bile

certainly it is the product of someone that should turn in thre
license
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

13. Interesting 144 foot Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-01 18:49:30 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <_Icmh.31175$Gr2.1959@newssvr21.news.prodigy.net>
Source record: 47278

A ham over on eHam.net wanted to know if a 40m EDZ would work on 80m. Of course it will if fed correctly since it is about 166 feet long. The question is: Is there a fixed length of ladder-line that will work both on 40m and 80m? I fired up EZNEC and started cut and trying. I found that a 144 foot 40m "EDZ" would yield some interesting results. I went out and extended my 130 foot dipole to 144 feet and was impressed.

I found that a 144 foot center-fed dipole fed with ~88 feet of 450 ohm ladder-line was resonant on 7.150 MHz and my IC-756PRO would tune it over the entire 40m band. 40m is my favorite band.

In addition, the IC-756PRO tuner will tune the same antenna system over a 3.7-3.9 MHz range on 80m.

In addition, the IC-756PRO tuner will tune the same antenna system on 30m and 17m.

I've already got a rotatable dipole for 20m-10m and this antenna tunes on 80m, 40m, and 30m.
--
73, Cecil http://www.w5dxp.com

14. Re: QRA? QCX?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-01 19:46:52 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <1167680812.153944.186300@n51g2000cwc.googlegroups.com>
Source record: 47276

Dear don Bill.

I think you are being a little hard with me. I am a Ham Radio like you, and I think I don't be a bad or unpolite Ham, most of my time I am writing technical topics for our community (you may see it in: www.solred.com.ar/lu6etj).
All forums I know have a little space for OT questions (I am a moderator of a couple spanish language ham forums).

I intend qualified my post with an [Off Topic] header, perhaps an error of me make me don't put it that header, but I am pretty sure that I was made it. .

This forum have very messages about political OT issues about your country or CW issues and most of readers are tolerant about it, because of that, I do not understand your special angry to my simple question.

I am very sorry for my failure I thought I was in a very friendly place. I hope the rest of colleagues and readers don´t feel angry with me, I am not perfect but I trying to be a littrle better man, day to day...

Best regards and happy new years for all.

Miguel Ghezzi (LU 6ETJ)

PS: My translation can be bad PSE do see a "good wave" commentary in my writing :>)

Bill Turner ha escrito:

> Please folks, do not reply to these posts which have nothing to do
> with the purpose of this newsgroup.
>
> If these people never get any replies, they will eventually learn to
> post to the correct newsgroup.
>
> Thanks,
>
> Bill, W6WRT

15. Re: A real ANTENNA question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-01 20:50:06 UTC
From: jawod <jawod@fuse.net>
Message-ID: <459973FE.3020303@fuse.net>
Source record: 47279

jawod wrote:
> Happy New Year
>
> I am trying mobile operations for the first time...FT8900 Quad band XCVR
> and Diamond CR8900 quad band antenna (10, 6, 2M and 440Mhz). I am
> mounting the antenna on the hatchback of an Element.
>
> I am wondering how significant is the proximity of the AM antenna (a
> stubby affair presumably housing some sort of coil?) to the new ham
> antenna. I can mount the antenna on the driver's side of the hatchback
> or the passenger side. The passenger side is within a foot or two of
> the AM stub antenna.
>
> I would think in either case the AM antenna is in the Near Field.
> Will the antenna pattern be significantly more affected on the passenger
> side?
>
> Thanks in advance for all helpful replies ;)
>
> John
> AB8O
Thanks for your thoughts!
Looks like the bigger challenge is programming the FT8900!

John
AB8O

16. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-01 21:44:49 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98AC58F623632nonenowhere@61.9.191.5>
Source record: 47280

"wizard12342002@yahoo.com" <wizard12342002@yahoo.com> wrote in
news:1167655229.508078.212740@h40g2000cwb.googlegroups.com:

> I would like to propose a grounding arrangement for my [hypothetical]
> antenna and get some feedback on it. I have access to the solid-copper

You haven't described here the antenna and its support structure, and
they are relevant.

One of the strategies for hardening a site against lightning is to divert
as much of the strike current to ground rather than having it flow in the
conductors within the facility. The value / necessity of this measure
will depend on the antenna, its support structure, nearby structures that
might protect your antenna to some extent, and the risk of lighting in
your locality.

> cold-water pipe that enters my home through the basement wall close to
> the basement floor. This pipe is used [in addition to cold water] for
> the service entrance [circuit breaker box] ground. I was thinking of
> putting an antenna outside on a pole and running the coax into the
> basement. Then I would strip back several inches of the outer jacket
> of the coax [axposing the braided shield] and connect the coax braid to
> the cold water pipe using several hose clamps. This should ground the
> coax directly to the service ground - the single point ground for the
> house. I would add an arrester near the ground point. I would then run
> the coax upstairs [about 10 feet] to the radio, where it would [via the
> PL-259] connect to the transceiver chassis. The radio chassis will be
> electrically bonded to peripheral equipment chassis'.

Lightning conductors need to be substantial enough to withstand the
strike scenario without physical failure (eg melting). A common scenario
is 20kA for 0.1s, but it does depend on the situation. Is your coax braid
and your termination / bonding method sufficient to survive strike
current?

Equipotential bonding of the lightning protection ground and the AC
service ground systems is important. Low resistance and more importantly
low inductance conductors that will withstand the current are required.

Depending on your coax shield as a bonding conductor from your equipment
to the ground point as you describe sounds unwise for several reasons,
but most notably because it uses coax connectors (and probably PL259s at
that) for the connection, they are not reliable enough, and they would
not be a permanent connection).

If your equipment runs on low voltage DC, do not assume that the power
supply provides a connection between the AC ground and the -ve DC lead,

some powersupplies have floating output. In any event, bonding of the external metal of all equipment in your station to a single point ground is advisable to reduce the risk of substantial potential differences between equipments, and the risk that poses to life in the event of lightning or even an electrical fault.

If addressing these issues seems extreme, it is probably a good indicator that many ham station earth systems are quite inadequate, offset by the low probability of an adverse event and not usually talked about when poor implementation exacerbated the situation.

Like one of the other respondents, I recommend the Polyphaser site, it is a usefull source that canvasses many of the issues.

Additionally, your wiring codes or standards may provide guidance or set requirements, they do here.

Having done all that, and with better knowledge, review the risk, cost and measures. You may not want to resource a lightning hardened solution for 24x7 connection of the stations to antennas.

Owen

17. Re: Remembering some past antennas (CB related)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-01 21:46:39 UTC
From: Bob Miller <NOSPAM@neosoft.com>
Message-ID: <p70jp299oqdb6b3r6uunc90diskmcah810@4ax.com>
Source record: 47281

On Sun, 31 Dec 2006 11:38:01 -0500, "Jimmie D"
<jimmiedee@bellsouth.net> wrote:

... excerpted...
>>
>IT was your youth. (|:))
>

Or maybe the sun spots :-)

bob
k5qwg

18. Re: Welding Rod J-Pole Possible?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-01 22:41:50 UTC
From: Chuck James <c456james@sbcglobal.net>
Message-ID: <O6gmh.57042$wP1.46850@newssvr14.news.prodigy.net>
Source record: 47282

One of the other posters in this thread gave me the solution to my quest, and it was cheap, easy, small, and less than 1.3 SWR. It was a simple dipole, made of a wooden block and welding rod. I took a piece of 3/4 inch wood dowel, cut it to about 4 inches in length, drilled one hole in each end (lengthwise). I left about 1/2 inch of wood between the holes I drilled, so the welding rods would not touch. I inserted a 19 inch piece of welding rod in each end. The overall length is about 38 and 1/2 inches. Then, in the center of the dowel, I drilled two intersecting holes so that I could put screws into the wood which would press against each piece of welding rod. This kept the welding rods in place, and it also gave me a place to attach the center wire and braid from an RG-58U Coax cable. I soldered two small alligator clips, on the coax, so that I could just clip the coax to the antenna. To take it apart, or put it together, all I need is a phillips screwdriver.

I'd like to thank everyone for their help, in pointing me in the right direction!

"RST Engineering" <jim@rstengineering.com> wrote in message
news:VRHlh.130$ZG6.98401@news.sisna.com...
> I'm sure you know what you want, and I'm sure you have all the lab
> equipment necessary to calculate VSWR on an antenna inside a conductive
> structure. I'm also sure you have built antennas for emergency and
> portable use for fifty years, so you are on your own so far as I'm
> concerned.
>
> Cheap, easy, small. Pick two.
>
> Best of luck; write if you get work.
>
> Jim
>
>
>
> "Chuck James" <c456james@sbcglobal.net> wrote in message
> news:4TGlh.56758$wP1.42497@newssvr14.news.prodigy.net...
>> Thanks. I appreciate the suggestion, but I have built the antenna you
>> described, using welding rod, plus a 440 MHz (smaller version), but in a
>> crowded room the radials stick out farther than I want. I tried building
>> a TV antenna line J-Pole today, but the SWR was higher than I expected.
>> I haven't tried shortening it yet, but will when I get time. But I would
>> still have to find some way to hang it from the ceiling or something. I
>> really want something small, unobtrusive and cheap and easy to
>> build.>>>standing and as small as practical. The Welding Rod antennas
>> made with 45

>>>>degree radials are a little bulky to move through congested hallways.
>>>>The idea is to make it portable enough to move from room to room as
>>>>needed. Long radials would impede moving through hallways.
>>>> Thanks in advance, KE5GEO
>
>

19. Re: Welding Rod J-Pole Possible?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-01 22:52:54 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <Eggmh.17315$%e7.6143@bignews2.bellsouth.net>
Source record: 47283

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:aafip25f45fevobkddbffdt0rqgm3tfbld@4ax.com...
> On Sun, 31 Dec 2006 22:31:41 -0800, "Sal M. Onella"
> <salmonella@food.poisoning.org> wrote:
>
>>Either way, do we know the impedance? That is an "easy build" and I want
>>to
>>try some single-band, no-tuner HF antennas.
>
> Hi OM,
>
> The sleeve dipole makes for a pretty tall HF radiator and puts one end
> quite close to ground where a ground plane design, if you matched the
> heights of the feed points, would probably show less loss.
>
> As for impedance, it would be close to a conventional dipole - 70 to
> 75 Ohms. However, the proximity of earth (for HF) would alter that.
> Further, the jacket material that covers the outer braid is notorious
> for being rather lossy in its own right. When you draw the braid back
> over it, it creates a lossy transmission line with that material
> between the drawn back braid, and the jacketed braid it is covering.
> This does not normally concern most who build this style of antenna as
> it is one of those "precious" details that is argued endlessly while
> others put it to good use.
>
>>One more thing: Assuming a nominal 50 ohm match can usually be made, is
>>there any drawback to tuning the thing by making the braid a little longer
>>than calculated, moving the end of the braid up and down to find the best
>>match and then securing the end?
>
> It'll work just fine.
>
>>The decoupling
>>capacitance would be reduced by both the decrease in length and the
>>increase
>>in spacing, but the changed value would be, in effect, part of the tuning.
>
> This is the first I've heard of "decoupling capacitance." The lower
> arm of the vertical dipole is just that, the lower arm. It's
> proximity to the feed line will certainly impact the state of tune,
> but there is no claim to decoupling built into this design. You will
> have to provide for the usual considerations in that regard (but most
> neglect that too to no particular pain).
>

> 73's
> Richard Clark, KB7QHC

I made one of these sleeve antennas for 10M with the folded back shield,
put a KW on it and it arced through the black vinyl.
Not exactly what I would call a "precious detail". Many years ago Shakespear
antennas were made this way and they changed there design because of the
same problem. Now they replace the folded back sheild with 4 or 5 wires
imbeded in the fiberglass shell putting a good bit of air dielectric between
the folded back part of the dipole and the sheild.

20. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-01 23:04:26 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <orgmh.17318$%e7.7811@bignews2.bellsouth.net>
Source record: 47284

"Dave" <noone@nowhere.com> wrote in message
news:r42dnQKD8rIImATYnZ2dnUVZ_rGinZ2d@crocker.com...
>
> <wizard12342002@yahoo.com> wrote in message
> news:1167655229.508078.212740@h40g2000cwb.googlegroups.com...
>>I would like to propose a grounding arrangement for my [hypothetical]
>> antenna and get some feedback on it. I have access to the solid-copper
>> cold-water pipe that enters my home through the basement wall close to
>> the basement floor.
>
> bad start
>
>> This pipe is used [in addition to cold water] for
>> the service entrance [circuit breaker box] ground.
>
> thats bad news
>
>> I was thinking of putting an antenna outside on a pole and running the
>> coax into the
>> basement.
>
> nope, not the way to do it right.
>
>> Then I would strip back several inches of the outer jacket
>> of the coax [axposing the braided shield] and connect the coax braid to
>> the cold water pipe using several hose clamps. This should ground the
>> coax directly to the service ground - the single point ground for the
>> house.
>
> except the single point shouldn't be 'inside' the house.
>
>> I would add an arrester near the ground point. I would then run
>> the coax upstairs [about 10 feet] to the radio, where it would [via the
>> PL-259] connect to the transceiver chassis. The radio chassis will be
>> electrically bonded to peripheral equipment chassis'.
>
> the radio chassis should be connected to the same single point ground, and
> not via just the coax shield.
>
>>
>> It seems that in the unlikely event [low altitude, semi-urban area]
>> that the antenna were struck by lightning, the energy [albeit
>> significant] would have no reason to propagate up to my station. Even
>> though it may elevate my house ground by thousands of volts [with

>> respect to some other ground point], the station should ride up with it
>> - and little current should flow in the coax at the station.
>>
>> Am I whistling Dixie?
>
>
>
>

Hopefully you are not really using the water pipe for a ground for your electrical service. Hopefully your plumbing is just bonded to the electrical ground. Dont even think about using this for lightning protection. Nothing like having lightning run in on your plumbing while taking a bath or have it run in on yor ground and eat about $7K worth of test equipment(my bad).

Jimmie

21. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-01 23:06:26 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <gtgmh.17320$%e7.1307@bignews2.bellsouth.net>
Source record: 47285

"Caveat Lector" <CL@nowhere.com> wrote in message
news:t9bmh.41803$WM3.26722@newsfe11.phx...
> Maybe read PolyPhaser | The Authority On Lightning & Surge Protection
>
> http://www.polyphaser.com/
>
> Happy New year -- CL
>

THE BIBLE on grounding and bonding.as far as I am concerned.

22. Re: Even a Caveman could do it

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-01 23:10:52 UTC
From: hot-ham-and-cheese@hotmail.com
Message-ID: <1167693052.159628.147440@n51g2000cwc.googlegroups.com>
Source record: 47286
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

Stefan Wolfe wrote:
> "DaveC" <wntu4@yahoo.com> wrote in message > >Now if you will excuse me I
> need to start studying for >my General.
>
> Good one Dave. When you start "studying" for your general you will see how
> dumbed down and simple it is and you might marvel at why the QPC would have
> ever even bothered to commit such a "test" to publication. It may also occur
> to you that, as the the Geico commercial says, it is so easy a caveman could
> do it. Actually I would move back perhaps 25 million years earlier in the
> evolutionary cycle and say it is so easy, even a monkey could do it.
>
> And monkeys it will be.
>
> The new Monkey General class :-)

Only one amateur on RRAP has ever said that studying wasn't required.
He was an Advanced and his name is/was Bruce. Said he took the Extra
exam on a whim, a bet, and took $250 from a "No Code CBer." Passed the
exam without any preparation, and didn't miss a single question.

However, Bruce was the closest thing to a Monkey that you'd find on
RRAP.

23. Re: Even a Caveman could do it

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-01 23:17:05 UTC
From: hot-ham-and-cheese@hotmail.com
Message-ID: <1167693425.050731.164520@n51g2000cwc.googlegroups.com>
Source record: 47287
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

Cecil Moore wrote:

> I heard of a guy who died
> in a knife fight over a woman when he was 102 years old.
> That certainly beats dying in a nursing home at 90.

Cecil, I'd have to see the woman first. ;^)

24. Re: Welding Rod J-Pole Possible?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 00:08:22 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <Wnhmh.14258$Gw4.3070@newssvr23.news.prodigy.net>
Source record: 47288

Jimmie D wrote:
> I made one of these sleeve antennas for 10M with the folded back shield,
> put a KW on it and it arced through the black vinyl.

It's a standing wave antenna. The voltage at the end
of the shield is approximately 20 times the voltage
at the feedpoint. For a KW, that's more than 5 kV,
too much for ordinary coax.
--
73, Cecil http://www.w5dxp.com

25. Re: Welding Rod J-Pole Possible?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 00:49:28 UTC
From: Chuck James <c456james@sbcglobal.net>
Message-ID: <s_hmh.41877$wc5.11309@newssvr25.news.prodigy.net>
Source record: 47289

Well, I finally took the time to work on the "TV Antenna Feed Line" J-Pole someone suggested. I got it down to less than 1.6 SWR, on 2 meter, and less than 1.2 on 70 cm, by trimming it down 1/8 inch at a time. So now I have a VERY portable dual band antenna, I can just roll up and stick in a small "go bag". I tried it on my Yaesu VX-6R and was able to hit several local repeaters, some, of them even on low power.

Thanks again to all that helped.

"Jimmie D" <jimmiedee@bellsouth.net> wrote in message
news:Eggmh.17315$%e7.6143@bignews2.bellsouth.net...
>
> "Richard Clark" <kb7qhc@comcast.net> wrote in message
> news:aafip25f45fevobkddbffdt0rqgm3tfbld@4ax.com...
>> On Sun, 31 Dec 2006 22:31:41 -0800, "Sal M. Onella"
>> <salmonella@food.poisoning.org> wrote:
>>
>>>Either way, do we know the impedance? That is an "easy build" and I want
>>>to
>>>try some single-band, no-tuner HF antennas.
>>
>> Hi OM,
>>
>> The sleeve dipole makes for a pretty tall HF radiator and puts one end
>> quite close to ground where a ground plane design, if you matched the
>> heights of the feed points, would probably show less loss.
>>
>> As for impedance, it would be close to a conventional dipole - 70 to
>> 75 Ohms. However, the proximity of earth (for HF) would alter that.
>> Further, the jacket material that covers the outer braid is notorious
>> for being rather lossy in its own right. When you draw the braid back
>> over it, it creates a lossy transmission line with that material
>> between the drawn back braid, and the jacketed braid it is covering.
>> This does not normally concern most who build this style of antenna as
>> it is one of those "precious" details that is argued endlessly while
>> others put it to good use.
>>
>>>One more thing: Assuming a nominal 50 ohm match can usually be made, is
>>>there any drawback to tuning the thing by making the braid a little
>>>longer
>>>than calculated, moving the end of the braid up and down to find the best
>>>match and then securing the end?
>>
>> It'll work just fine.
>>

>>>The decoupling
>>>capacitance would be reduced by both the decrease in length and the
>>>increase
>>>in spacing, but the changed value would be, in effect, part of the
>>>tuning.
>>
>> This is the first I've heard of "decoupling capacitance." The lower
>> arm of the vertical dipole is just that, the lower arm. It's
>> proximity to the feed line will certainly impact the state of tune,
>> but there is no claim to decoupling built into this design. You will
>> have to provide for the usual considerations in that regard (but most
>> neglect that too to no particular pain).
>>
>> 73's
>> Richard Clark, KB7QHC
>
> I made one of these sleeve antennas for 10M with the folded back shield,
> put a KW on it and it arced through the black vinyl.
> Not exactly what I would call a "precious detail". Many years ago
> Shakespear antennas were made this way and they changed there design
> because of the same problem. Now they replace the folded back sheild with
> 4 or 5 wires imbeded in the fiberglass shell putting a good bit of air
> dielectric between the folded back part of the dipole and the sheild.
>

26. Re: Welding Rod J-Pole Possible?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 01:04:22 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <qcimh.55949$qO4.10027@newssvr13.news.prodigy.net>
Source record: 47290

Chuck James wrote:
> Well, I finally took the time to work on the "TV Antenna Feed Line" J-Pole
> someone suggested. I got it down to less than 1.6 SWR, on 2 meter, and less
> than 1.2 on 70 cm, by trimming it down 1/8 inch at a time. So now I have a
> VERY portable dual band antenna, I can just roll up and stick in a small
> "go bag". I tried it on my Yaesu VX-6R and was able to hit several local
> repeaters, some, of them even on low power.

A little trick I learned in AZ - It will work better
on 440 if you slant it toward the repeater.
--
73, Cecil http://www.w5dxp.com

27. Re: Auto tuners & verticals

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 01:08:54 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <qpbjp2lcv5ej2gucsfk1juu93rmomt9v2g@4ax.com>
Source record: 47291

On Mon, 04 Dec 2006 09:18:47 -0500, chuck <nospam@nospam.org> wrote:

>John Ferrell wrote:
>> I am considering purchasing a remote auto tuner for my continuing

>As others have noted, the auto tuners will have no trouble matching a 33
>foot vertical on either 80 or 160 meters, even over sea water.
>
>Using one at the antenna may reduce losses in your coax since the swr
>will always be low.
>
>The auto tuners will introduce their own losses, as will any antenna
>tuners, although with shorter antennas the losses may be greater. QST
>had an article in which auto tuner losses and matching ranges were
>measured and I think compared with conventional tuners. If I recall, the
>results were less unfavorable toward auto tuners than I had expected.
>
>To reduce auto tuner matching losses to insignificant levels, you might
>consider adding some lumped inductance at the base of your vertical (or
>even better, part way up as in center-loading). You can add a
>capacitance hat as well. If you cause the 33 foot antenna to appear
>resonant at either 80 or 160, you will see reduced auto tuner matching
>losses on both bands. Just a rough approximation to the required number
>of turns ought to work. You're only trying to provide enough external
>loading to reduce the tuner's losses. Resonance really doesn't matter
>much. If you do this, you should be able to enjoy the ease of QSY
>without a serious loss penalty and without a need to switch taps or
>retune manually.
>
>Of course your 33 foot vertical resonant at 80 or 160 meters may not
>perform well at 40 meters and above, or worse, may not provide an
>impedance your tuner can handle at those frequencies.
>
>Chuck, NT3G

I have updated the 28 foot vertical web page for those who may be
interested in my experience. I is at
http://www.dixienc.us/28FtVert/SGC237.htm

I am very pleased with the results using the tuner but it has only
been a few days, I am still in the "honey moon" phase. I outline the
considerations for me and a larger vertical at the web site.
John Ferrell W8CCW

28. Re: So who won the "when does NoCode happen" pool?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 01:12:58 UTC
From: MarQueerMyDear <dear_marqueer_marky@mail2princess.com>
Message-ID: <1167700378.195707.215510@42g2000cwt.googlegroups.com>
Source record: 47292
Cross-posted to: rec.radio.amateur.policy,alt.usenet.kooks,rec.radio.cb,alt.home.repair,rec.radio.amateur.antenna

>>Hello, Alun. Okay, I'll write a letter to the FDA and post it
>Wednesday...
>
>>>I wasn't aware one needed a ham license to purchase and eat ham.
>>>>>>
>My wife and I had ham during the holidays. He tasted like
> chicken...

Thats what morkie says about gav!

>>> Best regards,

> LenAnderson@ieee.org

29. Re: Welding Rod J-Pole Possible?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 01:17:32 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <%nimh.17356$%e7.16138@bignews2.bellsouth.net>
Source record: 47293

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:Wnhmh.14258$Gw4.3070@newssvr23.news.prodigy.net...
> Jimmie D wrote:
>> I made one of these sleeve antennas for 10M with the folded back shield,
>> put a KW on it and it arced through the black vinyl.
>
> It's a standing wave antenna. The voltage at the end
> of the shield is approximately 20 times the voltage
> at the feedpoint. For a KW, that's more than 5 kV,
> too much for ordinary coax.
> --
> 73, Cecil http://www.w5dxp.com

No kidding!!!!!

30. Re: even marqueer and brian like to switch.....thats supposed to be a one way hole!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 01:25:41 UTC
From: MarQueerMyDear <dear_marqueer_marky@mail2princess.com>
Message-ID: <1167701141.653161.207730@s34g2000cwa.googlegroups.com>
Source record: 47294
Cross-posted to: rec.radio.amateur.policy,alt.usenet.kooks,rec.radio.swap,rec.radio.cb,rec.radio.amateur.antenna

```
hot-ham-and-che...@hotmail.com wrote:
> Cecil Moore wrote:
> > hot-ham-and-cheese@hotmail.com wrote:
> > > Only one amateur on RRAP has ever said that studying wasn't required.
> > > He was an Advanced and his name is/was Bruce. Said he took the Extra
> > > exam on a whim, ...
> >
> > One morning in San Francisco, I had about seven Irish coffees
> > for breakfast and walked past the FCC building. On a whim,
> > I went in and took the advanced exam and passed - don't
> > know what my score was and don't remember anything about
> > the exam.
> > --
> > 73, Cecil http://www.w5dxp.com
>
> Shall I put you in the same category as WA8ULX?

go get a room with marqueer, brian
```

31. Re: Auto tuners & verticals

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 02:07:57 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98AC8593217C0nonenowhere@61.9.191.5>
Source record: 47298

John Ferrell <johnferrell@sprintmail.com> wrote in
news:qpbjp2lcv5ej2gucsfk1juu93rmomt9v2g@4ax.com:

> On Mon, 04 Dec 2006 09:18:47 -0500, chuck <nospam@nospam.org> wrote:
>
>>John Ferrell wrote:
>>> I am considering purchasing a remote auto tuner for my continuing
>
>>As others have noted, the auto tuners will have no trouble matching a
>>33 foot vertical on either 80 or 160 meters, even over sea water.
>>
>>Using one at the antenna may reduce losses in your coax since the swr
>>will always be low.
>>
>>The auto tuners will introduce their own losses, as will any antenna
>>tuners, although with shorter antennas the losses may be greater. QST
>>had an article in which auto tuner losses and matching ranges were
>>measured and I think compared with conventional tuners. If I recall,
>>the results were less unfavorable toward auto tuners than I had
>>expected.
>>
>>To reduce auto tuner matching losses to insignificant levels, you
>>might consider adding some lumped inductance at the base of your
>>vertical (or even better, part way up as in center-loading). You can
>>add a capacitance hat as well. If you cause the 33 foot antenna to
>>appear resonant at either 80 or 160, you will see reduced auto tuner
>>matching losses on both bands. Just a rough approximation to the
>>required number of turns ought to work. You're only trying to provide
>>enough external loading to reduce the tuner's losses. Resonance really
>>doesn't matter much. If you do this, you should be able to enjoy the
>>ease of QSY without a serious loss penalty and without a need to
>>switch taps or retune manually.
>>
>>Of course your 33 foot vertical resonant at 80 or 160 meters may not
>>perform well at 40 meters and above, or worse, may not provide an
>>impedance your tuner can handle at those frequencies.
>>
>>Chuck, NT3G
>
> I have updated the 28 foot vertical web page for those who may be
> interested in my experience. I is at
> http://www.dixienc.us/28FtVert/SGC237.htm
>
> I am very pleased with the results using the tuner but it has only

> been a few days, I am still in the "honey moon" phase. I outline the
> considerations for me and a larger vertical at the web site.
> John Ferrell W8CCW

John, re the lighting protection issue with the tuner.

I don't need or want to operate when there is a high risk of lightning, so I disconnect the tuner. The last picture in this article shows how the tuner is mounted and the simplicity of an effective isolating switch. In the event of lightning strike, the inverted L wire will probably side flash to the support mast where it is much closer. One could of course build a sturdy arrestor near the tuner if you don't have such an alternative.

http://www.vk1od.net/InvertedL/InvertedL.htm

Pleased it is all working well for you.

Owen

>

32. 2-meter horizontal omni recommendation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 02:08:59 UTC
From: Elden Fenison <usenet@moondog.org.invalid>
Message-ID: <20070101180859168 07-usenet@moondogorginvalid>
Source record: 47295

Greetings,

I'm thinking I want to move off of the repeater scene and start getting involved in 2-meter SSB. Around here, horizontal is the only way to go with that.

I'd like to put an omni-directional 2-meter horizontally-polarized antenna on top of the 10ft mast on my roof that is currently hosting my GP3 (this will replace the GP3). Mainly, I don't want to mess with a directional beam and a rotor.

Any recommendations as to a store-bought unit that might be well-suited to this purpose?

Thanks ahead for any suggestions. :)

--
-=Elden=-
http://www.moondog.org

33. Re: Even a Caveman could do it

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 02:09:35 UTC
From: robert casey <wa2ise@ix.netcom.com>
Message-ID: <z9jmh.9735$X72.506@newsread3.news.pas.earthlink.net>
Source record: 47296
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

>
> Only one amateur on RRAP has ever said that studying wasn't required.
> He was an Advanced and his name is/was Bruce. Said he took the Extra
> exam on a whim, a bet, and took $250 from a "No Code CBer." Passed the
> exam without any preparation, and didn't miss a single question.
>

And when I took my tech tests back in 1976, I got correct just one more
than the minimum required questions, and did better on the 5wpm code,
receiving and sending. At the FCC in NYC. I thought i'd ace the
written and barely squeak by on the code. Did a lot better when I took
the (at the time) advanced and extra writtens to get my "nickel" extra
upgrade, back in 2000.

All that "Bruce" could prove (assuming the quoted story has any truth to
it) that he did in fact upgrade to extra, but not that he got all the
questions right. Big whoop anyway...

34. Re: Simple FM Antenna, C. Crane, Radio Your Way (Pogo) and Radio Shark (RS)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 02:28:43 UTC
From: Elden Fenison <usenet@moondog.org.invalid>
Message-ID: <2007010118284375249-usenet@moondogorginvalid>
Source record: 47297

On 2006-12-24 17:39:03 -0800, "W. Watson" <wolf_tracks@invalid.com> said:
> As far as I can tell, the "simple" dipole is a single strand of wire
> wrapped in plastic. It's supplied by the Pogo mfger. In the shark it
> plugs into a single antenna socket for an external. For the Pogo it
> plugs into what is called the phones socket. The question remains. Why
> does this simple wire work reasonably well in one radio device but not
> the other? The connection looks snug in both cases.

With the radio shark, that jack is actually a headphone jack that
doubles as an external antenna jack. Sounds to me like the Pogo does
the same thing.

--
-=Elden=-
http://www.moondog.org

35. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 02:58:22 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <iTjmh.623904$QZ1.325418@bgtnsc04-news.ops.worldnet.att.net>
Source record: 47299

Jimmie D wrote:

>
> Hopefully you are not really using the water pipe for a ground for your
> electrical service. Hopefully your plumbing is just bonded to the electrical
> ground. Dont even think about using this for lightning protection. Nothing
> like having lightning run in on your plumbing while taking a bath or have it
> run in on yor ground and eat about $7K worth of test equipment(my bad).
>
> Jimmie
>

Electrical service grounding via water pipes is common and acceptable.
Quoting from the 2005 NEC, which is the standard used in many or most
jurisdictions in the US:

250.52 Grounding Electrodes.
(A) Electrodes Permitted for Grounding.
(1) Metal Underground Water Pipe. A metal underground water pipe in
direct contact with the earth for 3.0 m (10 ft) or more (including any
metal well casing effectively bonded to the pipe) and electrically
continuous (or made electrically continuous by bonding around insulating
joints or insulating pipe) to the points of connection of the grounding
electrode conductor and the bonding conductors. Interior metal water
piping located more than 1.52 m (5 ft) from the point of entrance to the
building shall not be used as a part of the grounding electrode system
or as a conductor to interconnect electrodes that are part of the
grounding electrode system.

I agree this is not a good solution for lightning protection.

73,
Gene
W4SZ

36. Re: Welding Rod J-Pole Possible?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 04:06:31 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <bTkmh.37$Tc1.517263@news.sisna.com>
Source record: 47300

Cecil Moore wrote:
> Jimmie D wrote:
>> I made one of these sleeve antennas for 10M with the folded back
>> shield, put a KW on it and it arced through the black vinyl.
>
> It's a standing wave antenna. The voltage at the end
> of the shield is approximately 20 times the voltage
> at the feedpoint. For a KW, that's more than 5 kV,
> too much for ordinary coax.

Yeah, but tape a couple of ne-2 bulbs there and you can get that kool
old cb look when they light up on key down!!! <silly grin>

Regards,
JS

37. Re: So who won the "when does NoCode happen" pool?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 04:36:49 UTC
From: Mark@kb9rqz.aprs
Message-ID: <gaojp21vbi0pbnr7tp4p25gk1199uk9f69@4ax.com>
Source record: 47301
Cross-posted to: rec.radio.amateur.policy,rec.radio.cb,alt.home.repair,rec.radio.amateur.antenna

On 1 Jan 2007 17:12:58 -0800, "MarQueerMyDear"
<dear_marqueer_marky@mail2princess.com> wrote:

>>>Hello, Alun. Okay, I'll write a letter to the FDA and post it
>>Wednesday...
>>
>>>>I wasn't aware one needed a ham license to purchase and eat ham.
>>>>>>>
>>My wife and I had ham during the holidays. He tasted like
>> chicken...
>
>Thats what morkie says about gav!
no woger I have never said that
>
> >>> Best regards,
>
>> LenAnderson@ieee.org
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

38. Re: Even a Caveman could do it

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 04:40:01 UTC
From: brian.burp@yahoo.com
Message-ID: <1167712801.659230.172000@h40g2000cwb.googlegroups.com>
Source record: 47302
Cross-posted to: rec.radio.amateur.policy,alt.ham-radio.vhf-uhf,rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.misc

Dee Flint wrote:

<snip>

jeeze......i pity the poor bastard that wakes up next to you every
morning!

39. woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 04:42:06 UTC
From: Mark@kb9rqz.aprs
Message-ID: <pkojp2lt8c5qb6chbli08gparikvmugmkj@4ax.com>
Source record: 47303
Cross-posted to: rec.radio.amateur.policy,rec.radio.swap,rec.radio.cb,rec.radio.amateur.antenna

```
On 1 Jan 2007 17:25:41 -0800, "MarQueerMyDear"
<dear_marqueer_marky@mail2princess.com> wrote:

>hot-ham-and-che...@hotmail.com wrote:
>> Cecil Moore wrote:
>> > hot-ham-and-cheese@hotmail.com wrote:
>> > > Only one amateur on RRAP has ever said that studying wasn't required.
>> > > He was an Advanced and his name is/was Bruce. Said he took the Extra
>> > > exam on a whim, ...
>> >
>> > One morning in San Francisco, I had about seven Irish coffees
>> > for breakfast and walked past the FCC building. On a whim,
>> > I went in and took the advanced exam and passed - don't
>> > know what my score was and don't remember anything about
>> > the exam.
>> > --
>> > 73, Cecil http://www.w5dxp.com
>>
>> Shall I put you in the same category as WA8ULX?
>
>go get a room with marqueer, brian

why woger we have no interest in each other that way
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com
```

40. Re: Change in ARS numbers Pool - Guesses added 12/31/06

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 04:48:23 UTC
From: brian.burp@yahoo.com
Message-ID: <1167713303.249106.236060@48g2000cwx.googlegroups.com>
Source record: 47304
Cross-posted to: rec.radio.amateur.policy,alt.ham-radio.vhf-uhf,rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.misc

<FlintStoned Snipped>

> > Heard you the first 2 times
>
> Not sure of the point of your comment.

ofcourse you're not sure, you pushy big mouth broad!

>I only repost it when there is a
> correction or addition.

or when you're not busy being a complete pain in the ass to the people
around you in the real world.

>
> Dee, N8UZE

41. Re: Change in ARS numbers Pool - Guesses added 12/31/06

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 04:54:07 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <Ozlmh.41$vM.259264@news.sisna.com>
Source record: 47305
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.misc

brian.burp@yahoo.com wrote:
> ...

I have seen smaller men than you, but so redundantly incessant?

You have a real talent; ignoramus!

JS

42. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 05:33:03 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <h8mmh.14090$U12.10921@bignews1.bellsouth.net>
Source record: 47306

"Gene Fuller" <W4SZzzzzzz@att.net> wrote in message
news:iTjmh.623904$QZ1.325418@bgtnsc04-news.ops.worldnet.att.net...
> Jimmie D wrote:
>
>>
>> Hopefully you are not really using the water pipe for a ground for your
>> electrical service. Hopefully your plumbing is just bonded to the
>> electrical ground. Dont even think about using this for lightning
>> protection. Nothing like having lightning run in on your plumbing while
>> taking a bath or have it run in on yor ground and eat about $7K worth of
>> test equipment(my bad).
>>
>> Jimmie
>
>
> Electrical service grounding via water pipes is common and acceptable.
> Quoting from the 2005 NEC, which is the standard used in many or most
> jurisdictions in the US:
>
> 250.52 Grounding Electrodes.
> (A) Electrodes Permitted for Grounding.
> (1) Metal Underground Water Pipe. A metal underground water pipe in direct
> contact with the earth for 3.0 m (10 ft) or more (including any metal well
> casing effectively bonded to the pipe) and electrically continuous (or
> made electrically continuous by bonding around insulating joints or
> insulating pipe) to the points of connection of the grounding electrode
> conductor and the bonding conductors. Interior metal water piping located
> more than 1.52 m (5 ft) from the point of entrance to the building shall
> not be used as a part of the grounding electrode system or as a conductor
> to interconnect electrodes that are part of the grounding electrode
> system.
>
>
> I agree this is not a good solution for lightning protection.
>
> 73,
> Gene
> W4SZ

Very common for local code to overide this and for good reason. You never
know when a piece of metal pipe is going to be replaced with plastic so a
ground rod has to be used with the electrical service.The plumber dont know
it is being used as a ground. and the electrician doesnt know all the metal
pipe has been replaced with PVC.Ground rods are cheap and easy to install.

Jimmie

43. Re: Welding Rod J-Pole Possible?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 05:38:03 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <0dmmh.77783$B42.71991@newsfe12.phx>
Source record: 47307

< snip >

"Bryan" <bryan.swadenerNOSPAM@comcast.net> wrote in message

I'm not
> sure I follow your line of thinking in regard to moving the shield
up/down.
> Bryan
>

Perhaps I am over-analyzing it. Here's what I meant:

To make the antenna, a quarter wave section of shield is exposed, then inverted and pulled down over the outside of the coax jacket. If it's pulled down TIGHT, it has maximum length and minimum spacing to the part of the shield under the jacket, hence the greatest decoupling takes place, if I understand the principle of the antenna.

However, what I alluded to earlier was moving the end of the shield up and down as a tuning method. I said this because another poster said you tune the thing by changing the length of the coax section and/or the shield section; I was looking for a non-cutting method to change the length of the shield portion and merely pushing the end upward seemed to be viable. (I'm sure the shield is sufficiently flexible to allow this.) If the end of the shield is pushed upward, it shortens the shield and should shift resonance up.

So, I imagine I can cut the shield section for slightly more than a quarter wave, then tune it as I described. The upper section can be tuned with dikes and/or a soldering iron, as necessary.

"Sal"

44. Re: Welding Rod J-Pole Possible?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 05:44:05 UTC
From: Bryan <bryan.swadenerNOSPAM@comcast.net>
Message-ID: <6YGdnXY6a67HbATYnZ2dnUVZ_oOonZ2d@giganews.com>
Source record: 47308

Sal M. Onella wrote:
>
> < snip >
>
> Bryan wrote:
>
> > I'm not sure I follow your line of thinking in regard to moving the
shield
> > up/down.
> > Bryan
> >
>
> Perhaps I am over-analyzing it. Here's what I meant:
>
> To make the antenna, a quarter wave section of shield is exposed, then
> inverted and pulled down over the outside of the coax jacket. If it's
> pulled down TIGHT, it has maximum length and minimum spacing to the part
of
> the shield under the jacket, hence the greatest decoupling takes place, if
I
> understand the principle of the antenna.
>
> However, what I alluded to earlier was moving the end of the shield up and
> down as a tuning method. I said this because another poster said you tune
> the thing by changing the length of the coax section and/or the shield
> section; I was looking for a non-cutting method to change the length of
the
> shield portion and merely pushing the end upward seemed to be viable.
(I'm
> sure the shield is sufficiently flexible to allow this.) If the end of
the
> shield is pushed upward, it shortens the shield and should shift resonance
> up.
>
> So, I imagine I can cut the shield section for slightly more than a
quarter
> wave, then tune it as I described. The upper section can be tuned with
> dikes and/or a soldering iron, as necessary.
>
> "Sal"

I "groc" you, now. Sure, why not?!
Bryan

45. Re: Welding Rod J-Pole Possible?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 06:24:56 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <0Vmmh.19785$sr.16975@newsfe10.phx>
Source record: 47309

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:Wnhmh.14258$Gw4.3070@newssvr23.news.prodigy.net...
> Jimmie D wrote:
> > I made one of these sleeve antennas for 10M with the folded back
shield,
> > put a KW on it and it arced through the black vinyl.
>
> It's a standing wave antenna. The voltage at the end
> of the shield is approximately 20 times the voltage
> at the feedpoint. For a KW, that's more than 5 kV,
> too much for ordinary coax.

I have 160 watts available. ... about 90 volts at the feedpoint, so a whopping 1800 at the end of the shield. (Might want to keep the mike gain throttled back.)

OR ... use a larger braid over a spacer of some kind and solder it to the coax braid at the feedpoint. The spacer could be a piece of plastic pipe slipped over the coax at the outset. Actually, the braid doesn't really have to be braid. It could be a piece of copper pipe. The tuning operation would need to be slightly different; I'll need to keep a few inches of the original coax near the feedpoint. I'll tune it by sliding the pipes and bunching up the coax at the feedpoint. Or tune it by adjusting the length of the center conductor element.

I wonder ... if the pipe were sufficiently large, it would tend to broadband the antenna. I know of this effect at UHF. How about 10m???

I'm looking forward to this. <g>

46. Re: John Smith I admits to penis envy

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 06:57:45 UTC
From: MarQueerMyDear <dear_marqueer_marky@mail2princess.com>
Message-ID: <1167721065.345681.203330@k21g2000cwa.googlegroups.com>
Source record: 47310
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

John Smith I wrote:
> brian.burp@yahoo.com wrote:
> > ...
>
> I have seen smaller men than you, but so redundantly incessant?
Did you say that before or after you swollowed brian's load?

>
> You have a real talent; ignoramus!
>
> JS

47. Re: Welding Rod J-Pole Possible?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 07:36:58 UTC
From: Chuck James <c456james@sbcglobal.net>
Message-ID: <uYnmh.10726$yC5.5357@newssvr27.news.prodigy.net>
Source record: 47311

Thanks! I'll try to remember that. In the past RACES exercise, I was stationed in the City Health Department Conference Room, which is Downtown and practically under the local repeater towers. This is also why I was not TOO worried about obtaining a particularly high gain antenna, and was more concerned with being unobtrusive. However, inside that building, the rubber ducky antenna worked, but just barely, so I took the mobile antenna off my Tahoe and screwed it onto my HT, using an SMA to Coax adapter. That received much better, but was a little unwieldly, plus it puts a little more strain on the little SMA connector than I like. This little "TV Antenna Feed Line" J-Pole should be just the ticket for any situation like this in the future.

"Cecil Moore" <mycall@hotmail.com> wrote in message news:qcimh.55949$qO4.10027@newssvr13.news.prodigy.net...
> Chuck James wrote:
>> Well, I finally took the time to work on the "TV Antenna Feed Line"
>> J-Pole someone suggested. I got it down to less than 1.6 SWR, on 2
>> meter, and less than 1.2 on 70 cm, by trimming it down 1/8 inch at a
>> time. So now I have a VERY portable dual band antenna, I can just roll
>> up and stick in a small "go bag". I tried it on my Yaesu VX-6R and was
>> able to hit several local repeaters, some, of them even on low power.
>
> A little trick I learned in AZ - It will work better
> on 440 if you slant it toward the repeater.
> --
> 73, Cecil http://www.w5dxp.com

48. Re: 2-meter horizontal omni recommendation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 07:39:51 UTC
From: Brian Howie <brian@nospam.demon.co.uk>
Message-ID: <f3Fi6kDHxgmFFw+V@b-howie.demon.co.uk>
Source record: 47312

In message <2007010118085916807-usenet@moondogorginvalid>, Elden Fenison
<usenet@moondog.org.invalid> writes
>Greetings,
>
>I'm thinking I want to move off of the repeater scene and start getting
>involved in 2-meter SSB. Around here, horizontal is the only way to go
>with that.
>
>I'd like to put an omni-directional 2-meter horizontally-polarized
>antenna on top of the 10ft mast on my roof that is currently hosting my
>GP3 (this will replace the GP3). Mainly, I don't want to mess with a
>directional beam and a rotor.
>
>Any recommendations as to a store-bought unit that might be well-suited
>to this purpose?
>
>Thanks ahead for any suggestions. :)
>

Halos - http://www.m2inc.com/index2.html

Brian

--
Brian Howie

49. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 08:54:19 UTC
From: Keith <spam@invalid.invalid>
Message-ID: <end6jt09m6@news4.newsguy.com>
Source record: 47313

In article <1167655229.508078.212740@h40g2000cwb.googlegroups.com>,
"wizard12342002@yahoo.com" <wizard12342002@yahoo.com> wrote:

> I would like to propose a grounding arrangement for my [hypothetical]
> antenna and get some feedback on it. I have access to the solid-copper
> cold-water pipe that enters my home through the basement wall close to
> the basement floor. This pipe is used [in addition to cold water] for
> the service entrance [circuit breaker box] ground. I was thinking of
> putting an antenna outside on a pole and running the coax into the
> basement. Then I would strip back several inches of the outer jacket
> of the coax [axposing the braided shield] and connect the coax braid to
> the cold water pipe using several hose clamps. This should ground the
> coax directly to the service ground - the single point ground for the
> house. I would add an arrester near the ground point. I would then run
> the coax upstairs [about 10 feet] to the radio, where it would [via the
> PL-259] connect to the transceiver chassis. The radio chassis will be
> electrically bonded to peripheral equipment chassis'.

Please get a book on antennas to learn how to properly set one up.

50. Re: 2-meter horizontal omni recommendation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 12:13:04 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <RvidnanvxK_N0QfYnZ2dnUVZ_tadnZ2d@bright.net>
Source record: 47314

The M^2 (M-Squared) Ho-Loop works nice and is simple, small and should
be rugged enough (I use mine for mobile use at 70 MPH down the highway).
I bought mine at AES.

http://www.aesham.com

Scott
N0EDV

Elden Fenison wrote:

> Greetings,
>
> I'm thinking I want to move off of the repeater scene and start getting
> involved in 2-meter SSB. Around here, horizontal is the only way to go
> with that.
>
> I'd like to put an omni-directional 2-meter horizontally-polarized
> antenna on top of the 10ft mast on my roof that is currently hosting my
> GP3 (this will replace the GP3). Mainly, I don't want to mess with a
> directional beam and a rotor.
>
> Any recommendations as to a store-bought unit that might be well-suited
> to this purpose?
>
> Thanks ahead for any suggestions. :)
>

51. Re: punce rrapage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 12:14:55 UTC
From: I PUNCE <markpunce@yahoo.com>
Message-ID: <1167740095.743586.116310@a3g2000cwd.googlegroups.com>
Source record: 47315
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner,rec.radio.cb,alt.usenet.kooks

an old friend wrote:
> Mark@kb9rqz.aspr wrote:
> >
>
> you stil are not me woger

I PUNCE

52. woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 17:13:17 UTC
From: Mark@kb9rqz.aprs
Message-ID: <vk4lp2lnv24es63at4os43id8cpdeu1n95@4ax.com>
Source record: 47316
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner,rec.radio.cb

On 2 Jan 2007 04:14:55 -0800, "I PUNCE" <markpunce@yahoo.com> wrote:

>an old friend wrote:
>> Mark@kb9rqz.aspr wrote:
>> >
>>
>> you stil are not me woger
>
>I PUNCE
get a lif woger
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

53. woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 17:45:00 UTC
From: an old friend <kb9rqz@yahoo.com>
Message-ID: <1167759899.883434.205370@42g2000cwt.googlegroups.com>
Source record: 47317
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

```
MarQueerMyDear wrote:
> John Smith I wrote:
> > brian.burp@yahoo.com wrote:
> > > ...
> >
> > I have seen smaller men than you, but so redundantly incessant?
> Did you say that before or after you swollowed brian's load?

backlsiding on your therapy I see woger
```

54. Re: 2-meter horizontal omni recommendation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 18:44:21 UTC
From: Brian Howie <brian@nospam.demon.co.uk>
Message-ID: <+cVawkEFgqmFFw4D@b-howie.demon.co.uk>
Source record: 47318

In message <RvidnanvxK_N0QfYnZ2dnUVZ_tadnZ2d@bright.net>, Scott
<acepilot@bloomer.net> writes
>The M^2 (M-Squared) Ho-Loop works nice and is simple, small and should
>be rugged enough (I use mine for mobile use at 70 MPH down the
>highway). I bought mine at AES.
>
>http://www.aesham.com

The M^2 website claims "Horizontal polarity permits a single HO loop to
pick up 4+dB of ground gain that verticals can't."

Can someone explain this ? I wouldn't have thought polarisation would
make any difference.

I modelled a halo and a j-pole , both at 5m. I got 6.83dBi for the
halo at 6deg, and 6.65dBi for the j-pole at 4.5 deg. Am I missing
something ?

73 Brian GM4DIJ
--
Brian Howie

55. Re: Welding Rod J-Pole Possible?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 19:17:57 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <Bdymh.17679$_X.15840@bigfe9>
Source record: 47319

```
.
>
> I wonder ... if the pipe were sufficiently large, it would tend to
> broadband
> the antenna. I know of this effect at UHF. How about 10m???
>
> I'm looking forward to this. <g>
>
>
```

Yes it does, solves some of the problem you have with the all coax type of sleeve antenna. stuff some pieces of styrofoam inside the pipe to center the coax. Wind a choke in you coax and it is a pretty decent antenna. Consider this, make the sleve out of 2 inch conduit, at the middle of the antenna put a cap on the pipe with a hole drilled to accept a mount for a whip, RS and truck stops sell these. Bottom end screws into a 2inch PVC pullbox, other side of the pullbox screws on another piece of pipe used as a mast. There should be enough room in the pullbox for the choke.

56. Re: Delta Loop Ideas Please

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 20:55:41 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12plhme2roulh4b@corp.supernews.com>
Source record: 47320

NomadW8 wrote:
> A full wave 20 meter delta loop, fed with open wire, ladder line or
> even TV twin lead & a tuner will load up on all bands 10-40 meters.
>
> Performance on 10-20 will be good, 30 & 40 a little less so.
>
> Terry
> W8EJO

But then my dummy load will load up on all bands.

The question is, in what direction(s) and elevation angles will it radiate on each band, and are those directions in which you want to talk with someone?

Roy Lewallen, W7EL

57. save yourself,marqueer,SAVE YOURSELF!!!!!!!!!!!!!!!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 21:29:11 UTC
From: bill_newport.4land@yahoo.com
Message-ID: <1167773351.753728.205770@s34g2000cwa.googlegroups.com>
Source record: 47321
Cross-posted to: rec.radio.amateur.policy,alt.usenet.kooks,rec.radio.cb,rec.radio.swap,rec.radio.amateur.antenna

http://www.godhatesamerica.com/ghfmir/fliers/dec2002/Outlaw_Sodomy_12-3-2002.pdf

58. Re: Delta Loop Ideas Please

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 21:34:47 UTC
From: NomadW8 <cpa599@gmail.com>
Message-ID: <1167773687.366934.55820@k21g2000cwa.googlegroups.com>
Source record: 47322

Tell me the loop configuration (apex up or down), where it will be fed
along the circumference of the loop, local geography, nearby
structures, ground conductivity & height above ground & I'll give you a
rough idea.

Terry
W8EJO

Roy Lewallen wrote:
> NomadW8 wrote:
> > A full wave 20 meter delta loop, fed with open wire, ladder line or
> > even TV twin lead & a tuner will load up on all bands 10-40 meters.
> >
> > Performance on 10-20 will be good, 30 & 40 a little less so.
> >
> > Terry
> > W8EJO
>
> But then my dummy load will load up on all bands.
>
> The question is, in what direction(s) and elevation angles will it
> radiate on each band, and are those directions in which you want to talk
> with someone?
>
> Roy Lewallen, W7EL

59. Re: 2-meter horizontal omni recommendation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 22:46:10 UTC
From: Nate Bargmann <n0nb.DO.NOT.SPAM@ME.networksplus.net>
Message-ID: <oKudnQAMEogvfQfYnZ2dnUVZ_uTinZ2d@bluevalley.net>
Source record: 47323

On Mon, 01 Jan 2007 18:08:59 -0800, Elden Fenison wrote:

> Thanks ahead for any suggestions. :)

Do a search for the Big Wheel. It is a three element loop style antenna that looks a lot like a three-petal clover leaf. There is quite a bit of information on the Web for them.

Another source for a more conventional horizontal omni is KB6KQ. I have one of his 6m loops up and it has done well. It would benefit from being higher, but that's my fault.

73, de Nate >>

--

"The optimist proclaims that we live in the best of all possible worlds, the pessimist fears this is true."

60. Re: Delta Loop Ideas Please

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 23:41:26 UTC
From: "Dr.Ace" <Ace@WH2T.com>
Message-ID: <8a821$459aeda6$4fc4453$23713@DIALUPUSA.NET>
Source record: 47324

John,
There will be some interaction.
One small point. You will need to resonate the longest loop first and then
so on.
Another point , for 4 loops , you could use a stacking harness such as would
be used to stack 4 yagi beams . Then go from it to the 1/4 wave matching
sections. Just a thought.
Good Luck, Ace - WH2T

"John" <Q.R.Z.@dxdx.co.uk> wrote in message
news:4594ef77$0$31222$da0feed9@news.zen.co.uk...
>I have been researching for a while now around the area of nested delta
>loops. Thanks
>
> John
>

61. Re: Discussion points on a long term Prognosis for AMATEUR RADIO

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 23:53:02 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <459af062$0$5757$4c368faf@roadrunner.com>
Source record: 47325

"Dan" <winstonsalemve@yahoo.com> wrote in message
news:en8hbj$i7m$1@news04.infoave.net...
> Thesis ONE
>
> I am an OLDER Amateur and the long term prognosis of AR worries me.
> I am NOT having a temper tantrum about the FCC doing away with the CW
> testing requirement.
>
> This is a major change, but I think major changes are needed.
> Change is upsetting to some people, but things that don't change are DEAD.
>
> What further changes are needed???
>>>

> Not so much operating, as asking questions like: can I take those VHF-LO
> whips that are already on those trucks cut hem down a little bit, and turn
> them into 5/8 wave antennae for the new VHF HI system? That sure would
> save a lot of work drilling and installing new antennae.
>
>
> Computers are the thing now, and the RF parts of their communication
> systems are what is important now in radio.
> I don' think we should kill off or stop using CW or SSB, nor do I think we
> should allow robot stations using various protocols to spread everywhere.
> To paraphrase Ecclesiastes: To every emission type there is some spectrum,
> A band for Cw, a band for SSB, a band for PSK-31, etc.
>
> <<<<<<<<Moderation in all things, and emission types.>>>>>>>>>>>.
>
>>>>>>>>>>>

> 3)fiddlers "hey what happens if I put an extra capacitor in this power
> supply I just built"
> 4) public service guys " I wonder if I could be the Eastern net control of
> the TCC tonight after I clear the Races net?"
>
> It seems to me that the international goodwill types have all gone away to
> the internet.
> And the fiddlers are fiddling around less and less because modern day
> equipment to too small and complicated to work on at home, so they've gone
> off into programming or computer building.
>
> It appears to me that AR radiolicensees are devolving into two groups:
> VHF public service/talkers
> and
> A declining number of fiddlers.
>
> Is this good for AR?
>>>

62. Re: Auto tuners & verticals

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-02 23:54:23 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <berlp2tescmrf3a1dct5tdn13ft9hgptui@4ax.com>
Source record: 47126

On Tue, 02 Jan 2007 02:07:57 GMT, Owen Duffy <none@no.where> wrote:

>> I have updated the 28 foot vertical web page for those who may be
>> interested in my experience. I is at
>> http://www.dixienc.us/28FtVert/SGC237.htm
>>
>> I am very pleased with the results using the tuner but it has only
>> been a few days, I am still in the "honey moon" phase. I outline the
>> considerations for me and a larger vertical at the web site.
>> John Ferrell W8CCW
>
>John, re the lighting protection issue with the tuner.
>
>I don't need or want to operate when there is a high risk of lightning,
>so I disconnect the tuner. The last picture in this article shows how
>the tuner is mounted and the simplicity of an effective isolating
>switch. In the event of lightning strike, the inverted L wire will
>probably side flash to the support mast where it is much closer. One
>could of course build a sturdy arrestor near the tuner if you don't have
>such an alternative.
>
>http://www.vk1od.net/InvertedL/InvertedL.htm
>
>Pleased it is all working well for you.
>
>Owen
>
>>
After reading your web pages I have begun to imitate your set up. I
will be using a 44 foot wire radiator. It will (is) angling down to
one of the ground rods. That will permit the tuner to be installed
inside the house. This set up is physically much simpler for me. The
tower is a crank-up/tilt over arrangement with no guys so the actual
rigging must allow for a lot of movement.

John Ferrell W8CCW

63. Re: 2-meter horizontal omni recommendation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-03 00:10:01 UTC
From: W2RAC <w2racNOSPAM@cfl.rr.com>
Message-ID: <n2tlp251gttlh4mqufhmqb1vc778omhvnn@4ax.com>
Source record: 47127

http://www.ku4ab.com/

On Mon, 1 Jan 2007 18:08:59 -0800, Elden Fenison
<usenet@moondog.org.invalid> wrote:

>Greetings,
>
>I'm thinking I want to move off of the repeater scene and start getting
>involved in 2-meter SSB. Around here, horizontal is the only way to go
>with that.
>
>I'd like to put an omni-directional 2-meter horizontally-polarized
>antenna on top of the 10ft mast on my roof that is currently hosting my
>GP3 (this will replace the GP3). Mainly, I don't want to mess with a
>directional beam and a rotor.
>
>Any recommendations as to a store-bought unit that might be well-suited
>to this purpose?
>
>Thanks ahead for any suggestions. :)

64. Re: Discussion points on a long term Prognosis for AMATEUR RADIO

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-03 00:20:18 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <459af6c5$0$5738$4c368faf@roadrunner.com>
Source record: 47128

By no means am I attempting to trvialize your many comments but I think the situation is not so complex.

Consider that the FCC only has limited power to control AR. The AR radio spectrum will be there no matter what FCC policies are. As long is there are people who are fascinated by the science, and to whatever degree they are capable of manipulating it, transmissions will take place on what is now the AR spectrum, even if the FCC were to "declare" an end to the service tomorrow. A better question might be what is the FCC's role in AR in the future? To what extent will those interested in radio allow the FCC to regulate them?

There will always be people communicating on the resource, legal or illegal. AR got its start without benefit of an FCC and it would continue to go on without an FCC. (ex. CB, the geeks using pringles cans for 1.4 GHz antennae, firmware patches to increase the power of there wireless routers etc.).

Getting young people interested is not a very relevant issue. The relevance of radio to them is important. On the island of Cuba we still have hams sitting at their keys in train stations communicating on 40m to South Florida on CW with equipment that is obviously very crude. For them it is fun...and relevant to them especially if you send them a few dollars. Young people and old who have attended basic physics class in high school already know that the HF/VHF etc. frequencies are there to use and they will be used whenever communication becomes relevant to their personal lives. Hell, even high school dropouts consigned to driving trucks for a living know all about 11m.

You cannot bring the relevancy to them; relevancy will find its own path, perhaps by people who today have no desire to participate in the traditional AR service.

For technology, I would not expect any miracles soon (despite all the former promises of smart new blood being able to enter the service after CW is gone). The physics of the natural resource is very limited. The bandwidth of "HF" is much too narrow for anything other than CW and AM radio to be used on a practical basis, no matter how good the propagation conditions. HF is a narrow creek, not a raging river whose energy can be harnessed for much more noble uses.

Finally, the FCC not only lacks effective control of the USA "amateur" community; US citizens interested in using the resource will do so with or without the permission of a government agency (as in Cuba and everywhere else for that matter). There is a large installed base of amateur equipment that will be used; there is a larger base than can easily be contructed using readily available components if the desire is there because some

condition in society made it relevant to do that. The existence of this equipment (and ready capability) lets allows others to assume that if they get on the bands, they will always have someone to communicate with.

Neither the FCC nor the ARRL had much influence on the number of people interested in the science today. They are neutral parties no matter what such organizations would have you believe. They react to society's conditions; they do not drive either the size of relevance of amateur radio to its practitioners.

Without an installed base of equipment, or easy availablity of components from which to make a radio, there would be no ham radio, legal or not. But the base is there and it is irreversible. With this base there will always be "ham" radio, legal or not, as there was ham radio before the FCC was formed in the '30s and as there would be after.

Additionally, the FCC has no jurisdiction at all outside of our borders so obviously it would take more than the FCC to end ham radio; it would take a UN treaty, and even then it wouldn't work.

So, ham radio will always be with us in some form or other, and operating as best it can within its natural limitations and manmade interference. Man is a social animal and will always want and need to communicate.

The FCC trying to regulate a natural resource is similar to the Fedreal reserve attempting to regulate the economy. It has some effect, not always as intended but with or without a federal reserve, there will always be an exconomy, for better or for worse. And I would not assume "worse" without the Fed..

Radio will always be interesting to some and that fact alone will always keep it alive. I think you flatter the service by assuming that the FCC or licensed radio amateurs have so much control over a sprectral resource that in the end cannot be regulated anymore than gravity or relativity.

"Dan" <winstonsalemve@yahoo.com> wrote in message
news:en8hbj$i7m$1@news04.infoave.net...
> Thesis ONE

65. Re: Welding Rod J-Pole Possible?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-03 01:03:09 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <ghDmh.15$va2.300076@news.sisna.com>
Source record: 47129

Jimmie D wrote:
> .
>> I wonder ... if the pipe were sufficiently large, it would tend to
>> broadband
>> the antenna. I know of this effect at UHF. How about 10m???
>>
>> I'm looking forward to this. <g>
>>
>>
>
> Yes it does, solves some of the problem you have with the all coax type of
> sleeve antenna. stuff some pieces of styrofoam inside the pipe to center the
> coax. Wind a choke in you coax and it is a pretty decent antenna. Consider
> this, make the sleve out of 2 inch conduit, at the middle of the antenna put
> a cap on the pipe with a hole drilled to accept a mount for a whip, RS and
> truck stops sell these. Bottom end screws into a 2inch PVC pullbox, other
> side of the pullbox screws on another piece of pipe used as a mast. There
> should be enough room in the pullbox for the choke.
>
>

Or, just lengthen it out to a full wave dipole, provide a matching
circuit of your choice, add a 1:1 current balun and end up with a MUCH
more desirable antenna ...

Oh yeah, you still can use the ne-2 bulbs at either end (or both) of
this dipole and end up with that kewl "cb look!" <satisfied look>

<moving on>
JS

66. glen-martin roof-top tower

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-03 02:36:15 UTC
From: Gary <gbelcas@comcast.net>
Message-ID: <fJudnXnAxLACiwbYnZ2dnUVZ_ojinZ2d@comcast.com>
Source record: 47130

I need to correspond w/ anyone who has put one of these up. Time to get
back on the air...

gary
ka9rao

67. Re: save yourself,hell you can save me a lot of of trouble

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-03 03:25:51 UTC
From: Mark@kb9rqz.aprs
Message-ID: <lf8mp250vhnh8he432tieav15hd6d502cj@4ax.com>
Source record: 47132
Cross-posted to: rec.radio.amateur.policy,rec.radio.cb,rec.radio.swap,rec.radio.amateur.antenna

On 2 Jan 2007 13:29:11 -0800, bill_newport.4land@yahoo.com wrote:

>
by just leaving things that are none of your affair esp thing that are
not your affair and radio related
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

68. Re: Discussion points on a long term Prognosis for AMATEUR RADIO

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-03 03:26:03 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <anFmh.14638$U12.13955@bignews1.bellsouth.net>
Source record: 47131

"Stefan Wolfe" <stefan@eml.com> wrote in message
news:459af6c5$0$5738$4c368faf@roadrunner.com...
> By no means am I attempting to trvialize your many comments but I think
> the
> situation is not so complex.
>
> Consider that the FCC only has limited power to control AR. The AR radio
> spectrum will be there no matter what FCC policies are. As long is there
> are
> people who are fascinated by the science, and to whatever degree they are
> capable of manipulating it, transmissions will take place on what is now
> the
> AR spectrum, even if the FCC were to "declare" an end to the service
> tomorrow. A better question might be what is the FCC's role in AR in the
> future? To what extent will those interested in radio allow the FCC to
> regulate them?
>
> There will always be people communicating on the resource, legal or
> illegal.
> AR got its start without benefit of an FCC and it would continue to go on
> without an FCC. (ex. CB, the geeks using pringles cans for 1.4 GHz
> antennae,
> firmware patches to increase the power of there wireless routers etc.).
>
> Getting young people interested is not a very relevant issue. The
> relevance
> of radio to them is important. On the island of Cuba we still have hams
> sitting at their keys in train stations communicating on 40m to South
> Florida on CW with equipment that is obviously very crude. For them it is
> fun...and relevant to them especially if you send them a few dollars.
> Young
> people and old who have attended basic physics class in high school
> already
> know that the HF/VHF etc. frequencies are there to use and they will be
> used
> whenever communication becomes relevant to their personal lives. Hell,
> even
> high school dropouts consigned to driving trucks for a living know all
> about
> 11m.
>
> You cannot bring the relevancy to them; relevancy will find its own path,
> perhaps by people who today have no desire to participate in the
> traditional

> AR service.
>
> For technology, I would not expect any miracles soon (despite all the
> former
> promises of smart new blood being able to enter the service after CW is
> gone). The physics of the natural resource is very limited. The bandwidth
> of
> "HF" is much too narrow for anything other than CW and AM radio to be used
> on a practical basis, no matter how good the propagation conditions. HF is
> a
> narrow creek, not a raging river whose energy can be harnessed for much
> more
> noble uses.
>
> Finally, the FCC not only lacks effective control of the USA "amateur"
> community; US citizens interested in using the resource will do so with or
> without the permission of a government agency (as in Cuba and everywhere
> else for that matter). There is a large installed base of amateur
> equipment
> that will be used; there is a larger base than can easily be contructed
> using readily available components if the desire is there because some
> condition in society made it relevant to do that. The existence of this
> equipment (and ready capability) lets allows others to assume that if they
> get on the bands, they will always have someone to communicate with.
>
> Neither the FCC nor the ARRL had much influence on the number of people
> interested in the science today. They are neutral parties no matter what
> such organizations would have you believe. They react to society's
> conditions; they do not drive either the size of relevance of amateur
> radio
> to its practitioners.
>
> Without an installed base of equipment, or easy availablity of components
> from which to make a radio, there would be no ham radio, legal or not. But
> the base is there and it is irreversible. With this base there will always
> be "ham" radio, legal or not, as there was ham radio before the FCC was
> formed in the '30s and as there would be after.
>
> Additionally, the FCC has no jurisdiction at all outside of our borders so
> obviously it would take more than the FCC to end ham radio; it would take
> a
> UN treaty, and even then it wouldn't work.
>
> So, ham radio will always be with us in some form or other, and operating
> as
> best it can within its natural limitations and manmade interference. Man
> is
> a social animal and will always want and need to communicate.
>
> The FCC trying to regulate a natural resource is similar to the Fedreal

> reserve attempting to regulate the economy. It has some effect, not always
> as intended but with or without a federal reserve, there will always be an
> exconomy, for better or for worse. And I would not assume "worse" without
> the Fed..
>
> Radio will always be interesting to some and that fact alone will always
> keep it alive. I think you flatter the service by assuming that the FCC or
> licensed radio amateurs have so much control over a sprectral resource
> that
> in the end cannot be regulated anymore than gravity or relativity.
>
>
>
> "Dan" <winstonsalemve@yahoo.com> wrote in message
> news:en8hbj$i7m$1@news04.infoave.net...
>> Thesis ONE
>
>

I doubt if the FCC cares about what we do inside our allocations. It is my opinion that if we want to keep our bandwidth we must remain a self policing group. The last thing we want is for the FCC to ever have to clean our house, I am afraid they would do it with a bulldozer.

69. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-03 03:44:46 UTC
From: Roger <GetValidAddress@my.com>
Message-ID: <bi9mp2hfcle0pkms5reon5qimq25mum8fq@4ax.com>
Source record: 47133

On Mon, 01 Jan 2007 11:14:20 -0600, Bob Miller <NOSPAM@neosoft.com>
wrote:

>
>try
>
>http://www.w8ji.com/ground_systems.htm

Although he doesn't say so, Tom's towers are on top of a mountain.

>
>bob
Roger Halstead (K8RI & ARRL life member)
(N833R, S# CD-2 Worlds oldest Debonair)
www.rogerhalstead.com

70. Re: Welding Rod J-Pole Possible?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-03 04:53:52 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <BFGmh.53728$sp7.53243@newsfe14.phx>
Source record: 47134

"Jimmie D" <jimmiedee@bellsouth.net> wrote in message
news:Bdymh.17679$_X.15840@bigfe9...
>
> .
> >
> > I wonder ... if the pipe were sufficiently large, it would tend to
> > broadband
> > the antenna. I know of this effect at UHF. How about 10m???
> >
> > I'm looking forward to this. <g>
> >
> >
>
> Yes it does, solves some of the problem you have with the all coax type of
> sleeve antenna. stuff some pieces of styrofoam inside the pipe to center
the
> coax. Wind a choke in you coax and it is a pretty decent antenna.
Consider
> this, make the sleve out of 2 inch conduit, at the middle of the antenna
put
> a cap on the pipe with a hole drilled to accept a mount for a whip, RS and
> truck stops sell these. Bottom end screws into a 2inch PVC pullbox, other
> side of the pullbox screws on another piece of pipe used as a mast. There
> should be enough room in the pullbox for the choke.
>
>

That's a clever idea. I am recalling four turns as the spec for the
feedline choke at 2m. However, at 28 MHz, there's a lot less inductive
reactance in those same four turns. How many turns are we looking at for
the choke?

71. Re: Welding Rod J-Pole Possible?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-03 05:06:48 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <IRGmh.53752$sp7.42594@newsfe14.phx>
Source record: 47135

"Sal M. Onella" <salmonella@food.poisoning.org> wrote in message
news:BFGmh.53728

I am recalling four turns as the spec for the
> feedline choke at 2m. However, at 28 MHz, there's a lot less inductive
> reactance in those same four turns. How many turns are we looking at for
> the choke?

< snip >

... answering my own question: 4 feet of RG-58, coiled into 6 - 8 turns.
[ARRL Antenna Handbook]

"Sal"

72. Re: Discussion points on a long term Prognosis for AMATEUR RADIO

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-03 05:41:35 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <hmHmh.24$uS1.110701@news.sisna.com>
Source record: 47136

Jimmie D wrote:

> I doubt if the FCC cares about what we do inside our allocations. It is my
> opinion that if we want to keep our bandwidth we must remain a self policing
> group. The last thing we want is for the FCC to ever have to clean our
> house, I am afraid they would do it with a bulldozer.
>
>

Sounds like "Jimmie D's Pure Pork Sausage", or junk food for the mind ...

JS

73. Re: marqueer on PuncePage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-03 06:24:26 UTC
From: MarQueerMyDear <dear_marqueer_marky@mail2princess.com>
Message-ID: <1167805466.015108.210540@a3g2000cwd.googlegroups.com>
Source record: 47137
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.policy,alt.usenet.kooks,rec.radio.cb,rec.radio.amateur.antenna

Mark@kb9rqz.aprs wrote:
> On Tue, 2 Jan 2007 16:39:42 -0500, "Mark The Spamer" <Morkie@Spamer>
> wrote:
>
> >this my ip andyes roger try as you mmihgt you failde to rmove me im still
> >here
> >
> > 69.19.0.0 - 69.19.127.255
> >Hughes Network Systems
> >11717 Exploration Lane
> >DirecWAY Network Management Center
> >attn: Network Security Manager
> >Germantown, MD
> >US
> >
> >
> >Network Security Manager
> >abuse@direcpc.com
> >+1-301-601-7205
> >
> well woger you have indeed failed to do anything to me largely becuase
> I have not violated the ToS of Hughes net
> http://kb9rqz.blogspot.com/
>
> --
>
and it's much harder to find people desperate enough to use satellite
internet access ....

74. Re: 2-meter horizontal omni recommendation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-03 09:15:21 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns98ADCC5B8BC4doldridgsprintca@64.59.135.159>
Source record: 47138

Elden Fenison <usenet@moondog.org.invalid> wrote in
news:20070101180859168O7-usenet@moondogorginvalid:

> Greetings,
>
> I'm thinking I want to move off of the repeater scene and start getting
> involved in 2-meter SSB. Around here, horizontal is the only way to go
> with that.
>
> I'd like to put an omni-directional 2-meter horizontally-polarized
> antenna on top of the 10ft mast on my roof that is currently hosting my
> GP3 (this will replace the GP3). Mainly, I don't want to mess with a
> directional beam and a rotor.
>
> Any recommendations as to a store-bought unit that might be well-suited
> to this purpose?
>
> Thanks ahead for any suggestions. :)

What you need is a turnstile antenna. And you could mount it partway up the mast and keep the vertical antenna, as far as that goes. I'm not sure if any manufacturer makes these for 2m, and it's a bit of a chore. Essentially you put up dipoles at right angles and feed them 90 degrees out of phase (in phase quadrature). You get horizontal polarization at the low angles and pretty much omni pattern. Polarization turns circular overhead, though (not necessarily a drawback for space work).

--
Dave Oldridge+
ICQ 1800667

75. Woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-03 10:40:14 UTC
From: Mark@kb9rqz.aprs
Message-ID: <ru1np2lmfgh2o61rquc2ulrj3p843ln726@4ax.com>
Source record: 47139
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.cb,rec.radio.amateur.antenna

On 2 Jan 2007 22:24:26 -0800, "MarQueerMyDear"
<dear_marqueer_marky@mail2princess.com> wrote:

>Mark@kb9rqz.aprs wrote:
>> On Tue, 2 Jan 2007 16:39:42 -0500, "Mark The Spamer" <Morkie@Spamer>
>> wrote:
>>
>> >this my ip andyes roger try as you mmihgt you failde to rmove me im still
>> >here
>> >
>> > 69.19.0.0 - 69.19.127.255
>> >Hughes Network Systems
>> >11717 Exploration Lane
>> >DirecWAY Network Management Center
>> >attn: Network Security Manager
>> >Germantown, MD
>> >US
>> >
>> >
>> >Network Security Manager
>> >abuse@direcpc.com
>> >+1-301-601-7205
>> >
>> well woger you have indeed failed to do anything to me largely becuase
>> I have not violated the ToS of Hughes net
>> http://kb9rqz.blogspot.com/
>>
>> --
>>
>and it's much harder to find people desperate enough to use satellite
>internet access ....
desperate? what is desperate about satelite broad band woger
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

76. Re: glen-martin roof-top tower

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-03 11:02:07 UTC
From: Bryan <bryan.swadenerNOSPAM@comcast.net>
Message-ID: <Cvednd8tI7HhDQbYnZ2dnUVZ_uSgnZ2d@giganews.com>
Source record: 47140

Gary wrote:
> I need to correspond w/ anyone who has put one of these up. Time to get
> back on the air...
>
> gary
> ka9rao

Gary,
There were some product reviews on eham:
http://www.eham.net/reviews/detail/500 Some of the positive commenters
provided links that detail their installations...
W7IS: http://journals.aol.com/w7is/GlenMartin26ftTowerInstall/
N8XE: http://www.qsl.net/n8xe/radio/tower_project.html
You might want to read *all* the comments before you place your order.

73,
Bryan WA7PRC

77. Re: 2-meter horizontal omni recommendation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-03 14:34:28 UTC
From: Dale Parfitt <par@parelectronics.com>
Message-ID: <U9Pmh.8573$tc5.3912@trnddc01>
Source record: 47141

"Brian Howie" <brian@nospam.demon.co.uk> wrote in message
news:+cVawkEFgqmFFw4D@b-howie.demon.co.uk...
> In message <RvidnanvxK_N0QfYnZ2dnUVZ_tadnZ2d@bright.net>, Scott
> <acepilot@bloomer.net> writes
>>The M^2 (M-Squared) Ho-Loop works nice and is simple, small and should be
>>rugged enough (I use mine for mobile use at 70 MPH down the highway). I
>>bought mine at AES.
>>
>>http://www.aesham.com
>
>
> The M^2 website claims "Horizontal polarity permits a single HO loop to
> pick up 4+dB of ground gain that verticals can't."
>
> Can someone explain this ? I wouldn't have thought polarisation would
> make any difference.
>
> I modelled a halo and a j-pole , both at 5m. I got 6.83dBi for the halo
> at 6deg, and 6.65dBi for the j-pole at 4.5 deg. Am I missing something ?
>
> 73 Brian GM4DIJ
> --

Hi Brian,
The explaination has to do with ground reflection gain that a vertical
signal does not "have access to".
Of course a horizontal dipole would have this same increase in gain, so it
isn't really a meaningful measure.

--
Dale W4OP
for PAR Electronics, Inc.

78. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-03 14:35:57 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <m5fnp2hg8249af23253p2gcd74738ek6vv@4ax.com>
Source record: 47142

On Tue, 2 Jan 2007 00:33:03 -0500, "Jimmie D"
<jimmiedee@bellsouth.net> wrote:

>Very common for local code to overide this and for good reason. You never
>know when a piece of metal pipe is going to be replaced with plastic so a
>ground rod has to be used with the electrical service.The plumber dont know
>it is being used as a ground. and the electrician doesnt know all the metal
>pipe has been replaced with PVC.Ground rods are cheap and easy to install.
>
>Jimmie
>
There was a time when the expression "water pipe ground" was common.

Extra ground rods actually contribute to the risk unless the are tied
together with at least #6 wire. (NEC) Allowing the grounds to be
commoned through the power distribution will put appliances in the
loop with expensive results.

John Ferrell W8CCW

79. Re: 2-meter horizontal omni recommendation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-03 14:55:10 UTC
From: Brian Howie <brian@nospam.demon.co.uk>
Message-ID: <q7XvZIDOP8mFFw48@b-howie.demon.co.uk>
Source record: 47143

In message <U9Pmh.8573$tc5.3912@trnddc01>, Dale Parfitt
<par@parelectronics.com> writes
>
>"Brian Howie" <brian@nospam.demon.co.uk> wrote in message
>news:+cVawkEFgqmFFw4D@b-howie.demon.co.uk...
>> In message <RvidnanvxK_N0QfYnZ2dnUVZ_tadnZ2d@bright.net>, Scott
>> <acepilot@bloomer.net> writes
>>>The M^2 (M-Squared) Ho-Loop works nice and is simple, small and should be
>>>rugged enough (I use mine for mobile use at 70 MPH down the highway). I
>>>bought mine at AES.
>>>
>>>http://www.aesham.com
>>
>>
>> The M^2 website claims "Horizontal polarity permits a single HO loop to
>> pick up 4+dB of ground gain that verticals can't."
>>
>> Can someone explain this ? I wouldn't have thought polarisation would
>> make any difference.
>>
>> I modelled a halo and a j-pole , both at 5m. I got 6.83dBi for the halo
>> at 6deg, and 6.65dBi for the j-pole at 4.5 deg. Am I missing something ?
>>
>> 73 Brian GM4DIJ
>> --
>
>
>Hi Brian,
>The explaination has to do with ground reflection gain that a vertical
>signal does not "have access to".
>Of course a horizontal dipole would have this same increase in gain, so it
>isn't really a meaningful measure.
>
>
My modelling shows similar ground gain, but it does assume the
reflection coefficients are the same for both senses of polarisation.
This could be it

Brian
--
Brian Howie

80. Re: Woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-03 17:15:19 UTC
From: VonBluvens <anon@nospam>
Message-ID: <jdds7.ctb.19.1@news.alt.net>
Source record: 47144
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.cb,rec.radio.amateur.antenna

<Mark@kb9rqz.aprs> wrote in message
news:ru1np2lmfgh2o61rquc2ulrj3p843ln726@4ax.com...
> On 2 Jan 2007 22:24:26 -0800, "MarQueerMyDear"
> <dear_marqueer_marky@mail2princess.com> wrote:
>
> >Mark@kb9rqz.aprs wrote:
> >> On Tue, 2 Jan 2007 16:39:42 -0500, "Mark The Spamer" <Morkie@Spamer>
> >> wrote:
> >>
> >> >this my ip andyes roger try as you mmihgt you failde to rmove me im
still
> >> >here
> >> >
> >> > 69.19.0.0 - 69.19.127.255
> >> >Hughes Network Systems
> >> >11717 Exploration Lane
> >> >DirecWAY Network Management Center
> >> >attn: Network Security Manager
> >> >Germantown, MD
> >> >US
> >> >
> >> >
> >> >Network Security Manager
> >> >abuse@direcpc.com
> >> >+1-301-601-7205
> >> >
> >> well woger you have indeed failed to do anything to me largely becuase
> >> I have not violated the ToS of Hughes net
> >> http://kb9rqz.blogspot.com/
> >>
> >> --
> >>
> >and it's much harder to find people desperate enough to use satellite
> >internet access ....
> desperate? what is desperate about satelite broad band woger
>

REAL desperation is having to keep four or more dialup accounts active
because of having lost so many due to stupid blunders.

81. Re: Woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-03 17:26:23 UTC
From: Mark@kb9rqz.aprs
Message-ID: <uopnp212u29l4rlejub4qsl1gh3sla9qr5@4ax.com>
Source record: 47145
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.cb,rec.radio.amateur.antenna

```
On Wed, 3 Jan 2007 12:15:19 -0500, "VonBluvens" <anon@nospam> wrote:

>
><Mark@kb9rqz.aprs> wrote in message
>news:ru1np2lmfgh2o61rquc2ulrj3p843ln726@4ax.com...
>> On 2 Jan 2007 22:24:26 -0800, "MarQueerMyDear"
>> <dear_marqueer_marky@mail2princess.com> wrote:
>>
>> >Mark@kb9rqz.aprs wrote:
>> >> On Tue, 2 Jan 2007 16:39:42 -0500, "Mark The Spamer" <Morkie@Spamer>
>> >> wrote:
>> >>
>> >> >this my ip andyes roger try as you mmihgt you failde to rmove me im
>still
>> >> >here
>> >> >
>> >> > 69.19.0.0 - 69.19.127.255
>> >> >Hughes Network Systems
>> >> >11717 Exploration Lane
>> >> >DirecWAY Network Management Center
>> >> >attn: Network Security Manager
>> >> >Germantown, MD
>> >> >US
>> >> >
>> >> >
>> >> >Network Security Manager
>> >> >abuse@direcpc.com
>> >> >+1-301-601-7205
>> >> >
>> >> well woger you have indeed failed to do anything to me largely becuase
>> >> I have not violated the ToS of Hughes net
>> >> http://kb9rqz.blogspot.com/
>> >>
>> >> --
>> >>
>> >and it's much harder to find people desperate enough to use satellite
>> >internet access .......
>> desperate? what is desperate about satelite broad band woger
>>
>
>REAL desperation is having to keep four or more dialup accounts active
>because of having lost so many due to stupid blunders.
>
```

good greif 4 dailup accounts would cost more than my sta link does
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

82. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-03 18:12:40 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1167847960.249632.198050@k21g2000cwa.googlegroups.com>
Source record: 47146

John Ferrell wrote:
> On Tue, 2 Jan 2007 00:33:03 -0500, "Jimmie D"
> <jimmiedee@bellsouth.net> wrote:
>
>
>
> >Very common for local code to overide this and for good reason. You never
> >know when a piece of metal pipe is going to be replaced with plastic so a
> >ground rod has to be used with the electrical service.The plumber dont know
> >it is being used as a ground. and the electrician doesnt know all the metal
> >pipe has been replaced with PVC.Ground rods are cheap and easy to install.
> >
> >Jimmie
> >
> There was a time when the expression "water pipe ground" was common.
>
> Extra ground rods actually contribute to the risk unless the are tied
> together with at least #6 wire. (NEC) Allowing the grounds to be
> commoned through the power distribution will put appliances in the
> loop with expensive results.
>
> John Ferrell W8CCW

Yep, that why we use "grounding" and "bonding" and why work should be
done by a certified electrician. Grounding should be taken back to a
single point so you dont get loops running through expensive
appliances.

Jimmie

83. Re: Woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-03 18:38:05 UTC
From: VonBluvens <anon@nospam>
Message-ID: <jdine.ubl.19.1@news.alt.net>
Source record: 47147
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.cb,rec.radio.amateur.antenna

```
<Mark@kb9rqz.aprs> wrote in message
news:uopnp212u29l4rlejub4qsl1gh3sla9qr5@4ax.com...
> On Wed, 3 Jan 2007 12:15:19 -0500, "VonBluvens" <anon@nospam> wrote:
>
> >
> ><Mark@kb9rqz.aprs> wrote in message
> >news:ru1np2lmfgh2o61rquc2ulrj3p843ln726@4ax.com...
> >> On 2 Jan 2007 22:24:26 -0800, "MarQueerMyDear"
> >> <dear_marqueer_marky@mail2princess.com> wrote:
> >>
> >> >Mark@kb9rqz.aprs wrote:
> >> >> On Tue, 2 Jan 2007 16:39:42 -0500, "Mark The Spamer" <Morkie@Spamer>
> >> >> wrote:
> >> >>
> >> >> >this my ip andyes roger try as you mmihgt you failde to rmove me im
> >still
> >> >> >here
> >> >> >
> >> >> > 69.19.0.0 - 69.19.127.255
> >> >> >Hughes Network Systems
> >> >> >11717 Exploration Lane
> >> >> >DirecWAY Network Management Center
> >> >> >attn: Network Security Manager
> >> >> >Germantown, MD
> >> >> >US
> >> >> >
> >> >> >
> >> >> >Network Security Manager
> >> >> >abuse@direcpc.com
> >> >> >+1-301-601-7205
> >> >> >
> >> >> well woger you have indeed failed to do anything to me largely
becuase
> >> >> I have not violated the ToS of Hughes net
> >> >> http://kb9rqz.blogspot.com/
> >> >>
> >> >> --
> >> >>
> >> >and it's much harder to find people desperate enough to use satellite
> >> >internet access .......
> >> desperate? what is desperate about satelite broad band woger
> >>
> >
```

> >REAL desperation is having to keep four or more dialup accounts active
> >because of having lost so many due to stupid blunders.
> >
> good greif 4 dailup accounts would cost more than my sta link does
> http://kb9rqz.blogspot.com/
>
> --
At one point not long ago, the admin of nim busters documented four
different dialup accounts that he used..

84. Re: Woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-03 22:32:04 UTC
From: Mark@kb9rqz.aprs
Message-ID: <mmbop29ke26b271igafcu1k0rjr41dps34@4ax.com>
Source record: 47148
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.cb,rec.radio.amateur.antenna

```
On Wed, 3 Jan 2007 13:38:05 -0500, "VonBluvens" <anon@nospam> wrote:

>
><Mark@kb9rqz.aprs> wrote in message
>news:uopnp212u29l4rlejub4qsl1gh3sla9qr5@4ax.com...
>> On Wed, 3 Jan 2007 12:15:19 -0500, "VonBluvens" <anon@nospam> wrote:
>>
>> >
>> ><Mark@kb9rqz.aprs> wrote in message
>> >news:ru1np2lmfgh2o61rquc2ulrj3p843ln726@4ax.com...
>> >> On 2 Jan 2007 22:24:26 -0800, "MarQueerMyDear"
>> >> <dear_marqueer_marky@mail2princess.com> wrote:
>> >>
>> >> >Mark@kb9rqz.aprs wrote:
>> >> >> On Tue, 2 Jan 2007 16:39:42 -0500, "Mark The Spamer" <Morkie@Spamer>
>> >> >> wrote:
>> >> >>
>> >> >> >this my ip andyes roger try as you mmihgt you failde to rmove me im
>> >still
>> >> >> >here
>> >> >> >
>> >> >> > 69.19.0.0 - 69.19.127.255
>> >> >> >Hughes Network Systems
>> >> >> >11717 Exploration Lane
>> >> >> >DirecWAY Network Management Center
>> >> >> >attn: Network Security Manager
>> >> >> >Germantown, MD
>> >> >> >US
>> >> >> >
>> >> >> >
>> >> >> >Network Security Manager
>> >> >> >abuse@direcpc.com
>> >> >> >+1-301-601-7205
>> >> >> >
>> >> >> well woger you have indeed failed to do anything to me largely
>becuase
>> >> >> I have not violated the ToS of Hughes net
>> >> >> http://kb9rqz.blogspot.com/
>> >> >>
>> >> >> --
>> >> >>
>> >> >and it's much harder to find people desperate enough to use satellite
>> >> >internet access .......
```

>> >> desperate? what is desperate about satelite broad band woger
>> >>
>> >
>> >REAL desperation is having to keep four or more dialup accounts active
>> >because of having lost so many due to stupid blunders.
>> >
>> good greif 4 dailup accounts would cost more than my sta link does
>> http://kb9rqz.blogspot.com/
>>
>> --
>At one point not long ago, the admin of nim busters documented four
>different dialup accounts that he used..
>
>

what a waste
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

85. Re: Interesting 144 foot Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-04 00:16:43 UTC
From: ml <m@di.net>
Message-ID: <m-1680AE.19163903012007@news.verizon.net>
Source record: 47149

In article <_Icmh.31175$Gr2.1959@newssvr21.news.prodigy.net>,
Cecil Moore <mycall@hotmail.com> wrote:

> A ham over on eHam.net wanted to know if a 40m EDZ
> would work on 80m. Of course it will if fed correctly
> since it is about 166 feet long. The question is: Is
> there a fixed length of ladder-line that will work both
> on 40m and 80m? I fired up EZNEC and started cut and
> trying. I found that a 144 foot 40m "EDZ" would yield
> some interesting results. I went out and extended my
> 130 foot dipole to 144 feet and was impressed.
>
> I found that a 144 foot center-fed dipole fed with
> ~88 feet of 450 ohm ladder-line was resonant on
> 7.150 MHz and my IC-756PRO would tune it over the
> entire 40m band. 40m is my favorite band.
>
> In addition, the IC-756PRO tuner will tune the same
> antenna system over a 3.7-3.9 MHz range on 80m.
>
> In addition, the IC-756PRO tuner will tune the same
> antenna system on 30m and 17m.
>
> I've already got a rotatable dipole for 20m-10m and
> this antenna tunes on 80m, 40m, and 30m.

interesting , resonant too hmm wonder how the waves look on that dipole?

86. Re: Happy New Year to all

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-04 00:23:17 UTC
From: brian.burp@yahoo.com
Message-ID: <1167870196.580860.7600@i80g2000cwc.googlegroups.com>
Source record: 47150
Cross-posted to: rec.radio.amateur.policy,alt.usenet.kooks,alt.home.repair,rec.radio.amateur.antenna,rec.radio.cb

Mark@kb9rqz.aprs wrote:
> On Wed, 3 Jan 2007 17:32:43 -0500, "John Doe" <hgorden@adelphia.net>
> wrote:
>
> >What a pleasure - this NG doesn't have all of the crap floating around.
> >
> that that is becuase steve choose to take his vacation from work the
> week BEFORE christmas

You're the turd of which he speaks.

> http://kb9rqz.blogspot.com/
>
> --
> Posted via a free Usenet account from http://www.teranews.com

87. Re: Woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-04 00:25:34 UTC
From: brian.burp@yahoo.com
Message-ID: <1167870333.426796.141140@51g2000cwl.googlegroups.com>
Source record: 47151
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.cb,rec.radio.amateur.antenna

Mark@kb9rqz.aprs wrote:
> On Wed, 3 Jan 2007 13:38:05 -0500, "VonBluvens" <anon@nospam> wrote:
>
> >
> ><Mark@kb9rqz.aprs> wrote in message
> >news:uopnp212u29l4rlejub4qsl1gh3sla9qr5@4ax.com...
> >> On Wed, 3 Jan 2007 12:15:19 -0500, "VonBluvens" <anon@nospam> wrote:
> >>
> >> >
> >> ><Mark@kb9rqz.aprs> wrote in message
> >> >news:ru1np2lmfgh2o61rquc2ulrj3p843ln726@4ax.com...
> >> >> On 2 Jan 2007 22:24:26 -0800, "MarQueerMyDear"
> >> >> <dear_marqueer_marky@mail2princess.com> wrote:
> >> >>
> >> >> >Mark@kb9rqz.aprs wrote:
> >> >> >> On Tue, 2 Jan 2007 16:39:42 -0500, "Mark The Spamer" <Morkie@Spamer>
> >> >> >> wrote:
> >> >> >>
> >> >> >> >this my ip andyes roger try as you mmihgt you failde to rmove me im
> >> >> >still
> >> >> >> >here
> >> >> >> >
> >> >> >> > 69.19.0.0 - 69.19.127.255
> >> >> >> >Hughes Network Systems
> >> >> >> >11717 Exploration Lane
> >> >> >> >DirecWAY Network Management Center
> >> >> >> >attn: Network Security Manager
> >> >> >> >Germantown, MD
> >> >> >> >US
> >> >> >> >
> >> >> >> >
> >> >> >> >Network Security Manager
> >> >> >> >abuse@direcpc.com
> >> >> >> >+1-301-601-7205
> >> >> >> >
> >> >> >> well woger you have indeed failed to do anything to me largely
> >> >> >becuase
> >> >> >> I have not violated the ToS of Hughes net
> >> >> >> http://kb9rqz.blogspot.com/
> >> >> >>
> >> >> >> --
> >> >> >>
> >> >> >and it's much harder to find people desperate enough to use satellite

> >> >> >internet access ....
> >> >> desperate? what is desperate about satelite broad band woger
> >> >>
> >> >
> >> >REAL desperation is having to keep four or more dialup accounts active
> >> >because of having lost so many due to stupid blunders.
> >> >
> >> good greif 4 dailup accounts would cost more than my sta link does
> >> http://kb9rqz.blogspot.com/
> >>
> >> --
> >At one point not long ago, the admin of nim busters documented four
> >different dialup accounts that he used..
> >
> >
>
> what a waste
much as the air you waste
> http://kb9rqz.blogspot.com/
>
> --
> Posted via a free Usenet account from http://www.teranews.com

88. Re: Woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-04 00:28:58 UTC
From: Mark@kb9rqz.aprs
Message-ID: <phiop25sbphud1cpvo0ikk1e9st02l7cmp@4ax.com>
Source record: 47152
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.cb,rec.radio.amateur.antenna

```
On 3 Jan 2007 16:25:34 -0800, brian.burp@yahoo.com wrote:

>
>Mark@kb9rqz.aprs wrote:
>> On Wed, 3 Jan 2007 13:38:05 -0500, "VonBluvens" <anon@nospam> wrote:
>>
>> >
>> ><Mark@kb9rqz.aprs> wrote in message
>> >news:uopnp212u29l4rlejub4qsl1gh3sla9qr5@4ax.com...
>> >> On Wed, 3 Jan 2007 12:15:19 -0500, "VonBluvens" <anon@nospam> wrote:
>> >>
>> >> >
>> >> ><Mark@kb9rqz.aprs> wrote in message
>> >> >news:ru1np2lmfgh2o61rquc2ulrj3p843ln726@4ax.com...
>> >> >> On 2 Jan 2007 22:24:26 -0800, "MarQueerMyDear"
>> >> >> <dear_marqueer_marky@mail2princess.com> wrote:
>> >> >>
>> >> >> >Mark@kb9rqz.aprs wrote:
>> >> >> >> On Tue, 2 Jan 2007 16:39:42 -0500, "Mark The Spamer" <Morkie@Spamer>
>> >> >> >> wrote:
>> >> >> >>
>> >> >> >>this my ip andyes roger try as you mmihgt you failde to rmove me im
>> >> >> >>still
>> >> >> >>here
>> >> >> >>>
>> >> >> >> > 69.19.0.0 - 69.19.127.255
>> >> >> >>Hughes Network Systems
>> >> >> >>11717 Exploration Lane
>> >> >> >>DirecWAY Network Management Center
>> >> >> >>attn: Network Security Manager
>> >> >> >>Germantown, MD
>> >> >> >>US
>> >> >> >>>
>> >> >> >>>
>> >> >> >>Network Security Manager
>> >> >> >>abuse@direcpc.com
>> >> >> >>+1-301-601-7205
>> >> >> >>>
>> >> >> >> well woger you have indeed failed to do anything to me largely
>> >>becuase
>> >> >> >> I have not violated the ToS of Hughes net
>> >> >> >> http://kb9rqz.blogspot.com/
>> >> >> >>
```

>> >> >> >> --
>> >> >> >>
>> >> >> >and it's much harder to find people desperate enough to use satellite
>> >> >> >internet access ....
>> >> >> desperate? what is desperate about satelite broad band woger
>> >> >>
>> >> >
>> >> >REAL desperation is having to keep four or more dialup accounts active
>> >> >because of having lost so many due to stupid blunders.
>> >> >
>> >> good greif 4 dailup accounts would cost more than my sta link does
>> >> http://kb9rqz.blogspot.com/
>> >>
>> >> --
>> >At one point not long ago, the admin of nim busters documented four
>> >different dialup accounts that he used..
>> >
>> >
>>
>> what a waste
>much as the air you waste

I waste none at at all woger
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

89. Re: Happy New Year to all

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-04 00:29:40 UTC
From: Mark@kb9rqz.aprs
Message-ID: <miiop250u880ko0rn7j98prmq4dsi89uts@4ax.com>
Source record: 47154
Cross-posted to: rec.radio.amateur.policy,alt.home.repair,rec.radio.amateur.antenna,rec.radio.cb

On 3 Jan 2007 16:23:17 -0800, brian.burp@yahoo.com wrote:

>Mark@kb9rqz.aprs wrote:
>> On Wed, 3 Jan 2007 17:32:43 -0500, "John Doe" <hgorden@adelphia.net>
>> wrote:
>>
>> >What a pleasure - this NG doesn't have all of the crap floating around.
>> >
>> that that is becuase steve choose to take his vacation from work the
>> week BEFORE christmas
>>
>You're the turd of which he speaks.

now you speak openly for others

grow up and and get alife woger
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

90. Re: Were the moderated newsgroup proponents just blowing smoke?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-04 00:29:42 UTC
From: brian.burp@yahoo.com
Message-ID: <1167870581.120038.30450@31g2000cwt.googlegroups.com>
Source record: 47153
Cross-posted to: rec.radio.amateur.policy,alt.usenet.kooks,alt.home.repair,rec.radio.amateur.antenna,rec.radio.cb

Mark@kb9rqz.aprs wrote:
> On Tue, 2 Jan 2007 20:46:07 +0000 (UTC), Lloyd Schleck
> <lloyd@no.spammmmm> wrote:
>
> >On Tue, 02 Jan 2007 12:12:55 -0500, Mark@kb9rqz.aprs <Mark@kb9rqz.aprs> wrote:
> >>
> >> as to winning I have won already I was not seleinced by you and your
> >> friends
> >>
> >I'm sorry, but I have this mental image of you standing on a heap of
>
> you are indeed sorry a sorry excuse for a human being
>
> >*plonk*

guess the op turned his faggot filter on

>
> I can only hope that for once you are telling the truth but you can't
> even here since you are unable to allow me to post in peace because
> YOU ahve a probelm with allowing freedom of expression

> http://kb9rqz.blogspot.com/
>
> --
> Posted via a free Usenet account from http://www.teranews.com

91. Re: Were the moderated newsgroup proponents just blowing smoke?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-04 00:36:54 UTC
From: Mark@kb9rqz.aprs
Message-ID: <vviop2toe927nf29f5jdg9uhanudmo66pm@4ax.com>
Source record: 47155
Cross-posted to: rec.radio.amateur.policy,alt.home.repair,rec.radio.amateur.antenna,rec.radio.cb

On 3 Jan 2007 16:29:42 -0800, brian.burp@yahoo.com wrote:

>

woger are you able to post without adding more unrelated NGs to the
thread?
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

92. Re: Discussion points on a long term Prognosis for AMATEUR RADIO

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-04 01:56:55 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <459c5eea$0$5214$4c368faf@roadrunner.com>
Source record: 47156

"Jimmie D" <jimmiedee@bellsouth.net> wrote in message
news:anFmh.14638$U12.13955@bignews1.bellsouth.net...

> I doubt if the FCC cares about what we do inside our allocations. It is my
> opinion that if we want to keep our bandwidth we must remain a self
> policing group. The last thing we want is for the FCC to ever have to
> clean our house, I am afraid they would do it with a bulldozer.

Right. Just like they cleaned up the 11 meter band. FCC is powerless against people who choose not to obey them. True, they can pick-off offenders one at a time. But as with CB, they would be powerless against an installed base of operators who wish to transmit. Any interest group that obtained todays amateur allocations would be subjected to massive interference by illegal operators rendering their resource financially useless. And how would you expect the USA FCC to "clean up" the CEPT countries? Or South America? Or Canada? Japan? China? etc..

93. Re: Discussion points on a long term Prognosis for AMATEUR RADIO

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-04 02:17:03 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <wsZmh.26$DM4.2103398@news.sisna.com>
Source record: 47157

Stefan Wolfe wrote:
> "Jimmie D" <jimmiedee@bellsouth.net> wrote in message
> news:anFmh.14638$U12.13955@bignews1.bellsouth.net...
>
>> I doubt if the FCC cares about what we do inside our allocations. It is my
>> opinion that if we want to keep our bandwidth we must remain a self
>> policing group. The last thing we want is for the FCC to ever have to
>> clean our house, I am afraid they would do it with a bulldozer.
>
> Right. Just like they cleaned up the 11 meter band. FCC is powerless against
> people who choose not to obey them. True, they can pick-off offenders one at
> a time. But as with CB, they would be powerless against an installed base of
> operators who wish to transmit. Any interest group that obtained todays
> amateur allocations would be subjected to massive interference by illegal
> operators rendering their resource financially useless. And how would you
> expect the USA FCC to "clean up" the CEPT countries? Or South America? Or
> Canada? Japan? China? etc..
>
>
>

Yanno, why does the 11 meter band need "cleaned up?" I kinda like it
the way it exists. Reminds me of a "Mad Max Movie", I just end up
wondering when Mel is gonna show up?

Regards,
JS

94. Re: 2-meter horizontal omni recommendation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-04 03:10:12 UTC
From: Elden Fenison <usenet@moondog.org.invalid>
Message-ID: <20070103191012168 07-usenet@moondogorginvalid>
Source record: 47158

On 2007-01-03 01:15:21 -0800, Dave Oldridge
<doldridg@leavethisoutshaw.ca> said:
> What you need is a turnstile antenna. And you could mount it partway
> up the mast and keep the vertical antenna, as far as that goes.

Just a general thank you to all who answered with suggestions. :)

--
-=Elden=-
http://www.moondog.org

95. Re: Were the moderated newsgroup punce just blowing smoke?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-04 03:34:42 UTC
From: I PUNCE <markpunce@yahoo.com>
Message-ID: <1167881681.255647.219130@6g2000cwy.googlegroups.com>
Source record: 47159
Cross-posted to: rec.radio.amateur.policy,alt.home.repair,alt.usenet.kooks,rec.radio.amateur.antenna,rec.radio.cb

```
Mark@kb9rqz.aprs wrote:
> On 3 Jan 2007 16:29:42 -0800, brian.burp@yahoo.com wrote:
>
> >
>
> woger are you able to post without adding more unrelated NGs to the
> thread?
> http://kb9rqz.blogspot.com/
>
> --
> Posted via a free Usenet account from http://www.teranews.com

I PUNCE
```

96. Re: Marqueer on RRAPunce

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-04 03:40:31 UTC
From: I PUNCE <markpunce@yahoo.com>
Message-ID: <1167882030.140166.179050@42g2000cwt.googlegroups.com>
Source record: 47160
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.policy,alt.usenet.kooks,rec.radio.cb,rec.radio.amateur.antenna

```
Mark@kb9rqz.aprs wrote:
> On 3 Jan 2007 16:25:34 -0800, brian.burp@yahoo.com wrote:
>
> >
> >Mark@kb9rqz.aprs wrote:
> >> On Wed, 3 Jan 2007 13:38:05 -0500, "VonBluvens" <anon@nospam> wrote:
> >>
> >> >
> >> ><Mark@kb9rqz.aprs> wrote in message
> >> >news:uopnp212u29l4rlejub4qsl1gh3sla9qr5@4ax.com...
> >> >> On Wed, 3 Jan 2007 12:15:19 -0500, "VonBluvens" <anon@nospam> wrote:
> >> >>
> >> >> >
> >> >> ><Mark@kb9rqz.aprs> wrote in message
> >> >> >news:ru1np2lmfgh2o61rquc2ulrj3p843ln726@4ax.com...
> >> >> >> On 2 Jan 2007 22:24:26 -0800, "MarQueerMyDear"
> >> >> >> <dear_marqueer_marky@mail2princess.com> wrote:
> >> >> >>
> >> >> >> >Mark@kb9rqz.aprs wrote:
> >> >> >> >> On Tue, 2 Jan 2007 16:39:42 -0500, "Mark The Spamer" <Morkie@Spamer>
> >> >> >> >> wrote:
> >> >> >> >>
> >> >> >> >> >this my ip andyes roger try as you mmihgt you failde to rmove me im
> >> >> >> >still
> >> >> >> >> >here
> >> >> >> >> >
> >> >> >> >> > 69.19.0.0 - 69.19.127.255
> >> >> >> >> >Hughes Network Systems
> >> >> >> >> >11717 Exploration Lane
> >> >> >> >> >DirecWAY Network Management Center
> >> >> >> >> >attn: Network Security Manager
> >> >> >> >> >Germantown, MD
> >> >> >> >> >US
> >> >> >> >> >
> >> >> >> >> >
> >> >> >> >> >Network Security Manager
> >> >> >> >> >abuse@direcpc.com
> >> >> >> >> >+1-301-601-7205
> >> >> >> >> >
> >> >> >> >> well woger you have indeed failed to do anything to me largely
> >> >> >becuase
> >> >> >> >> I have not violated the ToS of Hughes net
> >> >> >> >> http://kb9rqz.blogspot.com/
```

> >> >> >> >>
> >> >> >> >> --
> >> >> >> >>
> >> >> >> >and it's much harder to find people desperate enough to use satellite
> >> >> >> >internet access ....
> >> >> >> desperate? what is desperate about satelite broad band woger
> >> >> >>
> >> >> >
> >> >> >REAL desperation is having to keep four or more dialup accounts active
> >> >> >because of having lost so many due to stupid blunders.
> >> >> >
> >> >> good greif 4 dailup accounts would cost more than my sta link does
> >> >> http://kb9rqz.blogspot.com/
> >> >>
> >> >> --
> >> >At one point not long ago, the admin of nim busters documented four
> >> >different dialup accounts that he used..
> >> >
> >> >
> >>
> >> what a waste
> >much as the air you waste
>
> I waste none at at all woger
> http://kb9rqz.blogspot.com/
>
> --
> Posted via a free Usenet account from http://www.teranews.com

I PUNCE

97. Re: New Forum for in punce

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-04 03:49:41 UTC
From: I PUNCE <markpunce@yahoo.com>
Message-ID: <1167882580.840897.313510@q40g2000cwq.googlegroups.com>
Source record: 47161
Cross-posted to: rec.radio.cb,rec.radio.amateur.antenna,alt.usenet.kooks,alt.drugs.hard,rec.radio.amateur.policy

```
Torquay (hat) wrote:
> http://www.rcrmedical.co.uk/cbradioforum/index.php
>
> ITs new so dont expect much :)

I PUNCE
```

98. Re: Discussion points on a long term Prognosis for AMATEUR RADIO

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-04 07:13:44 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <459ca92d$0$17003$4c368faf@roadrunner.com>
Source record: 47162

"John Smith I" <assemblywizard@gmail.com> wrote in message
news:wsZmh.26$DM4.2103398@news.sisna.com...
> Stefan Wolfe wrote:
>> "Jimmie D" <jimmiedee@bellsouth.net> wrote in message
>> news:anFmh.14638$U12.13955@bignews1.bellsouth.net...
>>
>>> I doubt if the FCC cares about what we do inside our allocations. It is
>>> my opinion that if we want to keep our bandwidth we must remain a self
>>> policing group. The last thing we want is for the FCC to ever have to
>>> clean our house, I am afraid they would do it with a bulldozer.
>>
>> Right. Just like they cleaned up the 11 meter band. FCC is powerless
>> against people who choose not to obey them. True, they can pick-off
>> offenders one at a time. But as with CB, they would be powerless against
>> an installed base of operators who wish to transmit. Any interest group
>> that obtained todays amateur allocations would be subjected to massive
>> interference by illegal operators rendering their resource financially
>> useless. And how would you expect the USA FCC to "clean up" the CEPT
>> countries? Or South America? Or Canada? Japan? China? etc..
>>
>>
>>
>
> Yanno, why does the 11 meter band need "cleaned up?" I kinda like it the
> way it exists. Reminds me of a "Mad Max Movie", I just end up wondering
> when Mel is gonna show up?
>
> Regards,
> JS

11m does not need to be cleaned up. It is what it is. One might say say the
the 11m operators are similar to ham radio pre-FCC. With their huge
installed base they cannot be cleaned up. For the licensed amateur bands of
the future, it is simply a matter of how much regulation this group will
accept from FCC's Riley et al,. Actually 11m have formed their own self
policing faction being far more mature than many of our own 20m classes,
even if "illegal" by technicality.

99. Re: Discussion points on a long term Prognosis for AMATEUR RADIO

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-04 11:25:28 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <qu5nh.16731$n57.12889@bignews3.bellsouth.net>
Source record: 47163

```
"Stefan Wolfe" <stefan@eml.com> wrote in message
news:459ca92d$0$17003$4c368faf@roadrunner.com...
>
> "John Smith I" <assemblywizard@gmail.com> wrote in message
> news:wsZmh.26$DM4.2103398@news.sisna.com...
>> Stefan Wolfe wrote:
>>> "Jimmie D" <jimmiedee@bellsouth.net> wrote in message
>>> news:anFmh.14638$U12.13955@bignews1.bellsouth.net...
>>>
>>>> I doubt if the FCC cares about what we do inside our allocations. It is
>>>> my opinion that if we want to keep our bandwidth we must remain a self
>>>> policing group. The last thing we want is for the FCC to ever have to
>>>> clean our house, I am afraid they would do it with a bulldozer.
>>>
>>> Right. Just like they cleaned up the 11 meter band. FCC is powerless
>>> against people who choose not to obey them. True, they can pick-off
>>> offenders one at a time. But as with CB, they would be powerless against
>>> an installed base of operators who wish to transmit. Any interest group
>>> that obtained todays amateur allocations would be subjected to massive
>>> interference by illegal operators rendering their resource financially
>>> useless. And how would you expect the USA FCC to "clean up" the CEPT
>>> countries? Or South America? Or Canada? Japan? China? etc..
>>>
>>>
>>>
>>
>> Yanno, why does the 11 meter band need "cleaned up?" I kinda like it the
>> way it exists. Reminds me of a "Mad Max Movie", I just end up wondering
>> when Mel is gonna show up?
>>
>> Regards,
>> JS
>
> 11m does not need to be cleaned up. It is what it is. One might say say
> the the 11m operators are similar to ham radio pre-FCC. With their huge
> installed base they cannot be cleaned up. For the licensed amateur bands
> of the future, it is simply a matter of how much regulation this group
> will accept from FCC's Riley et al,. Actually 11m have formed their own
> self policing faction being far more mature than many of our own 20m
> classes, even if "illegal" by technicality.
>

This is very true, Ok with most cbers if you use a kw or more but abusive
language, keying, lot of splatter will get your coax cut in the middle of
```

the night. Where I live CB activity is pretty clean but I do know there are those who use EXCESSIVE POWER.

100. Re: Interesting 144 foot Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-04 13:18:32 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <l87nh.2389$ji1.1779@newssvr12.news.prodigy.net>
Source record: 47164

ml wrote:
> interesting , resonant too hmm wonder how the waves look on that dipole?

The free demo copy of EZNEC available from www.eznec.com will
display the current waveform. Here's a copy of a posting I made
to eHam.net

The following results are approximate but show the resonance trend on
80m Vs dipole length. Take a certain length dipole and adjust the length
of the 450 ohm ladder-line for resonance on 7.15 MHz. i.e. NOTE: All of
the following antenna systems are resonant on 7.15 MHz. and cover the
entire 40m band with an SWR of 3.5:1 or less (good for built-in
autotuners). Here are the approximate results:

dipole length : feedline length : resonance on 80m

170' : ~85' : 3.62 MHz (3.52-3.72)

160' : ~87' : 3.7 MHz (3.6-3.8)

150' : ~89' : 3.8 MHz (3.7-3.9)

140' : ~91' : 3.92 MHz (3.82-4)

130' : ~92.8' : 4.06 MHz (resonant out of band)

120' : ~94.7' : 4.23 MHz (resonant out of band)

Yesterday I had a 130' dipole that exhibited the above characteristics.
I have changed it to a 144' dipole and now, with one length of
ladder-line, the antenna covers all of 40m and 200 kHz of 80m using the
limited range autotuner built into my IC-756PRO. A bonus is that the
autotuner also tunes this fixed antenna system on 30m and 17m.
--
73, Cecil http://www.w5dxp.com

101. Re: Were the moderated newsgroup punce just blowing smoke?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-04 16:41:06 UTC
From: Cardinal Snarky of the Fannish Inquisition <inquisition@smof.org>
Message-ID: <pan.2007.01.04.16.41.03.657611@smof.org>
Source record: 47165
Cross-posted to: rec.radio.amateur.policy,alt.home.repair,alt.usenet.kooks,rec.radio.amateur.antenna,rec.radio.cb

On Wed, 03 Jan 2007 19:34:42 -0800, I PUNCE sat in thee Comfee Chaire, and
didst finally confess, after taking Muche Tea:
> Mark@kb9rqz.aprs wrote:
>> On 3 Jan 2007 16:29:42 -0800, brian.burp@yahoo.com wrote:
>>
>> woger are you able to post without adding more unrelated NGs to the
>> thread?
>
> I PUNCE

Yes, Wabbit, you surely do -- especially when you try to make it look
like Mark's the one posting your dreck.

--

_____
Hail Eris!
Demon Prince of Absurdity

"And no, I did not have sex with my son. But if I did I certainly
wouldn't tell you. Something so beautiful and precious should be kept
private." -- Kathy L. Mosesian, or possibly not really her, confesses
she may be a liar and committer of incest with her own son, in MID:
<cfcd3f4660694e3afeaadaa2723e9ab1@msgid.frell.theremailer.net>

The reporter asked Colin Powell (or George Bush), "What proof do you
have that Iraq has weapons of mass destruction?"
He replied, "We kept the receipts." -- Bill Hicks

"They thought I was fair game. I was an instrument of purpose to achieve
their desires and not 100 percent real and ALSO that they had me by the
short curlies because I thought that the world revolved around them and
therefore I think that I am fair game and rightly so. If they want to
play dirty, I get to too. It's not a one-way street. I will use the
physcial strength that I have over them, my superior 5'7-3/4" height
advantage, the boxing moves I paid to learn, the suprise of pussyfooting
up to them with their back to me in a public place 18 1/2 years after
the fact and thus not only do will they not know that I am but a pica's
distance away from them, but that I even exist on earth." -- Chris Tsao
is secretly John Wentzky's psychic twin. MID:
<1161246083.152300.195760@m73g2000cwd.googlegroups.com>

Looney Maroon nominee for August 2006 Johnny D Wentzky foamed:
"You never asked someone who goes into areas of the internet that are
only for adults who has an underage id somehow or another if they are a
cop posing as an underage person online?

I guess lots of people just don't watch dateline or read stories much. Why don;t you go to pervertedjustice,com and see what they do. They are awash in their self-proclaimed glory after they lied to membners of the public.
They are awash in their self-proclaimed glory after they posed as an underage person and agreed to do all sorts of sex acts wioth adult males, and they are adults posing as teenager themselves. They make themsleves into liars by falsely impersonating underage persons and by not fuilfilling the words they tell the victims online in their chats. Why don't you read it where they tell these victims of their deceit about how they have been with grown men and such? Why don't you read it where they say, "That would be cool." after someone makes an advance towards an adult who is posing as a teenager? And, where they agree to meet the person, etc.
Lost control, didn't you?
Is that why you feel as if you need to lie so much now? I see where lots of these false impersonation games are not sticking. They feel as if they can lie and then order the victims to get counseling in the gayblade, governmental, pro-choice tax leech counseling centers. They are doing nothing more than usury and fraud in many cases." -- Wentzky almost comes out of the closet as a pedo/ephebophile in MID: <H%%Eg.28916$Uq1.22411@bignews6.bellsouth.net>

102. woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-04 18:16:57 UTC
From: Mark@kb9rqz.aprs
Message-ID: <h3hqp2hrqb188hu6radcv40ieul218dsci@4ax.com>
Source record: 47166
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.cb,rec.radio.amateur.antenna

```
On 3 Jan 2007 19:40:31 -0800, "I PUNCE" <markpunce@yahoo.com> wrote:

>
>Mark@kb9rqz.aprs wrote:
>> On 3 Jan 2007 16:25:34 -0800, brian.burp@yahoo.com wrote:
>>
>> >
>> >Mark@kb9rqz.aprs wrote:
>> >> On Wed, 3 Jan 2007 13:38:05 -0500, "VonBluvens" <anon@nospam> wrote:
>> >>
>> >> >
>> >> ><Mark@kb9rqz.aprs> wrote in message
>> >> >news:uopnp212u29l4rlejub4qsl1gh3sla9qr5@4ax.com...
>> >> >> On Wed, 3 Jan 2007 12:15:19 -0500, "VonBluvens" <anon@nospam> wrote:
>> >> >>
>> >> >> >
>> >> >> ><Mark@kb9rqz.aprs> wrote in message
>> >> >> >news:ru1np2lmfgh2o61rquc2ulrj3p843ln726@4ax.com...
>> >> >> >> On 2 Jan 2007 22:24:26 -0800, "MarQueerMyDear"
>> >> >> >> <dear_marqueer_marky@mail2princess.com> wrote:
>> >> >> >>
>> >> >> >> >Mark@kb9rqz.aprs wrote:
>> >> >> >> >> On Tue, 2 Jan 2007 16:39:42 -0500, "Mark The Spamer" <Morkie@Spamer>
>> >> >> >> >> wrote:
>> >> >> >> >>
>> >> >> >> >> >this my ip andyes roger try as you mmihgt you failde to rmove me im
>> >> >> >> >still
>> >> >> >> >> >here
>> >> >> >> >> >
>> >> >> >> >> > 69.19.0.0 - 69.19.127.255
>> >> >> >> >> >Hughes Network Systems
>> >> >> >> >> >11717 Exploration Lane
>> >> >> >> >> >DirecWAY Network Management Center
>> >> >> >> >> >attn: Network Security Manager
>> >> >> >> >> >Germantown, MD
>> >> >> >> >> >US
>> >> >> >> >> >
>> >> >> >> >> >
>> >> >> >> >> >Network Security Manager
>> >> >> >> >> >abuse@direcpc.com
>> >> >> >> >> >+1-301-601-7205
>> >> >> >> >> >
>> >> >> >> >> well woger you have indeed failed to do anything to me largely
```

>> >> >becuase
>> >> >> >> >> I have not violated the ToS of Hughes net
>> >> >> >> >> http://kb9rqz.blogspot.com/
>> >> >> >> >>
>> >> >> >> >> --
>> >> >> >> >>
>> >> >> >> >and it's much harder to find people desperate enough to use satellite
>> >> >> >> >internet access ....
>> >> >> >> desperate? what is desperate about satelite broad band woger
>> >> >> >>
>> >> >> >
>> >> >> >REAL desperation is having to keep four or more dialup accounts active
>> >> >> >because of having lost so many due to stupid blunders.
>> >> >> >
>> >> >> good greif 4 dailup accounts would cost more than my sta link does
>> >> >> http://kb9rqz.blogspot.com/
>> >> >>
>> >> >> --
>> >> >At one point not long ago, the admin of nim busters documented four
>> >> >different dialup accounts that he used..
>> >> >
>> >> >
>> >>
>> >> what a waste
>> >much as the air you waste
>>
>> I waste none at at all woger
>> http://kb9rqz.blogspot.com/
>>
>> --
>> Posted via a free Usenet account from http://www.teranews.com
>
>I PUNCE

it is pelled Dunce woger
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

103. woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-04 18:17:53 UTC
From: Mark@kb9rqz.aprs
Message-ID: <s4hqp21bqc5sjhvf1tsl33f64nvqg68jp0@4ax.com>
Source record: 47167
Cross-posted to: rec.radio.cb,rec.radio.amateur.antenna,alt.drugs.hard,rec.radio.amateur.policy

On 3 Jan 2007 19:49:41 -0800, "I PUNCE" <markpunce@yahoo.com> wrote:

>
>Torquay (hat) wrote:
>> http://www.rcrmedical.co.uk/cbradioforum/index.php
>>
>> ITs new so dont expect much :)
>
>I PUNCE

truly woger can you post anything without adding ngs this one started
in CB and you brought it over to RRAP and the rest
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

104. Re: Federal Register Watch Thread

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-04 23:06:04 UTC
From: an_old_friend <kb9rqz69@hotmail.com>
Message-ID: <1167951964.469726.281370@51g2000cwl.googlegroups.com>
Source record: 47168
Cross-posted to: rec.radio.amateur.policy,alt.home.repair,alt.autos.mini,rec.radio.cb,rec.radio.amateur.antenna

N2EY@AOL.COM wrote:
> One item from FCC in today's Federal Register (Vol 72, Number 2)
>
> It's not the Report and Order, though.
>
> --
>
> The Federal Register can be viewed online at:
>
> http://www.gpoaccess.gov/fr/index.html
>
>
> *Today's* edition of the Federal Register can be viewed online at:
>
> http://www.access.gpo.gov/su_docs/aces/fr-cont.html
>
> (HTML)
>
> or
>
> http://www.access.gpo.gov/su_docs/aces/fr-cont.pdf
>
> (PDF)
>
> Agencies are listed in alphabetic order, making it easy to find the
> FCC.
>
> 73 de Jim, N2EY

i wanto be wogers secwet lover!

105. Re: MI5 Persecution: Communications with Security Service Tribunal in 1999

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-05 00:07:16 UTC
From: Honest Abe <abc@def.com>
Message-ID: <UEgnh.643063$QZ1.16531@bgtnsc04-news.ops.worldnet.att.net>
Source record: 47169
Cross-posted to: rec.ponds,rec.puzzles,rec.pyrotechnics,rec.radio.amateur.antenna,uk.misc

To the moron that is flooding all of Usenet with these "M15" posts:

You may very well have a valid political viewpoint and reasons to complain, but your spamming newsgroups in which it is off-topic is NOT winning you any support. Neither is your making more than 4 or 5 posts a day to groups where your subject is relevant.

KNOCK IT OFF, JERK!

You are NOT serving your cause at all by annoying people. You will be IGNORED, and you will be reported to wherever you post from and lose your accounts, just as trolls and crackpots do. If you are serious, act sanely and be courteous to others!

106. GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-05 00:32:30 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <459d9ca2$0$9595$4c368faf@roadrunner.com>
Source record: 47170
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

<N2EY@AOL.COM> wrote in message
news:1167950896.426138.265310@42g2000cwt.googlegroups.com...
> One item from FCC in today's Federal Register (Vol 72, Number 2)
>
> It's not the Report and Order, though.

NO NEED for a report and order on the fr.

Since the FC already publically announced the acceptance of no code, that effectively permits anyone with a CSCE for general or technician class element 2 CSCE or license to use HF SSB NOW in the permitted frequencies.

There is no statute that requires publication in the FR before a requirement is effective, only that the regulating agency agree in principal to the new requirement. Such a statute would obviously be unconstitutional. It is merely a government formality which cannot be enforced by the courts.

The FCC did not publish an effective date nor did they choose to publish one in the federal register. That means you can transmit SSB voice at this very moment.

Go ahead element 2 or 3 CSCE'S or tech license holders, you can transmit NOW! I look forward to seeing you on the bands (though I do spend a lot of time in the CW portions).

107. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-05 00:44:32 UTC
From: Mark@kb9rqz.aprs
Message-ID: <tm7rp2divpc93lupfr93amoj5ikpllogc0@4ax.com>
Source record: 47171
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

On Thu, 4 Jan 2007 19:32:30 -0500, "Stefan Wolfe" <stefan@eml.com>
wrote:

>
><N2EY@AOL.COM> wrote in message
>news:1167950896.426138.265310@42g2000cwt.googlegroups.com...
>> One item from FCC in today's Federal Register (Vol 72, Number 2)
>>
>> It's not the Report and Order, though.
>
>NO NEED for a report and order on the fr.
>
>Since the FC already publically announced the acceptance of no code, that
>effectively permits anyone with a CSCE for general or technician class
>element 2 CSCE or license to use HF SSB NOW in the permitted frequencies.
no mere elelment 2 CSSE wopuld cover that the element 2 test gets you
a tech license the only people a new element 2 csse would affect would
be a novice and and there are damn few of them and fewer still that
are both alive active and still in radio

>
>There is no statute that requires publication in the FR before a requirement
>is effective, only that the regulating agency agree in principal to the new
>requirement. Such a statute would obviously be unconstitutional. It is
>merely a government formality which cannot be enforced by the courts.

I agree it would be difficult for the FCC to enforce the old rule and
prevent me from operating on 10m right now but Hams would do so most
likely
>
>The FCC did not publish an effective date nor did they choose to publish one
>in the federal register. That means you can transmit SSB voice at this very
>moment.
>
>Go ahead element 2 or 3 CSCE'S or tech license holders, you can transmit
>NOW! I look forward to seeing you on the bands (though I do spend a lot of
>time in the CW portions).
>
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

108. woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-05 01:23:26 UTC
From: an old friend <kb9rqz@yahoo.com>
Message-ID: <1167960206.425970.42610@51g2000cwl.googlegroups.com>
Source record: 47172
Cross-posted to: rec.radio.amateur.policy,alt.home.repair,alt.autos.mini,rec.radio.cb,rec.radio.amateur.antenna

an_old_friend wrote:
> N2EY@AOL.COM wrote:
> > One item from FCC in today's Federal Register (Vol 72, Number 2)
> >

> >
> > 73 de Jim, N2EY
>
> i wanto be wogers secwet lover!

then do so woger

109. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-05 02:12:42 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <459db41e$0$4883$4c368faf@roadrunner.com>
Source record: 47173
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

"Stefan Wolfe" <stefan@eml.com> wrote in message
news:459d9ca2$0$9595$4c368faf@roadrunner.com...
>
> <N2EY@AOL.COM> wrote in message
> news:1167950896.426138.265310@42g2000cwt.googlegroups.com...
>> One item from FCC in today's Federal Register (Vol 72, Number 2)
>>
>> It's not the Report and Order, though.
>
> NO NEED for a report and order on the fr.
>
> Since the FC already publically announced the acceptance of no code, that
> effectively permits anyone with a CSCE for general or technician class
> element 2 CSCE or license to use HF SSB NOW in the permitted frequencies.
>
> There is no statute that requires publication in the FR before a
> requirement is effective, only that the regulating agency agree in
> principal to the new requirement. Such a statute would obviously be
> unconstitutional. It is merely a government formality which cannot be
> enforced by the courts.
>
> The FCC did not publish an effective date nor did they choose to publish
> one in the federal register. That means you can transmit SSB voice at this
> very moment.
>
> Go ahead element 2 or 3 CSCE'S or tech license holders, you can transmit
> NOW! I look forward to seeing you on the bands (though I do spend a lot of
> time in the CW portions).
>

Here is the text: The R&O is ALREADY adopted;

Before the

Federal Communications Commission

Washington, D.C. 20554

In the Matter of

Amendment of Part 97 of the Commission's Rules

To Implement WRC-03 Regulations Applicable to Requirements for
Operator Licenses in the Amateur Radio Service

Amendment of the Commission's Rules Governing the Amateur Radio
Services
)

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WT Docket No. 05-235

RM-10781, RM-10782, RM-10783,

RM-10784, RM-10785, RM-10786,

RM-10787, RM-10805, RM-10806,

RM-10807, RM-10808, RM-10809,

RM-10810, RM-10811, RM-10867,

RM-10868, RM-10869, RM-10870

WT Docket No. 04-140

REPORT AND ORDER AND ORDER ON RECONSIDERATION

----------> Adopted<---------- : December 15, 2006 Released:
December 19, 2006

By the Commission:

And,

Generally, the NPRM proposed to eliminate the requirement that an individual must pass an international Morse code telegraphy examination in order to qualify for any amateur radio operator license.

As discussed below, ---------->this R&O implements<----------
the proposals set forth in the NPRM. Specifically, we will amend our Amateur

Radio Service rules by:

. revising the examination requirements for obtaining a General Class or Amateur Extra Class amateur radio operator license; and

. revising the operating privileges for Technician Class licensees to include the operating privileges that are authorized to Novice Class licensees.

So go ahead and transmit!

110. Re: Even a Caveman could do it

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-05 02:18:31 UTC
From: Tech <telesensor55@hotmail.com>
Message-ID: <38afd$459db57b$438dad6c$27365@ALLTEL.NET>
Source record: 47174
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

Hey Now lets not be down talking the CAVE MEN After all we did give you the wheel. and with out it you would have a hard time winding a coil on something!
"Stefan Wolfe" <stefan@eml.com> wrote in message news:459940ca$0$5755$4c368faf@roadrunner.com...
> "DaveC" <wntu4@yahoo.com> wrote in message > >Now if you will excuse me I > need to start studying for >my General.
>
> Good one Dave. When you start "studying" for your general you will see how > dumbed down and simple it is and you might marvel at why the QPC would > have
> ever even bothered to commit such a "test" to publication. It may also > occur to you that, as the the Geico commercial says, it is so easy a > caveman could do it. Actually I would move back perhaps 25 million years > earlier in the evolutionary cycle and say it is so easy, even a monkey > could do it.
>
> And monkeys it will be.
>
> The new Monkey General class :-)
>
>
>

111. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-05 02:22:54 UTC
From: Mark@kb9rqz.aprs
Message-ID: <qidrp2d4se3ckja7qka11hq5hs0cb6p88r@4ax.com>
Source record: 47175
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

On Thu, 4 Jan 2007 21:12:42 -0500, "Stefan Wolfe" <stefan@eml.com>
wrote:

>
>"Stefan Wolfe" <stefan@eml.com> wrote in message
>news:459d9ca2$0$9595$4c368faf@roadrunner.com...
>>
>> <N2EY@AOL.COM> wrote in message
>> news:1167950896.426138.265310@42g2000cwt.googlegroups.com...
>>> One item from FCC in today's Federal Register (Vol 72, Number 2)
>>>
>>> It's not the Report and Order, though.
>>
>> NO NEED for a report and order on the fr.
>>
>> Since the FC already publically announced the acceptance of no code, that
>> effectively permits anyone with a CSCE for general or technician class
>> element 2 CSCE or license to use HF SSB NOW in the permitted frequencies.
>>
>> There is no statute that requires publication in the FR before a
>> requirement is effective, only that the regulating agency agree in
>> principal to the new requirement. Such a statute would obviously be
>> unconstitutional. It is merely a government formality which cannot be
>> enforced by the courts.
>>
>> The FCC did not publish an effective date nor did they choose to publish
>> one in the federal register. That means you can transmit SSB voice at this
>> very moment.
>>
>> Go ahead element 2 or 3 CSCE'S or tech license holders, you can transmit
>> NOW! I look forward to seeing you on the bands (though I do spend a lot of
>> time in the CW portions).
>>
>
>Here is the text: The R&O is ALREADY adopted;
>
>Before the
>
>Federal Communications Commission
>
>Washington, D.C. 20554
>
> In the Matter of

>
> Amendment of Part 97 of the Commission's Rules
>
> To Implement WRC-03 Regulations Applicable to Requirements for
>Operator Licenses in the Amateur Radio Service
>
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> Amendment of the Commission's Rules Governing the Amateur Radio
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> WT Docket No. 05-235
>
> RM-10781, RM-10782, RM-10783,
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> RM-10784, RM-10785, RM-10786,
>
> RM-10787, RM-10805, RM-10806,

>
> RM-10807, RM-10808, RM-10809,
>
> RM-10810, RM-10811, RM-10867,
>
> RM-10868, RM-10869, RM-10870
>
> WT Docket No. 04-140
>
>
>REPORT AND ORDER AND ORDER ON RECONSIDERATION
>
>-------------> Adopted<------------------- : December 15, 2006 Released:
>December 19, 2006
>

now tha line is better example
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

112. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-05 02:40:12 UTC
From: robert casey <wa2ise@ix.netcom.com>
Message-ID: <gUinh.7379$yx6.5505@newsread2.news.pas.earthlink.net>
Source record: 47176
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

>
> NO NEED for a report and order on the fr.
>
> Since the FC already publically announced the acceptance of no code, that
> effectively permits anyone with a CSCE for general or technician class
> element 2 CSCE or license to use HF SSB NOW in the permitted frequencies.
>
> There is no statute that requires publication in the FR before a requirement
> is effective, only that the regulating agency agree in principal to the new
> requirement. Such a statute would obviously be unconstitutional. It is
> merely a government formality which cannot be enforced by the courts.
>

I doubt it. Until it shows in the Federal Registry, the old rules are
still in force. And then the old rules stay alive until 30 days elapses.

Besides, if all someone has are CSCEs, they don't even have a callsign,
so how could they operate?

113. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-05 02:48:54 UTC
From: Dee Flint <deeflint01@comcast.net>
Message-ID: <DZKdnaNWAek1IQDYnZ2dnUVZ_oipnZ2d@comcast.com>
Source record: 47177
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

"robert casey" <wa2ise@ix.netcom.com> wrote in message
news:gUinh.7379$yx6.5505@newsread2.news.pas.earthlink.net...
>
>>
>> NO NEED for a report and order on the fr.
>>
>> Since the FC already publically announced the acceptance of no code, that
>> effectively permits anyone with a CSCE for general or technician class
>> element 2 CSCE or license to use HF SSB NOW in the permitted frequencies.
>>
>> There is no statute that requires publication in the FR before a
>> requirement is effective, only that the regulating agency agree in
>> principal to the new requirement. Such a statute would obviously be
>> unconstitutional. It is merely a government formality which cannot be
>> enforced by the courts.
>>
>
> I doubt it. Until it shows in the Federal Registry, the old rules are
> still in force. And then the old rules stay alive until 30 days elapses.
>
> Besides, if all someone has are CSCEs, they don't even have a callsign, so
> how could they operate?

And those CSCEs will NOT be accepted for processing for the upgrade until
the effective date listed in the Federal Register. So if the CSCE expires
before that effective date, they will have to retest.

Dee, N8UZE

114. Re: Hi mork

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-05 03:18:17 UTC
From: MarQueerMyDear <dear_marqueer_marky@mail2princess.com>
Message-ID: <1167967096.975446.214610@s80g2000cwa.googlegroups.com>
Source record: 47178
Cross-posted to: alt.usenet.kooks,rec.radio.cb,alt.death,rec.radio.amateur.policy,rec.radio.amateur.antenna

From: arpavax:mark - view profile
Date: Mon, May 11 1981 10:09 am
Email: arpavax:mark
Groups: net.general
Rating: (28 users)
show options
Reply | Reply to Author | Forward | Print | Individual Message | Show original | Report Abuse | Find messages by this author

From sdcarl!rusty Mon May 11 09:00:58 1981
To: ucbvax^mark
Subject: newsgroup fa, net, etc.

Won't we need to change the .ngfile also? Also is ALL an
acceptable newsgroup
on the left side of the dot such that ALL.ALL will catch
everything?

Rusty is right (or is that "Rusty is Wright"?) - we have ALL in our
.ngfile
so I tend to forget this. ALL.ALL may or may not work, but ALL
certainly does.

Mark

I plan to make the change on Tuesday unless something horrible happens.

Reply Rate this post: Text for clearing space

From: sams...@msn.com - view profile
Date: Thurs, Dec 23 2004 6:46 pm
Email: sams...@msn.com
Groups: net.general
Rating: (2 users)
show options
Reply | Reply to Author | Forward | Print | Individual Message | Show original | Report Abuse | Find messages by this author

okay, but I bet something horrible happens.

~Mark

Reply Rate this post: Text for clearing space

From: Benjamin - view profile
Date: Sun, Jan 2 2005 2:33 am
Email: "Benjamin" <benjam...@gmail.com>

Groups: net.general
Rating: (2 users)
show options
Reply | Reply to Author | Forward | Print | Individual Message | Show original | Report Abuse | Find messages by this author

This is so cool this is the oldest Usenet article in the Google Groups Archive I has a very big changes of being the oldest one in archived in

the world.

Reply Rate this post: Text for clearing space

From: danielcre...@gmail.com - view profile
Date: Mon, Jan 3 2005 4:36 pm
Email: danielcre...@gmail.com
Groups: net.general
Rating: (1 user)
show options
Reply | Reply to Author | Forward | Print | Individual Message | Show original | Report Abuse | Find messages by this author

Apparently nothing too horrible happened after they changed the .ngfile

because we're still pecking out our little newsgroup messages all over the world 24 years later.

Reply Rate this post: Text for clearing space

From: pbsoft_l...@yahoo.com - view profile
Date: Tues, Jan 4 2005 11:00 am
Email: pbsoft_l...@yahoo.com
Groups: net.general
Rating: (1 user)
show options
Reply | Reply to Author | Forward | Print | Individual Message | Show original | Report Abuse | Find messages by this author

Gosh I hope not....

btw these new 300baud modems are lightening fast, huh?
But you need 256kb of system ram to use them, my box only has
128kb, darn.

Reply Rate this post: Text for clearing space

From: Chad Devine - view profile
Date: Tues, Jan 4 2005 2:43 pm
Email: "Chad Devine" <surr...@gmail.com>
Groups: net.general
Rating: (1 user)
show options
Reply | Reply to Author | Forward | Print | Individual Message | Show original | Report Abuse | Find messages by this author

I just got one of those new 524 megabyte hard drives. I plan on filling

it up with a tons of text files later! Woohoo!

Reply Rate this post: Text for clearing space

From: genele...@gmail.com - view profile
Date: Mon, Jan 10 2005 12:35 am
Email: genele...@gmail.com
Groups: net.general
Rating: (1 user)
show options
Reply | Reply to Author | Forward | Print | Individual Message | Show
original | Report Abuse | Find messages by this author

I wonder if something horrible happened.

Reply Rate this post: Text for clearing space

From: floydp...@gmail.com - view profile
Date: Mon, Jan 10 2005 1:17 am
Email: floydp...@gmail.com
Groups: net.general
Rating: (1 user)
show options
Reply | Reply to Author | Forward | Print | Individual Message | Show
original | Report Abuse | Find messages by this author

I'm here, where's the bitches?

Reply Rate this post: Text for clearing space

From: jbs3...@gmail.com - view profile
Date: Mon, Jan 10 2005 2:46 am
Email: jbs3...@gmail.com
Groups: net.general
Rating: (1 user)
show options
Reply | Reply to Author | Forward | Print | Individual Message | Show
original | Report Abuse | Find messages by this author

> I plan to make the change on Tuesday unless something horrible

happens.

To late.

Reply Rate this post: Text for clearing space

From: kido...@gmail.com - view profile
Date: Mon, Jan 10 2005 6:05 am
Email: kido...@gmail.com
Groups: net.general
Rating: (1 user)
show options
Reply | Reply to Author | Forward | Print | Individual Message | Show

original | Report Abuse | Find messages by this author

- Hide quoted text -
- Show quoted text -

mark wrote:
> From sdcarl!rusty Mon May 11 09:00:58 1981
> To: ucbvax^mark
> Subject: newsgroup fa, net, etc.

> Won't we need to change the .ngfile also? Also is ALL an acceptable
newsgroup
> on the left side of the dot such that ALL.ALL will catch everything?

> Rusty is right (or is that "Rusty is Wright"?) - we have ALL in our
.ngfile
> so I tend to forget this. ALL.ALL may or may not work, but ALL
certainly does.

> Mark

> I plan to make the change on Tuesday unless something horrible

happens.

Reply Rate this post: Text for clearing space

From: nbera...@gmail.com - view profile
Date: Mon, Jan 10 2005 7:32 am
Email: nbera...@gmail.com
Groups: net.general
Not yet ratedRating:
show options
Reply | Reply to Author | Forward | Print | Individual Message | Show
original | Report Abuse | Find messages by this author

Just thought I would get in on history and reply to the first newsgroup

post cached in google.

- Hide quoted text -
- Show quoted text -

mark wrote:
> From sdcarl!rusty Mon May 11 09:00:58 1981
> To: ucbvax^mark
> Subject: newsgroup fa, net, etc.

> Won't we need to change the .ngfile also? Also is ALL an acceptable
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.ngfile
> so I tend to forget this. ALL.ALL may or may not work, but ALL

certainly does.

> Mark

> I plan to make the change on Tuesday unless something horrible

happens.

Reply Rate this post: Text for clearing space

From: simon.bouch...@gmail.com - view profile
Date: Mon, Jan 10 2005 8:47 am
Email: simon.bouch...@gmail.com
Groups: net.general
Not yet ratedRating:
show options
Reply | Reply to Author | Forward | Print | Individual Message | Show original | Report Abuse | Find messages by this author

Can't believe I'm replying to the first usenet post ever!

Does this make me the first replyer ever?

Simon Bouchard
http://www.latitudezero.org

- Hide quoted text -
- Show quoted text -

mark wrote:
> From sdcarl!rusty Mon May 11 09:00:58 1981
> To: ucbvax^mark
> Subject: newsgroup fa, net, etc.

> Won't we need to change the .ngfile also? Also is ALL an acceptable newsgroup
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> so I tend to forget this. ALL.ALL may or may not work, but ALL certainly does.

> Mark

> I plan to make the change on Tuesday unless something horrible

happens.

Reply Rate this post: Text for clearing space

From: logic1...@yahoo.com - view profile
Date: Mon, Jan 10 2005 8:57 am
Email: logic1...@yahoo.com
Groups: net.general
Not yet ratedRating:

show options
Reply | Reply to Author | Forward | Print | Individual Message | Show original | Report Abuse | Find messages by this author

Is this really the oldest article in the Google archive?

- Hide quoted text -
- Show quoted text -

mark wrote:
> From sdcarl!rusty Mon May 11 09:00:58 1981
> To: ucbvax^mark
> Subject: newsgroup fa, net, etc.

> Won't we need to change the .ngfile also? Also is ALL an acceptable newsgroup
> on the left side of the dot such that ALL.ALL will catch everything?

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> so I tend to forget this. ALL.ALL may or may not work, but ALL certainly does.

> Mark

> I plan to make the change on Tuesday unless something horrible

happens.

Reply Rate this post: Text for clearing space

From: ezio.fernan...@gmail.com - view profile
Date: Mon, Jan 10 2005 9:45 am
Email: ezio.fernan...@gmail.com
Groups: net.general
Not yet ratedRating:
show options
Reply | Reply to Author | Forward | Print | Individual Message | Show original | Report Abuse | Find messages by this author

Hi,
Sorry for the long time to reply...
Put ALL.ALL.ALL in the .ngfile and the dog can get in.
Best Regards
Me

Reply Rate this post: Text for clearing space

From: donavon.yo...@gmail.com - view profile
Date: Mon, Jan 10 2005 11:23 am
Email: donavon.yo...@gmail.com
Groups: net.general
Not yet ratedRating:
show options

Reply | Reply to Author | Forward | Print | Individual Message | Show original | Report Abuse | Find messages by this author

- Hide quoted text -
- Show quoted text -

mark wrote:
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> To: ucbvax^mark
> Subject: newsgroup fa, net, etc.

> Won't we need to change the .ngfile also? Also is ALL an acceptable newsgroup
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> so I tend to forget this. ALL.ALL may or may not work, but ALL certainly does.

> Mark

> I plan to make the change on Tuesday unless something horrible

happens.

Reply Rate this post: Text for clearing space

From: brianja...@gmail.com - view profile
Date: Mon, Jan 10 2005 11:26 am
Email: brianja...@gmail.com
Groups: net.general
Not yet ratedRating:
show options
Reply | Reply to Author | Forward | Print | Individual Message | Show original | Report Abuse | Find messages by this author

Mark,
Yes, the .ngfile needs to be fixed and maybe we should use .net instead

of .ALL, talk to the guys and let me know what you think.
By the way, my friggin 8-track just went out in my pinto so i think i'm

going to pick me up one of those new Casset Tape decks. Those things are outta sight, I hear Rick James has one! He's my hero, anyway get back to me soon on that other stuff.

Brian

Reply Rate this post: Text for clearing space

From: robert.carrol...@verizon.net - view profile
Date: Mon, Jan 10 2005 1:05 pm
Email: robert.carrol...@verizon.net
Groups: net.general

Not yet ratedRating:
show options
Reply | Reply to Author | Forward | Print | Individual Message | Show original | Report Abuse | Find messages by this author

- Hide quoted text -
- Show quoted text -

mark wrote:
> From sdcarl!rusty Mon May 11 09:00:58 1981
> To: ucbvax^mark
> Subject: newsgroup fa, net, etc.

> Won't we need to change the .ngfile also? Also is ALL an acceptable newsgroup
> on the left side of the dot such that ALL.ALL will catch everything?

> Rusty is right (or is that "Rusty is Wright"?) - we have ALL in our .ngfile
> so I tend to forget this. ALL.ALL may or may not work, but ALL certainly does.

> Mark

> I plan to make the change on Tuesday unless something horrible

happens.

I agree.

Rob Carroll

Reply Rate this post: Text for clearing space

From: motacr...@gmail.com - view profile
Date: Mon, Jan 10 2005 3:20 pm
Email: motacr...@gmail.com
Groups: net.general
Not yet ratedRating:
show options
Reply | Reply to Author | Forward | Print | Individual Message | Show original | Report Abuse | Find messages by this author

Way too cool; I was only 6.....What a long strange trip it has been.....

Reply Rate this post: Text for clearing space

From: Antonio Varni - view profile
Date: Mon, Jan 10 2005 5:17 pm
Email: "Antonio Varni" <antonio.va...@gmail.com>
Groups: net.general
Not yet ratedRating:
show options
Reply | Reply to Author | Forward | Print | Individual Message | Show

original | Report Abuse | Find messages by this author

Mark -- usenet somehow got overrun by warez groups. Who's idea was it to create alt.binaries.* anyway?

Reply Rate this post: Text for clearing space

From: Ramiro.Castro - view profile
Date: Mon, Jan 10 2005 6:05 pm
Email: "Ramiro.Castro" <Ramiro.Cas...@gmail.com>
Groups: net.general
Not yet ratedRating:
show options
Reply | Reply to Author | Forward | Print | Individual Message | Show original | Report Abuse | Find messages by this author

Ups, that's really an old thread, isn't it?

- Hide quoted text -
- Show quoted text -

mark wrote:
> From sdcarl!rusty Mon May 11 09:00:58 1981
> To: ucbvax^mark
> Subject: newsgroup fa, net, etc.

> Won't we need to change the .ngfile also? Also is ALL an acceptable newsgroup
> on the left side of the dot such that ALL.ALL will catch everything?

> Rusty is right (or is that "Rusty is Wright"?) - we have ALL in our .ngfile
> so I tend to forget this. ALL.ALL may or may not work, but ALL certainly does.

> Mark

> I plan to make the change on Tuesday unless something horrible

happens.

Reply Rate this post: Text for clearing space

From: Mahfrot - view profile
Date: Wed, Jan 12 2005 12:32 pm
Email: "Mahfrot" <robertme...@gmail.com>
Groups: net.general
Not yet ratedRating:
show options
Reply | Reply to Author | Forward | Print | Individual Message | Show original | Report Abuse | Find messages by this author

I think it is "Rusty is Wright." You are correct.

Reply Rate this post: Text for clearing space

From: j...@columbus.rr.com - view profile
Date: Thurs, Jan 13 2005 5:44 pm
Email: j...@columbus.rr.com
Groups: net.general
Not yet ratedRating:
show options
Reply | Reply to Author | Forward | Print | Individual Message | Show original | Report Abuse | Find messages by this author

- Hide quoted text -
- Show quoted text -

mark wrote:
> From sdcarl!rusty Mon May 11 09:00:58 1981
> To: ucbvax^mark
> Subject: newsgroup fa, net, etc.

> Won't we need to change the .ngfile also? Also is ALL an acceptable newsgroup
> on the left side of the dot such that ALL.ALL will catch everything?

> Rusty is right (or is that "Rusty is Wright"?) - we have ALL in our .ngfile
> so I tend to forget this. ALL.ALL may or may not work, but ALL certainly does.

> Mark

> I plan to make the change on Tuesday unless something horrible

happens.

Well, here it is over 23 years later, and I am still looking for that change, Mark. :)

Jingo.

Reply Rate this post: Text for clearing space

From: Drew B. - view profile
Date: Thurs, Jan 20 2005 6:18 pm
Email: "Drew B." <xx_capriceclassic...@yahoo.com>
Groups: net.general
Not yet ratedRating:
show options
Reply | Reply to Author | Forward | Print | Individual Message | Show original | Report Abuse | Find messages by this author

Yeah, but it's not the oldest one on the net. Look at this site:

http://communication.ucsd.edu/bjones/Usenet.Hist/Nethist/0061.html
The earliest post at that site is from May 27, 1980

Lots of other ancient stuff on there too...

Drew

Hope I didn't do that!

Reply Rate this post: Text for clearing space

From: relax...@postmaster.co.uk - view profile
Date: Tues, Jan 25 2005 7:56 am
Email: relax...@postmaster.co.uk
Groups: net.general
Not yet ratedRating:
show options
Reply | Reply to Author | Forward | Print | Individual Message | Show original | Report Abuse | Find messages by this author

YES THIS IS CORRECT MATE

- Hide quoted text -
- Show quoted text -

mark wrote:
> From sdcarl!rusty Mon May 11 09:00:58 1981
> To: ucbvax^mark
> Subject: newsgroup fa, net, etc.

> Won't we need to change the .ngfile also? Also is ALL an acceptable newsgroup
> on the left side of the dot such that ALL.ALL will catch everything?

> Rusty is right (or is that "Rusty is Wright"?) - we have ALL in our .ngfile
> so I tend to forget this. ALL.ALL may or may not work, but ALL certainly does.

> Mark

> I plan to make the change on Tuesday unless something horrible

happens.

an old friend wrote:
> an_old_friend wrote:
> > Sir Harden Thicke wrote:
> > > On Thu, 04 Jan 2007 11:52:39 -0800, Sweet Sugir wrote:
>
> > >
> > > An obsessed LARTed moron.
> >
> > i wanto be wogers secwet lover!
>
> then love yourself woger

115. woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-05 03:28:02 UTC
From: Mark@kb9rqz.aprs
Message-ID: <tbhrp2dpij01guebdeug1tpn2krotgpqb1@4ax.com>
Source record: 47179
Cross-posted to: rec.radio.cb,alt.death,rec.radio.amateur.policy,rec.radio.amateur.antenna

On 4 Jan 2007 19:18:17 -0800, "MarQueerMyDear"
<dear_marqueer_marky@mail2princess.com> wrote:

> From: arpavax:mark - view profile
just repeating the same spam over and over agins woger
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

116. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-05 03:41:45 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <459dc8fc$0$18916$4c368faf@roadrunner.com>
Source record: 47180
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

"Dee Flint" <deeflint01@comcast.net> wrote in message
news:DZKdnaNWAek1IQDYnZ2dnUVZ_oipnZ2d@comcast.com...
>
> "robert casey" <wa2ise@ix.netcom.com> wrote in message
> news:gUinh.7379$yx6.5505@newsread2.news.pas.earthlink.net...
>>
>>>
>>> NO NEED for a report and order on the fr.
>>>
>>> Since the FC already publically announced the acceptance of no code,
>>> that effectively permits anyone with a CSCE for general or technician
>>> class element 2 CSCE or license to use HF SSB NOW in the permitted
>>> frequencies.
>>>
>>> There is no statute that requires publication in the FR before a
>>> requirement is effective, only that the regulating agency agree in
>>> principal to the new requirement. Such a statute would obviously be
>>> unconstitutional. It is merely a government formality which cannot be
>>> enforced by the courts.
>>>
>>
>> I doubt it. Until it shows in the Federal Registry, the old rules are
>> still in force. And then the old rules stay alive until 30 days elapses.
>>
>> Besides, if all someone has are CSCEs, they don't even have a callsign,
>> so how could they operate?
>
> And those CSCEs will NOT be accepted for processing for the upgrade until
> the effective date listed in the Federal Register. So if the CSCE expires
> before that effective date, they will have to retest.
>
> Dee, N8UZE

Perhaps but a license upgrade on paper is an administrative exercise subject to the administrivia that you mention. In this case the bureaucracy may not (yet)properly reflect the law..

On the other hand, the legality is defined by the adoption and release dates of the Report and Order that adopts the NPRM. The R&O was released on Dec. 19 but was actually effective on the adoption date of Dec. 15 2006.

Legally, Part 97 does not state that you must be a general class or technician etc. to transmit on certain bands. It merely states that one must pass element 2 to transmit SSB on 10m segmets, element 3 to transmit SSB on

other segments etc.

The license itself only reflects what the law requires (this may be an exception as you point out). The law governs who may transmit where and what element credits must be obtained before doing so.

However, actual statute law trumps bureaucracy. The Federal Register merely records laws that have already been enacted. The Constitution was in effect prior to the existence of a FR and nowhere is the FR mentioned in today's constitution.

117. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-05 18:55:38 UTC
From: Dave <W1MCE@comcast.net>
Message-ID: <ooOdnb2gXfS7AgPYnZ2dnUVZ_tGsnZ2d@comcast.com>
Source record: 47181
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

Stefan Wolfe wrote:

> <N2EY@AOL.COM> wrote in message
> news:1167950896.426138.265310@42g2000cwt.googlegroups.com...
>
>>One item from FCC in today's Federal Register (Vol 72, Number 2)
>>
>>It's not the Report and Order, though.
>
>
> NO NEED for a report and order on the fr.
>
> Since the FC already publically announced the acceptance of no code, that
> effectively permits anyone with a CSCE for general or technician class
> element 2 CSCE or license to use HF SSB NOW in the permitted frequencies.
>
SNIPPED

100% WRONG!!!!!!!!!!

Any law or regulation in the USA becomes effective ONLY after it is PROMULGATED!!

For laws and regulations at the Federal Level that PROMULGATION only occurs in
the Federal Register.

Operate prior to that date at your peril.

/s/ DD, W1MCE

118. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-05 19:31:05 UTC
From: "Carl R. Stevenson" <wk3cqth@wk3c.com>
Message-ID: <ZaicnRY_JrcbOgPYUSdV9g@ptd.net>
Source record: 47182

Jim's caution below is accurate.

Until the effective date of the new rules, you can't upgrade to General or Extra without credit for Element 1.

AFTER the effective date you CAN upgrade to General or Extra without having passed Element 1.

HOWEVER, you MUST upgrade by either presenting valid, unexpired CSCEs for the written elements for the class of license at a VE session (and pay the fee ...) OR take and pass the required written elements (and, again, pay the fee ...) at a VE session.

Please do NOT operate beyond your license privileges.

73,
Carl - wk3c

"Jim Higgins" <invalid@invalid.invalid> wrote in message
news:tf6tp2pqheekti9r657cgk2btsum2serta@4ax.com...
> On Thu, 4 Jan 2007 19:32:30 -0500, "Stefan Wolfe" <stefan@eml.com>
> wrote:
>
>>
>><N2EY@AOL.COM> wrote in message
>>news:1167950896.426138.265310@42g2000cwt.googlegroups.com...
>>> One item from FCC in today's Federal Register (Vol 72, Number 2)
>>>
>>> It's not the Report and Order, though.
>>
>>NO NEED for a report and order on the fr.
>>
>>Since the FC already publically announced the acceptance of no code, that
>>effectively permits anyone with a CSCE for general or technician class
>>element 2 CSCE or license to use HF SSB NOW in the permitted frequencies.
>>
>>There is no statute that requires publication in the FR before a
>>requirement
>>is effective, only that the regulating agency agree in principal to the
>>new
>>requirement. Such a statute would obviously be unconstitutional. It is
>>merely a government formality which cannot be enforced by the courts.
>>
>>The FCC did not publish an effective date nor did they choose to publish
>>one
>>in the federal register. That means you can transmit SSB voice at this

>>very
>>moment.
>>
>>Go ahead element 2 or 3 CSCE'S or tech license holders, you can transmit
>>NOW! I look forward to seeing you on the bands (though I do spend a lot of
>>time in the CW portions).
>
>
> Do not be fooled by the above info into operating illegally.
>
> You can transmit SSB voice once the CW requirement is officially
> dropped - which will be at the time the R&O is published in the
> federal register - probably some time in late January or more likely
> February - ***PROVIDED*** you have used that CSCE to file for a
> license upgrade... which you cannot do until the R&O is in the Federal
> Register because passing a code test is a requirement until then. If
> the CSCE expires you can legally apply it to an upgrade and actually
> do apply it, then you must retest.
>
> If you're just walking around with that CSCE in your pocket after the
> R&O is published without filing it with the FCC for an upgrade and
> you're using HF SSB privileges you are operating illegally.
>

119. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-05 20:49:52 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <enmdlg$1dqc$1@f04n12.cac.psu.edu>
Source record: 47183

Carl R. Stevenson wrote:
> Jim's caution below is accurate.
>
> Until the effective date of the new rules, you can't upgrade to General or
> Extra without credit for Element 1.
>
> AFTER the effective date you CAN upgrade to General or Extra without having
> passed Element 1.
>
> HOWEVER, you MUST upgrade by either presenting valid, unexpired CSCEs for
> the written elements for the class of license at a VE session (and pay the
> fee ...) OR take and pass the required written elements (and, again, pay the
> fee ...) at a VE session.
>
> Please do NOT operate beyond your license privileges.

Most Definitely!

Hi Carl - Haven't heard from you for quite a while. Hope all is going well.

Someone keeps posting this kind of stuff, I can only imagine that they
want to scam people into illegal operation, then hoping they get caught?
It's a funny world we live in.

Despite my personal preferences for some sort of Element one testing,
(heck, I would prefer shrimp, steak and and lobster every evening too) I
am kind of excited that there will be a crop of amateurs, new to HF,
that will need a good deal of Elmering. Lots of exciting stuff to learn
and pass on.

And rule number one is what you stated above - keep within the privileges.

- 73 de Mike KB3EIA -

120. help with mounting on-glass ant on 2005 Toyota 4Runner

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-05 21:40:31 UTC
From: Scoot <Scott.Kawahara@gmail.com>
Message-ID: <1168033230.967332.300700@s80g2000cwa.googlegroups.com>
Source record: 47184

Hi Gang,

Could someone help me with advice on mounting an dual band on-glass antenna on my 4Runner. I have heard that you cannot mount on-glass antennas on auto-glass with metal in them, so has any one else mounted a on-glass antenna on their 4Runner of similar year? I guess I don't want to use a trunck mount since it will dig into the paint on the underneath of the trunk and I will get rust with the salty Hawaii climate. Any suggestions?

Aloha and 73,
Scott

121. Re: Interesting 144 foot Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-05 23:34:31 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <enmnei$t69$1@news.service.uci.edu>
Source record: 47185

Cecil Moore wrote:

> The following results are approximate but show the resonance trend on
> 80m Vs dipole length. Take a certain length dipole and adjust the length
> of the 450 ohm ladder-line for resonance on 7.15 MHz. i.e. NOTE: All of
> the following antenna systems are resonant on 7.15 MHz. and cover the
> entire 40m band with an SWR of 3.5:1 or less (good for built-in
> autotuners). Here are the approximate results:
>
> dipole length : feedline length : resonance on 80m
>
> 170' : ~85' : 3.62 MHz (3.52-3.72)
>
> 160' : ~87' : 3.7 MHz (3.6-3.8)
>
> 150' : ~89' : 3.8 MHz (3.7-3.9)
>
> 140' : ~91' : 3.92 MHz (3.82-4)
>
> 130' : ~92.8' : 4.06 MHz (resonant out of band)
>
> 120' : ~94.7' : 4.23 MHz (resonant out of band)
>
> Yesterday I had a 130' dipole that exhibited the above characteristics.
> I have changed it to a 144' dipole and now, with one length of
> ladder-line, the antenna covers all of 40m and 200 kHz of 80m using the
> limited range autotuner built into my IC-756PRO. A bonus is that the
> autotuner also tunes this fixed antenna system on 30m and 17m.

Happy New Year, Cecil. Really neat design. Can you describe the
balun you used?

Thanks,

Jim, AC6XG

122. Re: Interesting 144 foot Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-06 00:45:01 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <hiCnh.14109$sR.1057@newssvr29.news.prodigy.net>
Source record: 47186

Jim Kelley wrote:
> Can you describe the balun you used?

When one feeds the antenna system at a current maximum point, the balun is non-critical. I am presently using ten turns of RG-400 on an FT-240-61 toroid with no measurable common mode current on an MFJ-853. As you know, the stress on the balun is reduced when the resonant current maximum point is located at the output of the balun-choke. That's another bonus for the matching system that I use.
--
73, Cecil http://www.w5dxp.com

123. Re: help with mounting on-glass ant on 2005 Toyota 4Runner

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-06 02:14:25 UTC
From: Nate Bargmann <n0nb.DO.NOT.SPAM@ME.networksplus.net>
Message-ID: <WM-dnRKbmfmcmwLYnZ2dnUVZ_qrinZ2d@bluevalley.net>
Source record: 47187

On Fri, 05 Jan 2007 13:40:31 -0800, Scoot wrote:

> Hi Gang,
>
> Could someone help me with advice on mounting an dual band on-glass
> antenna on my 4Runner. I have heard that you cannot mount on-glass
> antennas on auto-glass with metal in them, so has any one else mounted
> a on-glass antenna on their 4Runner of similar year? I guess I don't
> want to use a trunck mount since it will dig into the paint on the
> underneath of the trunk and I will get rust with the salty Hawaii
> climate. Any suggestions?

On glass antennas are fine, not as good as an antenna in the middle of a metal roof, but make up for not having to tear half of the interior loose (I've installed many of these antennas on our commercial fleet over the past few years). You are correct that any metalized coating of the glass will diminish or prevent transfer of energy from the inside box to the antenna. The installation instructions warn against installing on metallized glass or mounting over defroster strips.

The question is whether the windows on your 4 Runner are metalized.

Another option is a magnet mount on the roof. About a year ago I got tired of my Larsen 2m/440 colinear getting knocked over going in and out of the garage. I looked around and bought a Pro-Am MO144-440 which seems to be a 1/4 on 2m with a center open air coil for matching on 440, I assume. I don't travel extensively so it works well for my purposes.

- Nate >>

--

"The optimist proclaims that we live in the best of all possible worlds,
the pessimist fears this is true."

124. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-06 02:24:34 UTC
From: Nate Bargmann <n0nb.DO.NOT.SPAM@ME.networksplus.net>
Message-ID: <WM-dnQ2bmfn_IQLYnZ2dnUVZ_qrinZ2d@bluevalley.net>
Source record: 47188
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

Don't feed the troll...

Don't feed the troll...

Don't feed the troll...

ARRRRGHHHHH!!!!

Laws are only words on paper unless we as humans choose to abide by them. Enforcement occurs when those that choose to live by the laws get tired of and out number those that don't.

In the mean time, it isn't going to kill anyone to wait the next six to eight weeks before the implementation date. BTW, it didn't kill me to wait until 11:01 PM CST December 14, 2006 to operate on the expanded 80m Extra phone band.

73, de Nate >>

--

"The optimist proclaims that we live in the best of all possible worlds, the pessimist fears this is true."

125. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-06 03:29:30 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <459f179e$0$5739$4c368faf@roadrunner.com>
Source record: 47189

"Michael Coslo" <mjc5@psu.edu> wrote in message
news:enmdlg$1dqc$1@f04n12.cac.psu.edu...
I
> am kind of excited that there will be a crop of amateurs, new to HF, that
> will need a good deal of Elmering. Lots of exciting stuff to learn and
> pass on.
>
> And rule number one is what you stated above - keep within the privileges.

Mike, forgive me for being blunt but you are in fantasy land.

It didn't happen when we reduced from 13 wpm to 5 wpm. What makes you think that reducing from 5 wpm to 0 will have any effect?

I too have said I was waiting for the long promised injection of scientific RF talent and youth into the service but I was merely being cynical because it was a false promise 10 years ago and its non-fulfillment in coming years will prove that the premise was false; it was merely used as a talking point to support no-code and the FCC bought off on it.

Of course, and as is the case for so many political matters, truth is not really that important and there is no accountability for these false promises except by pests like me who will use every opportunity to remind us of them.

126. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-06 06:15:36 UTC
From: jeffreyh@Hawaii.Edu
Message-ID: <enneq8ojv1@news.hawaii.edu>
Source record: 47190
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

Stefan Wolfe <stefan@eml.com> wrote:
>Legally, Part 97 does not state that you must be a general class or
>technician etc. to transmit on certain bands.

See Section 97.301. Then see below:

0 2 4 6 8 10
/
/
/
/
/
/
/
/
TROLL-O-METER

No 73 for you,
Jeff KH6O

--

127. Choke balun (was: Interesting 144 foot Dipole)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-06 06:49:14 UTC
From: jeffreyh@Hawaii.Edu
Message-ID: <enngpa$pl2$1@news.hawaii.edu>
Source record: 47191

Cecil Moore <mycall@hotmail.com> wrote:
>When one feeds the antenna system at a current maximum
>point, the balun is non-critical. I am presently using
>ten turns of RG-400 on an FT-240-61 toroid with no

Hi Cecil,
It seems like it's been a decade since we debated on RRAP. I hope all is well with you.

I plan on erecting a multi-band inverted V with several insulators and associated shorting connectors along each leg so that with all connectors open, the antenna is resonant on 10m; with the first insulator on each leg shorted, the antenna is resonant on 15m; with the first and second insulators on each leg shorted the antenna is resonant on 20m; et cetera. Shorting and opening insulators is easier than winding accurate chokes!

For a balun, I'm considering N4UJW's "Ugly Balun"
(see http://www.hamuniverse.com/balun.html).
UJW leaves the diameter of the coil form to the reader, only specifying that 18-21 feet of coax be used. Can you (or anyone else on RRAA) tell me if there is an optimum diameter, considering that most of my operations will be on 20m?
(On that page, UJW has two balun projects -- see the first one.)

Warmest regards,
Jeff KH6O

Chief Petty Officer, U.S. Coast Guard
Mathematics Lecturer, University of Hawaii System
--

128. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-06 13:33:38 UTC
From: Nate Bargmann <n0nb.DO.NOT.SPAM@ME.networksplus.net>
Message-ID: <obCdnUqKK4uvOALYnZ2dnUVZ_qDinZ2d@bluevalley.net>
Source record: 47192
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

On Sat, 06 Jan 2007 06:15:36 +0000, Jeffrey Herman wrote:

> 0 2 4 6 8 10
> /
> /
> /
> /
> /
> /
> /
> /
> TROLL-O-METER
>
> No 73 for you,
> Jeff KH6O

Shouldn't that show S9 +60db?

;-)

- Nate >>

--

"The optimist proclaims that we live in the best of all possible worlds,
the pessimist fears this is true."

129. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-06 13:53:50 UTC
From: Dave <noone@nowhere.com>
Message-ID: <jrGdnX3g6epINALYnZ2dnUVZ_s2vnZ2d@crocker.com>
Source record: 47193
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

"Nate Bargmann" <n0nb.DO.NOT.SPAM@ME.networksplus.net> wrote in message
news:obCdnUqKK4uvOALYnZ2dnUVZ_qDinZ2d@bluevalley.net...
> On Sat, 06 Jan 2007 06:15:36 +0000, Jeffrey Herman wrote:
>
>> 0 2 4 6 8 10
>> /
>> /
>> /
>> /
>> /
>> /
>> /
>> /
>> TROLL-O-METER
>>
>> No 73 for you,
>> Jeff KH6O
>
> Shouldn't that show S9 +60db?

more like 60 pounds gud buddy!

130. Re: Choke balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-06 14:18:47 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <bdOnh.14461$sR.8337@newssvr29.news.prodigy.net>
Source record: 47194

Jeffrey Herman wrote:
> Hi Cecil,
> It seems like it's been a decade since we debated on RRAP. I hope all is
> well with you.

Things are terrible. I can't dunk a basketball anymore. :-)
Good to hear from you.

> For a balun, I'm considering N4UJW's "Ugly Balun"
> (see http://www.hamuniverse.com/balun.html).
> UJW leaves the diameter of the coil form to the reader, only specifying that
> 18-21 feet of coax be used. Can you (or anyone else on RRAA) tell me if there
> is an optimum diameter, considering that most of my operations will be on 20m?

This subject was recently beat to death over on QRZ.com or
eHam.net, I can't remember which. Here's some actual
measurements showing how the choking impedance varies
with frequency:

http://www.k1ttt.net/technote/airbalun.html

An ugly balun (N turns of coax) will not cover a 10:1
frequency range very well. If it performs well on 10m,
it doesn't have very much choking impedance on 80m. If
it performs well on 80m, it will have reached its series
resonant low impedance point before it reaches 10m. An
ugly balun performs reasonably well over a 3:1 frequency
range. And the choking problem worsens considerably with
non-resonant antenna systems.

However, the necessary choking impedance is minimized
if the antenna is low impedance resonant as yours will
be. I made some measurements on 20 turns of coax on a
2 liter pop bottle. It was parallel resonant at 14 MHz
(good high impedance) and series resonant at 28 MHz
(bad low impedance). It would probably function pretty
well from 40m to 15m.

A toroidal 1:1 choke-balun is much more broadbanded than
an ugly balun. For your antenna, ten turns of RG-400 on
a FT-240-61 toroid would, like mine, be good enough.
The AB-240-kit contains that toroid and comes with
instructions for winding a 1:1 choke-balun, all for $9.
However, I would not recommend that balun for non-
resonant antenna systems where three of those toroids
stacked would be about right. That web page is at:

http://www.amidoncorp.com/aai_cost_experimenter.htm
--
73, Cecil http://www.w5dxp.com

131. Re: Choke balun (was: Interesting 144 foot Dipole)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-06 15:07:15 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <yWOnh.21035$cB6.18081@bignews7.bellsouth.net>
Source record: 47195

"Jeffrey Herman" <jeffreyh@Hawaii.Edu> wrote in message
news:enngpa$pl2$1@news.hawaii.edu...
> Cecil Moore <mycall@hotmail.com> wrote:
>>When one feeds the antenna system at a current maximum
>>point, the balun is non-critical. I am presently using
>>ten turns of RG-400 on an FT-240-61 toroid with no
>
> Hi Cecil,
> It seems like it's been a decade since we debated on RRAP. I hope all is
> well with you.
>
> I plan on erecting a multi-band inverted V with several insulators and
> associated shorting connectors along each leg so that with all connectors
> open, the antenna is resonant on 10m; with the first insulator on each leg
> shorted, the antenna is resonant on 15m; with the first and second
> insulators
> on each leg shorted the antenna is resonant on 20m; et cetera. Shorting
> and
> opening insulators is easier than winding accurate chokes!
>
> For a balun, I'm considering N4UJW's "Ugly Balun"
> (see http://www.hamuniverse.com/balun.html).
> UJW leaves the diameter of the coil form to the reader, only specifying
> that
> 18-21 feet of coax be used. Can you (or anyone else on RRAA) tell me if
> there
> is an optimum diameter, considering that most of my operations will be on
> 20m?
> (On that page, UJW has two balun projects -- see the first one.)
>
> Warmest regards,
> Jeff KH6O
>
> Chief Petty Officer, U.S. Coast Guard
> Mathematics Lecturer, University of Hawaii System
> --
How do you plan on actuating the switches? I tried some knife swithes and
thought I could switch them using a hook on a pole. This didnt work very
well for an all band antenna.

132. radiosisma

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-06 15:29:34 UTC
From: clarissar <clarissar@libero.it>
Message-ID: <1168097374.441583.101950@42g2000cwt.googlegroups.com>
Source record: 47196

Hi you all there! We do want to give you something you can't miss! The fantastic webradio RADIOSISMA is activated (with no problem in buffering, we're streaming now). Stay tuned to see how rock we are! To go to the link click here:www.radiosisma.org

133. Re: Choke balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-06 15:35:20 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <YkPnh.29511$hI.14236@newssvr11.news.prodigy.net>
Source record: 47197

Jimmie D wrote:
> How do you plan on actuating the switches? I tried some knife swithes and
> thought I could switch them using a hook on a pole. This didnt work very
> well for an all band antenna.

When I was in high school, I built my dipole with
a pulley at each end. For changing bands, I just let
the dipole down and either installed or removed the
jumper wires across the insulators. An Inv-V would
only require one pulley.
--
73, Cecil http://www.w5dxp.com

134. Re: Choke balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-06 16:31:45 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <M9Qnh.20989$AY1.18425@bignews5.bellsouth.net>
Source record: 47198

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:YkPnh.29511$hI.14236@newssvr11.news.prodigy.net...
> Jimmie D wrote:
>> How do you plan on actuating the switches? I tried some knife swithes and
>> thought I could switch them using a hook on a pole. This didnt work very
>> well for an all band antenna.
>
> When I was in high school, I built my dipole with
> a pulley at each end. For changing bands, I just let
> the dipole down and either installed or removed the
> jumper wires across the insulators. An Inv-V would
> only require one pulley.
> --
> 73, Cecil http://www.w5dxp.com

Yeah I thought about this but was trying to stay away from raising and
lowering the antenna. I used to have the antenna on a pulley but found that
sometimes the neighbor kids would lower it for me. The ones who were doing
it arent around anymore so I guess its safe to put it back up now.

135. Re: Choke balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-06 17:00:13 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <8alvp21oc4p2uh05jg5pu68133er2scaqr@4ax.com>
Source record: 47199

On Sat, 6 Jan 2007 11:31:45 -0500, "Jimmie D"
<jimmiedee@bellsouth.net> wrote:

>The ones who were doing it arent around anymore

Hi Jimmie,

Is it possible you had the key down when they last tried lowering it?

73's
Richard Clark, KB7QHC

136. Re: Choke balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-06 18:33:00 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <wXRnh.29554$hI.6842@newssvr11.news.prodigy.net>
Source record: 47200

Jimmie D wrote:
> Yeah I thought about this but was trying to stay away from raising and
> lowering the antenna. I used to have the antenna on a pulley but found that
> sometimes the neighbor kids would lower it for me. The ones who were doing
> it arent around anymore so I guess its safe to put it back up now.

Them "not being around anymore" could mean any number
of things. :-)
--
73, Cecil http://www.w5dxp.com

137. dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-06 20:35:31 UTC
From: ml <m@di.net>
Message-ID: <m-70DB64.15352806012007@news.verizon.net>
Source record: 47201

hi

wanted to help a fellow ham set up an antenna on his terrace
it's kinda a best effort attempt naturally the building won't allow
anything 'outside' so he just has the confines of the terrace

the total length of the longest side of theterrace

about 15ft on the longest side so here is my question

i was going to use a sgc 237 as the dipole 'center' and extend the legs
from there

since the total space is short would it be more advantages to make the
leggs a coil like a slinky? will this be of any real benifit?

if so how many ''turns'' and how big dia each ''coil''

my other option was to mount the sgc on the center of the celing extend
the dipole horizontally about 7ft each side then down to the floor
vertically like upside down U

i wondered how a loaded verticle would be or even using a verticle whip
into the sgc because i am not shure how i could make a 'radial'
/counterpoise

i'd like to give him at least 40m to 10 i realize that the sgc
really can 'tune ' anything but if it's too far outa wack (away from
resonance etc) it would just work poorly

he put up a glass metal framed enclousure around the terrace the metal
is isolated but a strange shape for an antenna i could try to load
that perhaps using a wire around his apt as the counterpoise? would
this be effective?

he's up about 20 stories on a high point everything elese is lower far
as eye can see to the horizon

any help is surly appreciated he's an old timer that wants to get back
on the air

ml

138. Re: Choke balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-06 20:48:39 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <BWTnh.20660$U12.12149@bignews1.bellsouth.net>
Source record: 47202

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:8alvp21oc4p2uh05jg5pu68133er2scaqr@4ax.com...
> On Sat, 6 Jan 2007 11:31:45 -0500, "Jimmie D"
> <jimmiedee@bellsouth.net> wrote:
>
>>The ones who were doing it arent around anymore
>
> Hi Jimmie,
>
> Is it possible you had the key down when they last tried lowering it?
>
> 73's
> Richard Clark, KB7QHC

No, they were reallly good kids over all, they didnt get into half as much as I did when they were my age. At least I dont think they ever fished with pipe bombs. They also kept my grass cut while I was away for a really reasonable price.

139. MMDS antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-06 21:20:47 UTC
From: mike <wizzo@mail.pf>
Message-ID: <1168118447.342409.186520@q40g2000cwq.googlegroups.com>
Source record: 47203

Hi there,

I have some CONIFER MMDS antennas into my shack
these aeriel have some internal circuitry that seems to be ...
downconverter ?
I would like some info about their reception frequency (heard about...
8Ghz ??), I guess their output to a TV set is in the VHF hi/lo band ?

If I connect these antennas to my ICOM ICR-7100, what kind of signal
could I get ? Could I catch some ships radars , or Wi-FI signals ?

Thank you

140. Re: MMDS antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-06 22:03:10 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <Euidnf3L_f4CgT3YnZ2dnUVZ_revnZ2d@bright.net>
Source record: 47204

Most of the MMDS stuff I had back in the early 1980s took 2.1 GHz in and put out on channel 3 (TV) to pick up HBO when they used to broadcast in the bigger cities without encryption of any kind. You might be able to use it on the 2.3 GHz amateur band and an IF of 144 MHz (after figuring out the LO frequency of the converter).

Scott
N0EDV

mike wrote:
> Hi there,
>
> I have some CONIFER MMDS antennas into my shack
> these aeriel have some internal circuitry that seems to be ...
> downconverter ?
> I would like some info about their reception frequency (heard about...
> 8Ghz ??), I guess their output to a TV set is in the VHF hi/lo band ?
>
> If I connect these antennas to my ICOM ICR-7100, what kind of signal
> could I get ? Could I catch some ships radars , or Wi-FI signals ?
>
> Thank you
>

141. Re: Welding Rod J-Pole Possible?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-06 22:14:37 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <hbVnh.33$lz1.614552@news.sisna.com>
Source record: 47208

Chuck James wrote:
> ...

In my travels about the net, I chanced upon this antenna--a rather
unique one and is a good conversation piece ...

http://www.orionmicro.com/ant/ddrr/ddrr1.htm

Regards,
JS

142. Markie the DUNCE makes another uneducated guess

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-06 22:26:32 UTC
From: Not Cocksucker Lloyd <not_time_turd_lloyd@yahoo.com>
Message-ID: <1168122392.890404.8880@51g2000cwl.googlegroups.com>
Source record: 47205
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.cb,rec.radio.amateur.antenna

Mark@kb9rqz.aprs wrote:
> On 3 Jan 2007 19:40:31 -0800, "I PUNCE" <markpunce@yahoo.com> wrote:
>
> >
> >Mark@kb9rqz.aprs wrote:
> >> On 3 Jan 2007 16:25:34 -0800, brian.burp@yahoo.com wrote:
> >>
> >> >
> >> >Mark@kb9rqz.aprs wrote:
> >> >> On Wed, 3 Jan 2007 13:38:05 -0500, "VonBluvens" <anon@nospam> wrote:
> >> >>
> >> >> >
> >> >> ><Mark@kb9rqz.aprs> wrote in message
> >> >> >news:uopnp212u29l4rlejub4qsl1gh3sla9qr5@4ax.com...
> >> >> >> On Wed, 3 Jan 2007 12:15:19 -0500, "VonBluvens" <anon@nospam> wrote:
> >> >> >>
> >> >> >> >
> >> >> >> ><Mark@kb9rqz.aprs> wrote in message
> >> >> >> >news:ru1np2lmfgh2o61rquc2ulrj3p843ln726@4ax.com...
> >> >> >> >> On 2 Jan 2007 22:24:26 -0800, "MarQueerMyDear"
> >> >> >> >> <dear_marqueer_marky@mail2princess.com> wrote:
> >> >> >> >>
> >> >> >> >> >Mark@kb9rqz.aprs wrote:
> >> >> >> >> >> On Tue, 2 Jan 2007 16:39:42 -0500, "Mark The Spamer" <Morkie@Spamer>
> >> >> >> >> >> wrote:
> >> >> >> >> >>
> >> >> >> >> >> >this my ip andyes roger try as you mmihgt you failde to rmove me im
> >> >> >> >> >> >still
> >> >> >> >> >> >here
> >> >> >> >> >> >
> >> >> >> >> >> > 69.19.0.0 - 69.19.127.255
> >> >> >> >> >> >Hughes Network Systems
> >> >> >> >> >> >11717 Exploration Lane
> >> >> >> >> >> >DirecWAY Network Management Center
> >> >> >> >> >> >attn: Network Security Manager
> >> >> >> >> >> >Germantown, MD
> >> >> >> >> >> >US
> >> >> >> >> >> >
> >> >> >> >> >> >
> >> >> >> >> >> >Network Security Manager
> >> >> >> >> >> >abuse@direcpc.com
> >> >> >> >> >> >+1-301-601-7205
> >> >> >> >> >> >

> >> >> >> >> >> well woger you have indeed failed to do anything to me largely
> >> >> >becuase
> >> >> >> >> >> I have not violated the ToS of Hughes net
> >> >> >> >> >> http://kb9rqz.blogspot.com/
> >> >> >> >> >>
> >> >> >> >> >> --
> >> >> >> >> >>
> >> >> >> >> >>and it's much harder to find people desperate enough to use satellite
> >> >> >> >> >internet access ....
> >> >> >> >> desperate? what is desperate about satelite broad band woger
> >> >> >> >>
> >> >> >> >>
> >> >> >> >>REAL desperation is having to keep four or more dialup accounts active
> >> >> >> >>because of having lost so many due to stupid blunders.
> >> >> >> >>
> >> >> >> good greif 4 dailup accounts would cost more than my sta link does
> >> >> >> http://kb9rqz.blogspot.com/
> >> >> >>
> >> >> >> --
> >> >> >>At one point not long ago, the admin of nim busters documented four
> >> >> >>different dialup accounts that he used..
> >> >> >>
> >> >> >>
> >> >>
> >> >> what a waste
> >> >>much as the air you waste
> >> >>
> >> I waste none at at all woger
> >> http://kb9rqz.blogspot.com/
> >>
> >> --
> >> Posted via a free Usenet account from http://www.teranews.com
> >
> >I PUNCE
>
> it is pelled Dunce woger

"pelled?" BWHAHAHAHAHAHAHAHA You are the spelling and any other dunce,
Marqueer!

143. A 'few' antenna links!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-06 22:34:55 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <iuVnh.34$lz1.635035@news.sisna.com>
Source record: 47206

http://www.ac6v.com/antprojects.htm

Should keep one busy on a slow night ...

JS

144. Simple fool Markie

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-06 22:35:22 UTC
From: Not Cocksucker Lloyd <not_time_turd_lloyd@yahoo.com>
Message-ID: <1168122922.177861.55030@s34g2000cwa.googlegroups.com>
Source record: 47207
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

an old friend wrote:
> MarQueerMyDear wrote:
> > John Smith I wrote:
> > > brian.burp@yahoo.com wrote:
> > > > ...
> > >
> > > I have seen smaller men than you, but so redundantly incessant?
> > Did you say that before or after you swollowed brian's load?
>
> backlsiding on your therapy I see woger

"Backsliding" on your Hooked On Phonics studies I see, Marqueer the
high school dropout who pretends he has "three college degrees" yet
can't spell past the 3rd grade level.

145. Re: dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 00:03:07 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <_MWnh.9420$x67.8941@newssvr17.news.prodigy.net>
Source record: 47209

ml wrote:
> wanted to help a fellow ham set up an antenna on his terrace

I would be inclined to lay down as large a ground plane as
possible, i.e. floor the terrace with hardware cloth. Then
put up the longest possible center-loaded vertical in the
center of the ground plane. He has many of the same
constraints as a mobile antenna.
--
73, Cecil http://www.w5dxp.com

146. woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 00:35:32 UTC
From: Mark@kb9rqz.aprs
Message-ID: <21g0q2hf1j1sk15poacr4d51hg4qanfbj9@4ax.com>
Source record: 47210
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.cb,rec.radio.amateur.antenna

```
On 6 Jan 2007 14:26:32 -0800, "Not Cocksucker Lloyd"
<not_time_turd_lloyd@yahoo.com> wrote:

>
>Mark@kb9rqz.aprs wrote:
>> On 3 Jan 2007 19:40:31 -0800, "I PUNCE" <markpunce@yahoo.com> wrote:
>>

>>
>> it is spelled Dunce woger
>
>"pelled?" BWHAHAHAHAHAHAHAHA You are the spelling and any other dunce,
>Marqueer!
indeed woger now run along and get a life
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com
```

147. Re: A 'few' antenna links!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 00:44:13 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <unXnh.21771$h_1.9434@bignews6.bellsouth.net>
Source record: 47211

"John Smith I" <assemblywizard@gmail.com> wrote in message
news:iuVnh.34$Iz1.635035@news.sisna.com...
> http://www.ac6v.com/antprojects.htm
>
> Should keep one busy on a slow night ...
>
> JS

Thanks. I have been here before but lost where it was when my computer
crashed. Nice to have it on my FAVORITES list again

148. Re: Welding Rod J-Pole Possible?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 01:08:04 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <RJXnh.21906$h_1.6821@bignews6.bellsouth.net>
Source record: 47212

"John Smith I" <assemblywizard@gmail.com> wrote in message
news:hbVnh.33$lz1.614552@news.sisna.com...
> Chuck James wrote:
> > ...
>
> In my travels about the net, I chanced upon this antenna--a rather unique
> one and is a good conversation piece ...
>
> http://www.orionmicro.com/ant/ddrr/ddrr1.htm
>
> Regards,
> JS

Yes it would be the subject of much conversation if you had one.

Jimmie

149. Re: Welding Rod J-Pole Possible?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 01:10:15 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <WLXnh.40$dI1.659526@news.sisna.com>
Source record: 47213

Jimmie D wrote:
> ...

<chuckle>
JS

150. Trap dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 01:22:59 UTC
From: Nate Bargmann <n0nb.DO.NOT.SPAM@ME.networksplus.net>
Message-ID: <obCdnUWKK4vu1j3YnZ2dnUVZ_qDinZ2d@bluevalley.net>
Source record: 47214

The past couple of days I've been reviewing literature on trap dipoles. My goal is to build a Field Day dipole for 40, 20, 15, and 10 meters (the club already has 80m covered). For simplicity of operation, I want to avoid an outboard tuner. So I'm considering a balun fed dipole that can be trimmed up at the band edges with a rig's built in tuner if necessary. I also want to avoid the patterns that occur on the upper bands with a longer wire (I have looked over W4RNL's 44 foot multibander with interest, but the high impedance on 15m requires a ladderline feed and a tuner, so I've discounted it for this project).

So, I'm left with two practical alternatives, a fan or a trap dipole. From reading this group's archives and various web pages, I've come to the conclusion that while the fan dipole is simple to construct it is susceptible to element interaction and may require additional support or care in element spacing and antenna erection. These points seem to weigh against it for a quick and nearly fool-proof antenna for Field Day/event/emergency use.

That leaves me considering a trapped dipole. In this category are traps using an inductor and capacitor and those made from coaxial cable. W8JI has documented just how poorly these traps will probably perform compared to those made of discrete components. However, given their (apparently, as I haven't tried to build any yet) low cost they may perform well enough.

More research has uncovered that suitable capacitors and inductors are hard, if not impossible, to find and when procured the parts may cost as much (more?) as the Reyco traps offered by Unadilla. Perhaps decent performance does have its price and the price for three pairs Unadilla traps is reasonable for the simplicity I desire.

I guess this is a long and rambling post to get to the point that the trap has become sort of a historical device in modern amateur radio antenna implementations except for commercial yagis. For the record, at my home QTH I use a center fed Zepp style antenna with a tuner, so I'm not averse to that concept, I just want to avoid it with this special project.

Despite the lack of literature, are there some trap projects that are easy to build, but perform better than coaxial traps? I must admit that I'm not to good at scratch building things as I'm better at fixing stuff or following a pattern than spending a long time experimenting.

I know this is long, but I wanted to share my thoughts to show the track of my thinking on this.

73, de Nate >>

--

"The optimist proclaims that we live in the best of all possible worlds,
the pessimist fears this is true."

151. Re: Trap dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 02:04:39 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <hsk0q213jblhvrjt0fc1etaisrou7h9bkn@4ax.com>
Source record: 47215

On Sat, 06 Jan 2007 19:22:59 -0600, Nate Bargmann
<n0nb.DO.NOT.SPAM@ME.networksplus.net> wrote:

>while the fan dipole is simple to construct it is
>susceptible to element interaction and may require additional support or
>care in element spacing and antenna erection.

Hi Nate,

No more than trapped dipoles and in real comparison, probably less. No
antenna is tuned and put up working on the first attempt unless it is
a 2M ground plane at 30 feet. ....you are not describing that.

Given your hemming and hawing about parts cost, and willingness to
suffer what Tom describes as poor performance from cheaper components
- what's the problem?

73's
Richard Clark, KB7QHC

152. Re: Simple fool woger

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 02:24:48 UTC
From: an_old_friend <konstans@hotmail.com>
Message-ID: <1168136688.343214.261320@v33g2000cwv.googlegroups.com>
Source record: 47216
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

```
Not Cocksucker Lloyd wrote:
> an old friend wrote:
> > MarQueerMyDear wrote:
> > > John Smith I wrote:
> > > > brian.burp@yahoo.com wrote:
> > > > > ...
> > > >
> > > > I have seen smaller men than you, but so redundantly incessant?
> > > Did you say that before or after you swollowed brian's load?
> >
> > backlsiding on your therapy I see woger
>
> "Backsliding"
yes woger you are backsliding on your therapy
```

153. Re: Trap dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 03:43:09 UTC
From: Bob Miller <NOSPAM@neosoft.com>
Message-ID: <qsq0q2hbk1kantvu0cm77qp17ug220s1eu@4ax.com>
Source record: 47217

On Sat, 06 Jan 2007 19:22:59 -0600, Nate Bargmann
<n0nb.DO.NOT.SPAM@ME.networksplus.net> wrote:

>The past couple of days I've been reviewing literature on trap dipoles.
>My goal is to build a Field Day dipole for 40, 20, 15, and 10 meters (the
>club already has 80m covered).

>
>73, de Nate >>

Just an idea -- maybe a half-size "g5rv" would do what you want?

bob
k5qwg

154. Re: Welding Rod J-Pole Possible?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 04:10:03 UTC
From: Bryan <bryan.swadenerNOSPAM@comcast.net>
Message-ID: <OOKdnQxwsojB7z3YnZ2dnUVZ_sapnZ2d@giganews.com>
Source record: 47218

John Smith wrote:
> In my travels about the net, I chanced upon this antenna--a rather
> unique one and is a good conversation piece ...
>
> http://www.orionmicro.com/ant/ddrr/ddrr1.htm
>
> Regards,
> JS

I've seen the same antenna called a "Directional Discontinuity Ring
Radiator" (a rose by any other name). Lots of Google hits for that phrase.
73,
Bryan WA7PRC

155. Re: Trap dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 04:35:47 UTC
From: Bryan <bryan.swadenerNOSPAM@comcast.net>
Message-ID: <EsqdneQC16355T3YnZ2dnUVZ_rKvnZ2d@giganews.com>
Source record: 47219

Nate Bargmann wrote:
> So, I'm left with two practical alternatives, a fan or a trap dipole.
> From reading this group's archives and various web pages, I've come to the
> conclusion that while the fan dipole is simple to construct it is
> susceptible to element interaction and may require additional support or
> care in element spacing and antenna erection.

While there's bound to be *some* interraction, there are construction techniques that make additional supports unnecessary...
TV ribbon cable or "window" ladder line can be used to get elements two-at-a-time. IIRC, the latter type can be found w/ copperclad steel conductors (for mechanical strength). To get more bands, you can add more parallel lengths of either line by using cheap/easy-to-make looms. This method has been described in many ARRL Antenna Book & Handbook.

> That leaves me considering a trapped dipole. In this category are traps
> using an inductor and capacitor and those made from coaxial cable. W8JI
> has documented just how poorly these traps will probably perform compared
> to those made of discrete components. However, given their (apparently,
> as I haven't tried to build any yet) low cost they may perform well
enough.

I've not tried them but others report favorable results. I've seen online Javascript calculators that will get you close. The biggest drawback IMO is that there's no easy way to adjust the resonant frequency.

> More research has uncovered that suitable capacitors and inductors are
> hard, if not impossible, to find and when procured the parts may cost as
> much (more?) as the Reyco traps offered by Unadilla. Perhaps decent
> performance does have its price and the price for three pairs Unadilla
> traps is reasonable for the simplicity I desire.

I've made trap dipoles (80/40m) from scratch. Sure, to keep losses lowest, ready-made air inductors are preferred. But, Barker & Williamson or Air-Dux inductors aren't cheap, so I've "rolled my own" using PVC plumbing parts as forms/insulators. You'll find HV transmitting capacitors equally expensive. But then, a short stub of coaxial cable works as a capacitor (~30pF/ft). If you initially cut the stub longer than calculated, you can trim it up to the operating frequency with a pair of wire cutters. Tip: to prevent arc-over when using high power, trim *only* the outer jacket/shield. Some noncorrosive RTV seals the coax when you're done. A grid-dip meter is a handy tool for adjusting the traps... but not *absolutely* necessary.

73,
Bryan WA7PRC

156. Re: Trap dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 05:01:56 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <89%nh.14712$sR.12934@newssvr29.news.prodigy.net>
Source record: 47220

Bob Miller wrote:
> Just an idea -- maybe a half-size "g5rv" would do what you want?

Not for 15m.
--
73, Cecil http://www.w5dxp.com

157. cloth?: dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 12:42:08 UTC
From: ml <m@di.net>
Message-ID: <m-FD861C.07421007012007@news.verizon.net>
Source record: 47221

In article <_MWnh.9420$x67.8941@newssvr17.news.prodigy.net>,
Cecil Moore <mycall@hotmail.com> wrote:

> ml wrote:
> > wanted to help a fellow ham set up an antenna on his terrace
>
> I would be inclined to lay down as large a ground plane as
> possible, i.e. floor the terrace with hardware cloth. Then
> put up the longest possible center-loaded vertical in the
> center of the ground plane. He has many of the same
> constraints as a mobile antenna.

thanks for the responce cecil, a little dissapointed more havn't
responded maybe i blame my poor writing skills but i'd really like to
help this guy out

what is hardwire cloth? never heard of it or did mean that just
figuratively

thanks and happy newyear to you and family

158. Re: cloth?: dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 13:35:39 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <LG6oh.15138$Gw4.1534@newssvr23.news.prodigy.net>
Source record: 47222

ml wrote:
> what is hardwire cloth? never heard of it or did mean that just
> figuratively

Hardware cloth is a wire matrix where all the wires
are soldered together. The openings are square and
about 1/4"-1/2" on the sides. It is commonly used
for small animal cages. I'm sure you know what it
looks like, just not familiar with its name. It makes
a better ground plane than chicken wire or hog wire.
It also makes a good top/end hat.
--
73, Cecil http://www.w5dxp.com

159. Re: dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 13:50:48 UTC
From: chuck <nospam@nospam.org>
Message-ID: <1168177937_13985@sp6iad.superfeed.net>
Source record: 47223

ml wrote:
> hi
>
> wanted to help a fellow ham set up an antenna on his terrace
> it's kinda a best effort attempt naturally the building won't allow
> anything 'outside' so he just has the confines of the terrace
>
>
> the total length of the longest side of theterrace
>
> about 15ft on the longest side so here is my question
>
>
> i was going to use a sgc 237 as the dipole 'center' and extend the legs
> from there
>
> since the total space is short would it be more advantages to make the
> leggs a coil like a slinky? will this be of any real benifit?
>
> if so how many ''turns'' and how big dia each ''coil''
>
>
> my other option was to mount the sgc on the center of the celing extend
> the dipole horizontally about 7ft each side then down to the floor
> vertically like upside down U
>
>
>
> i wondered how a loaded verticle would be or even using a verticle whip
> into the sgc because i am not shure how i could make a 'radial'
> /counterpoise
>
> i'd like to give him at least 40m to 10 i realize that the sgc
> really can 'tune ' anything but if it's too far outa wack (away from
> resonance etc) it would just work poorly
>
>
>
> he put up a glass metal framed enclousure around the terrace the metal
> is isolated but a strange shape for an antenna i could try to load
> that perhaps using a wire around his apt as the counterpoise? would
> this be effective?
>
>

> he's up about 20 stories on a high point everything elese is lower far
> as eye can see to the horizon
>
>
> any help is surly appreciated he's an old timer that wants to get back
> on the air
>
>
> ml

Have you considered a horizontal loop fed with the SGC? At 20 stories,
it ought to be quite a performer. I assume the circumference of the
terrace is about 45 feet. The metal frame you mentioned could be a
problem, but it is a fairly costless and quick option to try.

Chuck

----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

160. Re: cloth?: dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 14:32:05 UTC
From: helmsman <helmsman@worldnet.att.net>
Message-ID: <5212q2ppus7gntp4th0lvfhkhqhr3t2qmm@4ax.com>
Source record: 47224

On Sun, 07 Jan 2007 07:35:39 -0600, Cecil Moore <mycall@hotmail.com>
wrote:

>ml wrote:
>> what is hardwire cloth? never heard of it or did mean that just
>> figuratively
>
>Hardware cloth is a wire matrix where all the wires
>are soldered together. The openings are square and
>about 1/4"-1/2" on the sides. It is commonly used
>for small animal cages. I'm sure you know what it
>looks like, just not familiar with its name. It makes
>a better ground plane than chicken wire or hog wire.
>It also makes a good top/end hat.

Check the link below.
http://www.phoenixwirecloth.com/

161. Re: cloth?: dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 15:09:44 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <Y28oh.2949$ji1.2461@newssvr12.news.prodigy.net>
Source record: 47225

helmsman wrote:
> Check the link below.
> http://www.phoenixwirecloth.com/

That is quite extensive. Here's more what I
had in mind:

http://www.twpinc.com/twp/jsp/product.jsp?type=4

http://www.marcospecialtysteel.com/hardwarecloth.htm
--
73, Cecil http://www.w5dxp.com

162. Re: A 'few' antenna links!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 16:12:35 UTC
From: "Dr.Ace" <Ace@WH2T.com>
Message-ID: <5761c$45a11bfe$4e0b18b$2206@DIALUPUSA.NET>
Source record: 47076

"Jimmie D" <jimmiedee@bellsouth.net> wrote in message
news:unXnh.21771$h_1.9434@bignews6.bellsouth.net...
>
> "John Smith I" <assemblywizard@gmail.com> wrote in message
> news:iuVnh.34$Iz1.635035@news.sisna.com...
>> http://www.ac6v.com/antprojects.htm
>>
>> Should keep one busy on a slow night ...
>>
>> JS
>
> Thanks. I have been here before but lost where it was when my computer
> crashed. Nice to have it on my FAVORITES list again
>
>

SEE
http://www.bloomington.in.us/~wh2t/ant.htm

Ace - WH2T

163. Re: Remembering some past antennas (CB related)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 16:20:45 UTC
From: "Dr.Ace" <Ace@WH2T.com>
Message-ID: <a4a18$45a11df0$4e0b18b$2264@DIALUPUSA.NET>
Source record: 47077

>> I don't know how many of our new 6 hour hams I have worked on 40m who are
>> using a Station Master (a 11m half wave with a base parallel tuned
>> matching
>> network) fed with 20m or so of RG58C/U and an ATU on 40m, and
>> astonishlingly, VSWR is less than 1.01!
>>
>> We owe a lot to that CB technology!
>>
>> Owen
>

Sounds like a poor substitute for a good 40 meter antenna to me.
Ace - WH2T
BTW my dummy load has a 1:1 VSWR on 40 meters but it doesn't hear very well.

164. Re: cloth?: dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 16:43:05 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <sq9oh.8$Cn3.132226@news.sisna.com>
Source record: 47078

Cecil Moore wrote:
> helmsman wrote:
>> Check the link below.
>> http://www.phoenixwirecloth.com/
>
> That is quite extensive. Here's more what I
> had in mind:
>
> http://www.twpinc.com/twp/jsp/product.jsp?type=4
>
> http://www.marcospecialtysteel.com/hardwarecloth.htm

There is also expanded aluminum mesh (don't know if you already gave a url with it.) A friend gave me a load of this stuff, he works in demolition of buildings. The stuff was used in stuccoing buildings. All I had to do was go to his yard and persuade the mesh out of the stucco with a hammer.

Problems I ran into was soldering it together, soldering aluminum takes quite a bit more skill than copper!!!

Regards,
JS

165. Re: dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 17:49:59 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <bpaoh.1314$%Q4.1037@trnddc06>
Source record: 47079

He might try a horizontal loop. Just run a wire around the perimeter as high as possible, with as large an area as possible. Then feed it with open wire line, or a short coax into the SGC tuner. At 15 feet per side, it should be good down to 20 meters, and with some lower effectiveness at 40.

"ml" <m@di.net> wrote in message
news:m-70DB64.15352806012007@news.verizon.net...
> hi
>
> wanted to help a fellow ham set up an antenna on his terrace
> it's kinda a best effort attempt naturally the building won't allow
> anything 'outside' so he just has the confines of the terrace
>
>
> the total length of the longest side of theterrace
>
> about 15ft on the longest side so here is my question
>
>
> i was going to use a sgc 237 as the dipole 'center' and extend the legs
> from there
>
> since the total space is short would it be more advantages to make the
> leggs a coil like a slinky? will this be of any real benifit?
>
> if so how many ''turns'' and how big dia each ''coil''
>
>
> my other option was to mount the sgc on the center of the celing extend
> the dipole horizontally about 7ft each side then down to the floor
> vertically like upside down U
>
>
>
> i wondered how a loaded verticle would be or even using a verticle whip
> into the sgc because i am not shure how i could make a 'radial'
> /counterpoise
>
> i'd like to give him at least 40m to 10 i realize that the sgc
> really can 'tune ' anything but if it's too far outa wack (away from
> resonance etc) it would just work poorly
>
>
>

> he put up a glass metal framed enclousure around the terrace the metal
> is isolated but a strange shape for an antenna i could try to load
> that perhaps using a wire around his apt as the counterpoise? would
> this be effective?
>
>
> he's up about 20 stories on a high point everything elese is lower far
> as eye can see to the horizon
>
>
> any help is surly appreciated he's an old timer that wants to get back
> on the air
>
>
> ml

166. Re: cloth?: dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 18:50:46 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <biboh.25728$QU1.14434@newssvr22.news.prodigy.net>
Source record: 47080

John Smith I wrote:
> Problems I ran into was soldering it together, soldering aluminum takes
> quite a bit more skill than copper!!!

For some reason, the standard galvanized-dipped
stuff is easy to solder.
--
73, Cecil http://www.w5dxp.com

167. Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 19:17:55 UTC
From: David <nospam@nospam>
Message-ID: <6bWdnef-Z67F2jzYnZ2dnUVZ8tqqnZ2d@bt.com>
Source record: 47081

Various books claim that a ground plane reflects the radio wave emitted by the vertical, and then claim that a ground plane is formed or simulated by four elevated radials.
I emailed two Professors of antenna theory about this.

Reply from Professor Constantine Balanis:
"The radials should act more as a ground plane. Four of them are usually the minimum. The more of them, the better the ground plane. The objective of the ground plane is to reflect the energy from the main element; the vertical wire".

Reply from Professor Vincent Fusco:
"My view would be that the radials form an image plane, the radials themselves do not radiate".

The following link on Navy Training Series show the radials as reflecting the radio wave and forming an image antenna:
http://www.tpub.com/content/neets/14182/css/14182_219.htm

Quotations from books below.

Antenna Theory third edition by C.A. Balanis page 205 "Improvements in the efficiency can be
obtained by placing radial wires or metallic disks on the ground. [New paragragh] The analytical procedures that are introduced to examine the ground effects are based on the geometrical optics models of the previous sections. The image (virtual) source is again placed a distance h below the interface to account for the reflection."

Antenna Theory third edition by C.A. Balanis page 511 "To reduce the wind resistance, to simplify the design, and to minimise the costs, a ground plane is often simulated, especially at low frequencies, by crossed wires as shown in Figure 9.11(b). Usually only two crossed wires (four radials) are employed. A larger number of radials results in a better simulation of the ground plane."

Antenna Theory and Design by Stutzman and Thiele page 198: "A ground plane can take many forms, such as radial wires around a monopole, the roof of a car, or the real earth....The pattern of an antenna over a real earth is different from the pattern when the antenna is operated over a perfect ground plane. Approximate patterns can be obtained by using image theory. The same principles discussed in Sec 2.3.1 for images in perfect ground planes apply, except that the strength of the image in a real ground will be reduced from that of the perfect ground plane case".

Antenna Theory and Design by Stutzman and Thiele pages 66 & 67: "The principles of image theory are illustrated in this section with several

forms of the monopole antenna. ... Figure 2-12(c) Practical monopole antenna with radial wires to simulate a ground plane".

Antennas for all applications third edition by J.D. Kraus page 719: "In Fig 21-9d the solid-sheet ground plane is replaced by 4 radial conductors. Fig 21-9(d) stub antenna with 4 radial conductors to simulate a ground plane".

Antenna Engineering Handbook by R.C. Johnson page 110: "The geometrical shape of a sleeve antenna, or a sleeve monopole, is sketched in Fig. 4-22a. If the image of the structure is included, then we have a sleeve dipole as shown in Fig. 4-22b". Figure 4-22a shows a coax cable with the centre wire going upwards forming a vertical element, and the braid being connected to a ground plane. Fig 4-22b appears to show a dipole being formed from a monopole and its image antenna.

Foundations of Antenna Theory and Techniqes by Professor Vincent Fusco pages 190 and 191. Claims that image theory i.e. image cancellation applies to the horizontal section of an inverted L antenna. The vertical part of inverted L antenna is a short monopole i.e. less than a quarterwave long.

However references against this are below.
Antenna Engineering Handbook by R.C. Johnson page 118: "When the ground plane is of finite size, the image theorem does not apply."

Professor Douglas Miron in his book Small Antenna Design says that the vertical element is driven against some horizontal elements. The horizontal elements have canceling fields. He says that the radials are an artificial ground called a counterpoise that also radiates.

Various books also say about using image theory to analyse corner reflector antennas.

RF experts appear to disagree with each other over the vertical monopole with quarterwave radials - Roy Lewallen and Professor Douglas Miron versus Professor Constantine Balanis and Professor Vincent Fusco.

168. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 20:00:29 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <xjcoh.29770$hI.19960@newssvr11.news.prodigy.net>
Source record: 47082

David wrote:
> RF experts appear to disagree with each other over the vertical monopole
> with quarterwave radials - Roy Lewallen and Professor Douglas Miron versus
> Professor Constantine Balanis and Professor Vincent Fusco.

Exactly what is it upon which you think Roy Lewallen
and Constantine Balanis disagree?
--
73, Cecil http://www.w5dxp.com

169. Rohn 25G question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 20:03:33 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <pmcoh.29771$hI.6933@newssvr11.news.prodigy.net>
Source record: 47083

I have two 10' sections of 25G where the spacing
between posts is the specified 11.25" at the bottom
but is only 11" at the top. These sections will not
fit together. Does anyone know anything about 25G
sections with 11" spacing between the upper posts?
The 11" spacing is too precise to be an accident.
--
73, Cecil http://www.w5dxp.com

170. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 20:24:55 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <rGcoh.662077$QZ1.536298@bgtnsc04-news.ops.worldnet.att.net>
Source record: 47084

David wrote:
> Various books claim that a ground plane reflects the radio wave emitted by
> the vertical, and then claim that a ground plane is formed or simulated by
> four elevated radials.

[big snip]

David,

The images in these cases are not real. That's why they are called virtual. However, real or not, these images can provide useful assistance in simple determination of the expected radiation patterns. Like most models, the image model has limitations. Some applications will succumb to image modeling more readily than others.

Bottom line: There is no real conflict among the experts. Image modeling is generally quite easy. If the results make sense, be happy. If not, then try more complex methods. I would expect all of the experts to agree that detailed mathematical modeling is required for the best accuracy unless the image model has unrealistic parameters such as infinite extent, perfect conductivity, etc.

73,
Gene
W4SZ

171. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 20:41:58 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ffl2q2dkanuiti561lo3c388jb6sitasc4@4ax.com>
Source record: 47085

On Sun, 7 Jan 2007 19:17:55 -0000, "David" <nospam@nospam> wrote:

>Various books claim that a ground plane reflects the radio wave emitted by
>the vertical, and then claim that a ground plane is formed or simulated by
>four elevated radials.
>I emailed two Professors of antenna theory about this.
>
>Reply from Professor Constantine Balanis:
>"The radials should act more as a ground plane. Four of them are usually the
>minimum. The more of them, the better the ground plane. The objective of the
>ground plane is to reflect the energy from the main element; the vertical
>wire".
>

Hi David,

This is becoming tiresome by half.

"Quotes" that do not have a context (what was the question asked?) are more name dropping than an informed discussion. It is also called shopping for testimony.

"Does a ground plane reflect?" This is a loaded question much like "Have the Republicans offered a balanced budget?" Each question can be so heavily qualified as to guarantee success and bragging rights. Each can be so heavily doped up on the narcotic of self-indulgence as to offer only the prospects of a somnambulistic nod of affirmation.

If one conspired to erect a 2M vertical on the radial field of a former AM station; then, yes, these radials reflect admirably. If one takes the same 2M vertical (as shipped from, say, Comet) and looked at the reflection components of its radials; then, yes, these radials reflects, but with less than pedestrian results. Difference is found in the application. The AM station ground field will produce more 2M reflection contacts to the horizon, the standard radials of a 2M Comet will have indifferent reflection contacts oriented towards satellites.

Simple modeling and analysis reveals this in less than an hour's work.

More effort in the field confirms the modeling and analysis.

Modeling and analysis conform to every expectation offered by all the authors quoted, given they use the same tools and were, perhaps, instrumental in their development.

The "Image" theory relates to reflections found in the far field beyond the physical extent of practical radials. To force the

standard implementations of radials into supporting this theory (to the exclusion of the greater application), debases the intent of the theory. Actually, to call it a theory is painting the rose and gilding the lily. This tarted up observation is used mainly to soothe the troubled minds of neophytes until they become accustomed to dealing with larger, more involved problems. It is a suitable metaphor; however, metaphors are the weakest form of argument as they often fail early on close examination.

73's
Richard Clark, KB7QHC

172. Re: Rohn 25G question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 20:44:59 UTC
From: "H. Adam stevens, NQ5H" <NQ5H@ARRL.net>
Message-ID: <12q2mu7msmrg726@corp.supernews.com>
Source record: 47086

Never heared of tapered 25G.
Sounds like two identical sections of a free-standing tower.
Or a Rohn QA reject.
73, H.

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:pmcoh.29771$hI.6933@newssvr11.news.prodigy.net...
>I have two 10' sections of 25G where the spacing
> between posts is the specified 11.25" at the bottom
> but is only 11" at the top. These sections will not
> fit together. Does anyone know anything about 25G
> sections with 11" spacing between the upper posts?
> The 11" spacing is too precise to be an accident.
> --
> 73, Cecil http://www.w5dxp.com

173. Re: Rohn 25G question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 21:05:07 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <22o2q21s1mdj8saunnsr0oejm8j57gkpub@4ax.com>
Source record: 47087

On Sun, 7 Jan 2007 14:44:59 -0600, "H. Adam stevens, NQ5H"
<NQ5H@ARRL.net> wrote:
>Sounds like two identical sections of a free-standing tower.

Sounds more like a torqued tower section.

73's
Richard Clark, KB7QHC

174. Re: MMDS antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 21:43:21 UTC
From: mike <wizzo@mail.pf>
Message-ID: <1168206201.771404.282880@51g2000cwl.googlegroups.com>
Source record: 47088

Scott a écrit :

> Most of the MMDS stuff I had back in the early 1980s took 2.1 GHz in and
> put out on channel 3 (TV) to pick up HBO when they used to broadcast in
> the bigger cities without encryption of any kind. You might be able to
> use it on the 2.3 GHz amateur band and an IF of 144 MHz (after figuring
> out the LO frequency of the converter).
>
> Scott
> N0EDV

HI scott,

Thanx for the info, I will try some experiement with this stuff soon,
thanx again.

Have a good day

Mike (FO3MM)

175. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-07 22:54:00 UTC
From: Tom Donaly <dtdonaly@sbcglobal.net>
Message-ID: <cSeoh.3020$ji1.926@newssvr12.news.prodigy.net>
Source record: 47089

David wrote:
> Various books claim that a ground plane reflects the radio wave emitted by
> the vertical, and then claim that a ground plane is formed or simulated by
> four elevated radials.
> I emailed two Professors of antenna theory about this.
>
> Reply from Professor Constantine Balanis:
> "The radials should act more as a ground plane. Four of them are usually the
> minimum. The more of them, the better the ground plane. The objective of the
> ground plane is to reflect the energy from the main element; the vertical
> wire".
>
> Reply from Professor Vincent Fusco:
> "My view would be that the radials form an image plane, the radials
> themselves do not radiate".
>
> The following link on Navy Training Series show the radials as reflecting
> the radio wave and forming an image antenna:
> http://www.tpub.com/content/neets/14182/css/14182_219.htm
>
> Quotations from books below.
>
> Antenna Theory third edition by C.A. Balanis page 205 "Improvements in the
> efficiency can be
> obtained by placing radial wires or metallic disks on the ground. [New
> paragragh] The analytical procedures that are introduced to examine the
> ground effects are based on the geometrical optics models of the previous
> sections. The image (virtual) source is again placed a distance h below the
> interface to account for the reflection."
>
> Antenna Theory third edition by C.A. Balanis page 511 "To reduce the wind
> resistance, to simplify the design, and to minimise the costs, a ground
> plane is often simulated, especially at low frequencies, by crossed wires as
> shown in Figure 9.11(b). Usually only two crossed wires (four radials) are
> employed. A larger number of radials results in a better simulation of the
> ground plane."
>
> Antenna Theory and Design by Stutzman and Thiele page 198: "A ground plane
> can take many forms, such as radial wires around a monopole, the roof of a
> car, or the real earth....The pattern of an antenna over a real earth is
> different from the pattern when the antenna is operated over a perfect
> ground plane. Approximate patterns can be obtained by using image theory.
> The same principles discussed in Sec 2.3.1 for images in perfect ground
> planes apply, except that the strength of the image in a real ground will be

> reduced from that of the perfect ground plane case".
>
> Antenna Theory and Design by Stutzman and Thiele pages 66 & 67: "The
> principles of image theory are illustrated in this section with several
> forms of the monopole antenna. ... Figure 2-12(c) Practical monopole
> antenna with radial wires to simulate a ground plane".
>
> Antennas for all applications third edition by J.D. Kraus page 719: "In Fig
> 21-9d the solid-sheet ground plane is replaced by 4 radial conductors. Fig
> 21-9(d) stub antenna with 4 radial conductors to simulate a ground plane".
>
> Antenna Engineering Handbook by R.C. Johnson page 110: "The geometrical
> shape of a sleeve antenna, or a sleeve monopole, is sketched in Fig. 4-22a.
> If the image of the structure is included, then we have a sleeve dipole as
> shown in Fig. 4-22b". Figure 4-22a shows a coax cable with the centre wire
> going upwards forming a vertical element, and the braid being connected to a
> ground plane. Fig 4-22b appears to show a dipole being formed from a
> monopole and its image antenna.
>
> Foundations of Antenna Theory and Techniqes by Professor Vincent Fusco pages
> 190 and 191. Claims that image theory i.e. image cancellation applies to the
> horizontal section of an inverted L antenna. The vertical part of inverted L
> antenna is a short monopole i.e. less than a quarterwave long.
>
> However references against this are below.
> Antenna Engineering Handbook by R.C. Johnson page 118: "When the ground
> plane is of finite size, the image theorem does not apply."
>
> Professor Douglas Miron in his book Small Antenna Design says that the
> vertical element is driven against some horizontal elements. The horizontal
> elements have canceling fields. He says that the radials are an artificial
> ground called a counterpoise that also radiates.
>
> Various books also say about using image theory to analyse corner reflector
> antennas.
>
> RF experts appear to disagree with each other over the vertical monopole
> with quarterwave radials - Roy Lewallen and Professor Douglas Miron versus
> Professor Constantine Balanis and Professor Vincent Fusco.
>
>
>
>
>
>
>
>
>
>
>

Hi David,
What does Aristotle have to say on this subject?
Quoting from authorities may have been good enough for the ancients,
but it doesn't have much value here. You have to descend one
level of abstraction down, and use what you should know about
electromagnetic theory in order to understand what's going on
here. If you did, I don't think you'd see any serious
disagreement between the people you've quoted.
73,
Tom Donaly, KA6RUH

176. Re: Trap dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-08 01:49:38 UTC
From: Nate Bargmann <n0nb.DO.NOT.SPAM@ME.networksplus.net>
Message-ID: <s46dnRfm9ZyvPjzYnZ2dnUVZ_urinZ2d@bluevalley.net>
Source record: 47090

On Sat, 06 Jan 2007 18:04:39 -0800, Richard Clark wrote:

> Given your hemming and hawing about parts cost, and willingness to
> suffer what Tom describes as poor performance from cheaper components
> - what's the problem?

No real big problem, just feeling out the group for any other ideas of trap construction that my Google searches haven't revealed. That's all.

I've found more on coaxial trap design including VE6YP's Coaxial Trap program. I have studied W8JI's material more closely and I see that he found that the traps have lower loss above the design frequency than at it. This would suggest that a 10m trap might be better implemented at a design frequency of 27.5 MHz than 28.4 MHz.

I think this is what I'll shoot for.

- Nate >>

--

"The optimist proclaims that we live in the best of all possible worlds, the pessimist fears this is true."

177. Re: Trap dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-08 01:51:53 UTC
From: Nate Bargmann <n0nb.DO.NOT.SPAM@ME.networksplus.net>
Message-ID: <s46dnRbm9ZwkPjzYnZ2dnUVZ_urinZ2d@bluevalley.net>
Source record: 47091

Thanks Bryan, I appreciate the practical construction advice. It is always welcome.

- Nate >>

--

"The optimist proclaims that we live in the best of all possible worlds, the pessimist fears this is true."

178. Re: Trap dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-08 05:47:05 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <gkm3q29u4ji3b5n58qhh4c5lvkh0iod6v6@4ax.com>
Source record: 47092

On Sun, 07 Jan 2007 19:49:38 -0600, Nate Bargmann
<n0nb.DO.NOT.SPAM@ME.networksplus.net> wrote:

>I have studied W8JI's material more closely and I see that he
>found that the traps have lower loss above the design frequency than at
>it. This would suggest that a 10m trap might be better implemented at a
>design frequency of 27.5 MHz than 28.4 MHz.
>
>I think this is what I'll shoot for.

Sorry Nate,

I don't follow the logic of this at all. Are you expecting the trap
to cut off all frequencies above 27.5 MHz?

73's
Richard Clark, KB7QHC

179. Re: cloth?: dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-08 10:27:32 UTC
From: ml <m@di.net>
Message-ID: <m-388155.05273208012007@news.verizon.net>
Source record: 47093

In article <biboh.25728$QU1.14434@newssvr22.news.prodigy.net>,
Cecil Moore <mycall@hotmail.com> wrote:

> John Smith I wrote:
> > Problems I ran into was soldering it together, soldering aluminum takes
> > quite a bit more skill than copper!!!
>
> For some reason, the standard galvanized-dipped
> stuff is easy to solder.

good idea technically speaking but i don't think i'll be able to hide
anyof this stuff in his apartment

if i go verticle i'd hope maybe to hide 2 counterpoise"" like wires
around the far walls but certainly not mesh

the only way i could think of using mesh is around the railing of the
terrace hanging it verticle and putting the verticle antenna part
ontop(higher)
the railing is concreate

180. Re: Rohn 25G question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-08 12:45:23 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1168260323.509882.308480@s80g2000cwa.googlegroups.com>
Source record: 47094

Cecil Moore wrote:
> I have two 10' sections of 25G where the spacing
> between posts is the specified 11.25" at the bottom
> but is only 11" at the top. These sections will not
> fit together. Does anyone know anything about 25G
> sections with 11" spacing between the upper posts?
> The 11" spacing is too precise to be an accident.
> --
> 73, Cecil http://www.w5dxp.com

You really need to have a man to man discussion with the seller of the tower sections.. Start by marching into his establishment and firing a couple of rounds of Colt 45 into the ceiling... This will set the tone for the discussion to follow...

denny / k8do

181. Re: Trap dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-08 13:14:52 UTC
From: Catweazel <francis.fuller@iee.org>
Message-ID: <1168262091.016775.303900@i15g2000cwa.googlegroups.com>
Source record: 47095

Nate Bargmann wrote:

> Thanks Bryan, I appreciate the practical construction advice. It is
> always welcome.
>

FWIW I've made multi-band trapped dipoles in almost the same way;
however for the feeder I used light[weight] co-ax [RG58} terminated in
a 1:1 balun wound on a toriodal ferrite [IIRC, Phillips 4C6 material].

For tuning the traps, I jigged up an SO259 socket on some paxolin
board. The connection from the SO259 center conductor went via a 28v
light-bulb [voltage not critical I guess, but it's what I had] to a
flying lead terminated in a croc-clip., likewise the return to the
SO259 body via a flying lead and croc-clip. The coil/ co-ax capacitor
parallel tuned circuit is thus connected, in series with the
light-bulb, to my TX [IC735, on lowest power]. The resonant frequency
is indicated by ther light-bulb going dim or out altogether. Tweak coil
spacing/ trim co-ax capacitor to suit. Crude but effective.
HTH
73s de
G4GCJ

182. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-08 14:24:11 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <entk6b$1fis$1@f04n12.cac.psu.edu>
Source record: 47096

Stefan Wolfe wrote:
> "Michael Coslo" <mjc5@psu.edu> wrote in message
> news:enmdlg$1dqc$1@f04n12.cac.psu.edu...
> I
>> am kind of excited that there will be a crop of amateurs, new to HF, that
>> will need a good deal of Elmering. Lots of exciting stuff to learn and
>> pass on.
>>
>> And rule number one is what you stated above - keep within the privileges.
>
> Mike, forgive me for being blunt but you are in fantasy land.

Forgive me for being blunt, but there are are different fantasylands
for different people. Your's is just a bitter one. Good for you, and
enjoy it! 8^)

> It didn't happen when we reduced from 13 wpm to 5 wpm. What makes you think
> that reducing from 5 wpm to 0 will have any effect?

What is "it" that didn't work?

>
> I too have said I was waiting for the long promised injection of scientific
> RF talent and youth into the service but I was merely being cynical because
> it was a false promise 10 years ago and its non-fulfillment in coming years
> will prove that the premise was false; it was merely used as a talking point
> to support no-code and the FCC bought off on it.

The Technician license was and is a dead end. Lots of people talked
their only mildly interested spouses and friends into it. It was a mistake.

Notice that you speak of Talent and youth. I don't particularly
careabout either - note I spoke of inexperienced people, not
Techno-wizzes or youth. Techno-wizzes already know it all, and the days
of youth involvement in Amateur radio as well as many other hobbies is
pretty much over. Youth are being largely segregated from the rest of
the population, presumably to "protect" them.

> Of course, and as is the case for so many political matters, truth is not
> really that important and there is no accountability for these false
> promises except by pests like me who will use every opportunity to remind us
> of them.

Sigh... Sometimes I am amazed at the stances taken by some pro-code
people. And this is coming from a pro-code Ham.

At least you can be thankful for the many years that Morse code testing has ensured that Hams of old were upstanding, technically savvy and morally upright. ;^)

- 73 de Mike KB3EIA -

183. Re: Rohn 25G question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-08 14:25:14 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <evsoh.42951$wc5.20663@newssvr25.news.prodigy.net>
Source record: 47097

Denny wrote:
> You really need to have a man to man discussion with the seller of the
> tower sections.. Start by marching into his establishment and firing a
> couple of rounds of Colt 45 into the ceiling... This will set the tone
> for the discussion to follow...

I got them for $20 each used from an individual ham in
AZ about ten years ago. Don't remember his name or call.
I think I can use a car jack to bring them back to the
specified spacing. I should have tried the fit while
they were on the ground rather than 40 feet in the air. :-)
--
73, Cecil http://www.w5dxp.com

184. Re: cloth?: dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-08 16:13:22 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <63r4q2hblvemna2rilp447mv9tv2kprp1v@4ax.com>
Source record: 47098

>good idea technically speaking but i don't think i'll be able to hide
>anyof this stuff in his apartment
>
>if i go verticle i'd hope maybe to hide 2 counterpoise"" like wires
>around the far walls but certainly not mesh
>
>the only way i could think of using mesh is around the railing of the
>terrace hanging it verticle and putting the verticle antenna part
>ontop(higher)
> the railing is concreate
Indoor/outdoor carpet over the mesh would be OK.

I get a little worried about more than a couple of watts around areas
with people.

The new TenTec rig that is built to remote over a Lan/internet will
add more options soon.
John Ferrell W8CCW

185. Rediscovering ether?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-08 16:15:15 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <n6uoh.60824$wP1.56591@newssvr14.news.prodigy.net>
Source record: 47099

http://news.independent.co.uk/world/science_technology/article2134891.ece

186. Re: Rohn 25G question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-08 16:22:53 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <xduoh.7814$pQ3.1218@newsread4.news.pas.earthlink.net>
Source record: 47100

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:evsoh.42951$wc5.20663@newssvr25.news.prodigy.net...

>
> I got them for $20 each used from an individual ham in
> AZ about ten years ago. Don't remember his name or call.
> I think I can use a car jack to bring them back to the
> specified spacing. I should have tried the fit while
> they were on the ground rather than 40 feet in the air. :-)
> --
> 73, Cecil http://www.w5dxp.com

Same thing happened to me this summer. I put up 4 sections by myself and it went fine. Then with some help on the ground pulling up the next 2 sections, the leggs did not drop in. I did not measuer them but the leggs did not seem to match by a small ammount. I used a home made version of the Tower Jack to force the sections together and then pull them down to the bolt holes matched. Actually had to drill out the holes as they did not match exectally either. Not much off, maybe 1/8 of the hole diameter. Could not get the holes to line up even with a big drift or punch.

73 de KU4PT

187. Re: Rediscovering ether?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-08 16:36:38 UTC
From: chuck <nospam@nospam.org>
Message-ID: <1168274279_91@sp6iad.superfeed.net>
Source record: 47101

Cecil Moore wrote:
> http://news.independent.co.uk/world/science_technology/article2134891.ece

Good find, Cecil!

I'm awaiting their discovery of the dark matter clump that has enveloped
Washington. ;-)

73,
Chuck

-----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

188. Re: Rediscovering ether?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-08 16:52:54 UTC
From: gwatts <gwatts@frontiernet.net>
Message-ID: <GFuoh.125$B25.32@news01.roc.ny>
Source record: 47102

Cecil Moore wrote:
> http://news.independent.co.uk/world/science_technology/article2134891.ece

"There is nothing more helpless and irresponsible than a man in the
depths of an ether binge. "
- Hunter S. Thompson

189. Re: Rohn 25G question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-08 18:03:50 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <dIvoh.25807$QU1.15021@newssvr22.news.prodigy.net>
Source record: 47103

Ralph Mowery wrote:
> Same thing happened to me this summer. I put up 4 sections by myself and it
> went fine. Then with some help on the ground pulling up the next 2
> sections, the leggs did not drop in.

I have two sections with identical 11" spacings,
1/4" out of spec. It's too consistent to be an
accident. I wonder if a batch was manufactured
out of spec?
--
73, Cecil http://www.w5dxp.com

190. Re: Rohn 25G question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-08 19:24:39 UTC
From: Ron <wa0kds@yahoo.com>
Message-ID: <45A29C78.1010507@yahoo.com>
Source record: 47104

I expect that the support bracing is bent and if you straighten it the problem will go away. Sounds like someone was a little rough with these sections.

Cecil Moore wrote:
> I have two 10' sections of 25G where the spacing
> between posts is the specified 11.25" at the bottom
> but is only 11" at the top. These sections will not
> fit together. Does anyone know anything about 25G
> sections with 11" spacing between the upper posts?
> The 11" spacing is too precise to be an accident.

191. Re: Rohn 25G question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-08 19:47:55 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <Ldxoh.14976$sR.10268@newssvr29.news.prodigy.net>
Source record: 47105

Ron wrote:
> I expect that the support bracing is bent and if you straighten it the
> problem will go away. Sounds like someone was a little rough with these
> sections.

Nope, the bottom of the tapered section is the
specified 11.25". Somewhere between the beginning
and end of the 4" tapered section is where the
problem occurs. And two sections are virtually
identical which would seem to rule out any
accident.
--
73, Cecil http://www.w5dxp.com

192. Antenna preamplifier

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-08 19:53:05 UTC
From: Marios Lazos <marioslazos@hotmail.com>
Message-ID: <enu7ftinv1@mouse.otenet.gr>
Source record: 47106

Hi you all there!

I need to build an antenna preamplifier for the FM band.So after a short looking i found the follow Fets:BF198,BF199,BF173 to design
my equipment.Will this choice could be better?Do you know some other FETs/TRs for this purpose?Thank you.

Marios,SV1EDG
mlazos.freewbsites.com

193. Re: Rediscovering ether?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-08 21:33:57 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <enudc8$vu0$1@aioe.org>
Source record: 47107

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:n6uoh.60824$wP1.56591@newssvr14.news.prodigy.net...
> http://news.independent.co.uk/world/science_technology/article2134891.ece

194. Re: cloth?: dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-08 21:34:51 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98B3573EC5637nonenowhere@61.9.191.5>
Source record: 47109

John Ferrell <johnferrell@sprintmail.com> wrote in
news:63r4q2hblvemna2rilp447mv9tv2kprp1v@4ax.com:

> I get a little worried about more than a couple of watts around areas
> with people.

Ah, this must be in the vein of "they have been unable to prove EMR
safe".

There are clear guidelines / rules on maximum permitted exposure to EMR
that should allow design and operation of a station with confidence that
it most unlikely to be an EMR hazard to one's self, family or the general
public. Understanding and applying this is just another facet of the
hobby today, though I concede it is beyond our new 6 hour hams (though
that is part of the reason for their low power limit, should they observe
it).

One of my current projects is a self contained field strength meter for
field measurement near a transmitting antenna. It consists of a small
single turn untuned square loop, terminated in a known load, a detector
and an inexpensive battery power LCD panel meter, all self contained
mounted on a non-conductive stick with no trailing wires. It is fairly
straight forward to produce an Antenna Factor / Freq chart using NEC, and
a detector calibration (Vout/Pin). Trials have been encouraging with good
correlation with expected field strength.

On the other hand, it has been demonstrated that UV radiation is a health
hazard, and there is no "safe" exposure level (ie a threshold below which
no changes will take place in living cells). If one took a balanced
approach, before becoming too concerned about EMR MPE, one would protect
one's self from ANY sunshine, direct or indirect.

If it appears that ham's brains have been addled by RF, they were
probably that way before exposure to EMR, it might just be a factor for
selection of hams. (You don't have to be mad to be a ham, but it helps!)

Owen

195. Re: Antenna preamplifier

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-08 21:37:14 UTC
From: Reinhard Zwirner <reinhard_zwirner@web.de>
Message-ID: <45A2B98A.DA0869C8@t-online.de>
Source record: 47108

Marios Lazos schrieb:
>
> Hi you all there!
>
> I need to build an antenna preamplifier for the FM band.So after a short looking i found the follow Fets:BF198,BF199,BF173 to design

Those transistors aren't FETs, just silicon npn transistors for
RF applications. You can find the data<sheets at

http://www.datasheetcatalog.com/>

HTH

Reinhard

196. Re: Interesting 144 foot Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-08 22:41:11 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <enuhfh$m3q$1@news.service.uci.edu>
Source record: 47110

Cecil Moore wrote:

> Jim Kelley wrote:
>
>> Can you describe the balun you used?
>
>
> When one feeds the antenna system at a current maximum
> point, the balun is non-critical. I am presently using
> ten turns of RG-400 on an FT-240-61 toroid with no
> measurable common mode current on an MFJ-853. As you
> know, the stress on the balun is reduced when the
> resonant current maximum point is located at the
> output of the balun-choke. That's another bonus for
> the matching system that I use.

Hi Cecil,

I guess what I meant to ask was, how do you interface ladder line with
your IC756 output connector?

Thanks,

Jim, AC6XG

(And hello to fellow SCHS alum, Jeff Herman)

197. Re: HOMOham on ManChowder

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-08 23:22:25 UTC
From: ham.soup1@yahoo.com
Message-ID: <1168298545.049547.143140@11g2000cwr.googlegroups.com>
Source record: 47111
Cross-posted to: rec.radio.amateur.policy,alt.usenet.kooks,rec.radio.cb,rec.radio.amateur.antenna,rec.radio.shortwave

Nobody invited marqueer into this thread.....

198. woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-08 23:45:35 UTC
From: an_old_friend <konstans@hotmail.com>
Message-ID: <1168299935.571233.276910@s34g2000cwa.googlegroups.com>
Source record: 47112
Cross-posted to: rec.radio.amateur.policy,rec.radio.cb,rec.radio.amateur.antenna,rec.radio.shortwave

ham.soup1@yahoo.com wrote:
> Nobody invited marqueer into this thread.....
nobody needed to wogewr but still you refuse to answer you inist on
adding unrelated NG to all your posting

199. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 00:46:55 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <45a2e604$0$5217$4c368faf@roadrunner.com>
Source record: 47113

"Michael Coslo" <mjc5@psu.edu> wrote in message
news:entk6b$1fis$1@f04n12.cac.psu.edu...

> What is "it" that didn't work?

The "it"? I will quote from your own post:

I
>>> am kind of excited that there will be a crop of amateurs, new to HF,
>>> that will need a good deal of Elmering. Lots of exciting stuff to learn
>>> and pass on.

I an saying that without code, nothing will change. So, what are you so
excited about in this aftermath of "no code"?

200. Re: HOMOham on ManChowder

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 00:50:39 UTC
From: "Mark@kb9rqz.aspr" <Mark@kp9rqz.asr>
Message-ID: <45a2da2c$0$4738$88260bb3@free.teranews.com>
Source record: 47114
Cross-posted to: rec.radio.amateur.policy,alt.usenet.kooks,rec.radio.cb,rec.radio.amateur.antenna,rec.radio.shortwave

<ham.soup1@yahoo.com> wrote in message
news:1168298545.049547.143140@11g2000cwr.googlegroups.com...
> Nobody invited marqueer into this thread.....
>indeed and als unlikely to learn a lesson about ebing wrong
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

201. woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 00:59:23 UTC
From: Mark@kb9rqz.aprs
Message-ID: <66q5q2hdqllo2tbiqi8u7l01lcji10e868@4ax.com>
Source record: 47115
Cross-posted to: rec.radio.amateur.policy,rec.radio.cb,rec.radio.amateur.antenna,rec.radio.shortwave

On Mon, 8 Jan 2007 19:50:39 -0500, "Mark@kb9rqz.aspr"
<Mark@kp9rqz.asr> wrote:

>
you still ain't me woger
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

202. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 01:21:51 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <M6Coh.29$Tf.112751@news.sisna.com>
Source record: 47116

Stefan Wolfe wrote:
> ...

As I have pointed out before, Einstein, Tesla, Hawkins, etc. never bothered getting a ham ticket ... I doubt morse was the major cause (ya don't think it was on account of the caliber of the individuals inhabiting the bands, do 'ya? NAAAA!)

However, there is a possibility NOW that amateur radio will change and the dead wood will be replaced by progressively minded individuals ...

JS

203. Re: Interesting 144 foot Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 02:24:02 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <61Doh.60925$wP1.9101@newssvr14.news.prodigy.net>
Source record: 47117

Jim Kelley wrote:
> I guess what I meant to ask was, how do you interface ladder line with
> your IC756 output connector?

I've got an SG-500 between the IC756 and the antenna.
Coax out of the SG-500 goes to a 1:1 balun-choke and
then to the ladder-line.
--
73, Cecil http://www.w5dxp.com

204. Re: Trap dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 02:37:23 UTC
From: Nate Bargmann <n0nb.DO.NOT.SPAM@ME.networksplus.net>
Message-ID: <wZOdnXToTf1-Yj_YnZ2dnUVZ_tfinZ2d@bluevalley.net>
Source record: 47118

On Sun, 07 Jan 2007 21:47:05 -0800, Richard Clark wrote:

> On Sun, 07 Jan 2007 19:49:38 -0600, Nate Bargmann
> <n0nb.DO.NOT.SPAM@ME.networksplus.net> wrote:
>
>>I have studied W8JI's material more closely and I see that he
>>found that the traps have lower loss above the design frequency than at
>>it. This would suggest that a 10m trap might be better implemented at a
>>design frequency of 27.5 MHz than 28.4 MHz.
>>
>>I think this is what I'll shoot for.
>
> Sorry Nate,
>
> I don't follow the logic of this at all. Are you expecting the trap
> to cut off all frequencies above 27.5 MHz?

This is what W8JI's site hints at. Is he wrong, or am I misunderstanding
him?

- Nate >>

--

"The optimist proclaims that we live in the best of all possible worlds,
the pessimist fears this is true."

205. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 02:50:08 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12q60n5507ale3b@corp.supernews.com>
Source record: 47119

The responses from the professors frankly baffle me. If that's what they said, and if they meant what you think they mean, then yes, I disagree with the professors. Folks will have to decide whether to believe them, or me, or learn more about antenna operation so they can come to their own informed conclusions.

I won't comment on the Navy training manual, recalling some of the simplifications made in the equivalent Air Force documents in an effort to make electronics understandable by the target audience.

Roy Lewallen, W7EL

David wrote:
> Various books claim that a ground plane reflects the radio wave emitted by
> the vertical, and then claim that a ground plane is formed or simulated by
> four elevated radials.
> I emailed two Professors of antenna theory about this.
>
> Reply from Professor Constantine Balanis:
> "The radials should act more as a ground plane. Four of them are usually the
> minimum. The more of them, the better the ground plane. The objective of the
> ground plane is to reflect the energy from the main element; the vertical
> wire".
>
> Reply from Professor Vincent Fusco:
> "My view would be that the radials form an image plane, the radials
> themselves do not radiate".
> . . .

206. Re: Trap dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 03:10:28 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <EIDoh.60935$wP1.27860@newssvr14.news.prodigy.net>
Source record: 47120

Nate Bargmann wrote:
> On Sun, 07 Jan 2007 21:47:05 -0800, Richard Clark wrote:
>> I don't follow the logic of this at all. Are you expecting the trap
>> to cut off all frequencies above 27.5 MHz?
>
> This is what W8JI's site hints at. Is he wrong, or am I misunderstanding
> him?

Unlike low pass filters, traps do not have a low impedance
at lower frequencies and a higher impedance at high frequencies.
The impedance plot Vs frequency is akin to a bell shaped
curve with the maximum impedance at resonance.
--
73, Cecil http://www.w5dxp.com

207. Re: cloth?: dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 03:30:44 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <ac26q2dil7gajf71n7em4ta4lgpte877u9@4ax.com>
Source record: 47121

On Mon, 08 Jan 2007 21:34:51 GMT, Owen Duffy <none@no.where> wrote:

>John Ferrell <johnferrell@sprintmail.com> wrote in
>news:63r4q2hblvemna2rilp447mv9tv2kprp1v@4ax.com:
>
>> I get a little worried about more than a couple of watts around areas
>> with people.

>
>On the other hand, it has been demonstrated that UV radiation is a health
>hazard, and there is no "safe" exposure level (ie a threshold below which
>no changes will take place in living cells). If one took a balanced
>approach, before becoming too concerned about EMR MPE, one would protect
>one's self from ANY sunshine, direct or indirect.
I am there too. The effects seem to be accumulative to some of us...

>
>If it appears that ham's brains have been addled by RF, they were
>probably that way before exposure to EMR, it might just be a factor for
>selection of hams. (You don't have to be mad to be a ham, but it helps!)
>
>Owen

I managed to get an RF burn from a 25 watt nav transmitter once and it
hurt! It was slw to heal as well.

My problem is that I really don't know, I have yet to do that
homework.

I have a similar problem of my own in the near future. I have a 24
foot Winniebago RV that is at least skinned with fiber glass. I would
like to try HF mobile Lots of homework ahead...
John Ferrell W8CCW

208. Coax choke balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 05:58:16 UTC
From: jeffreyh@Hawaii.Edu
Message-ID: <envatoqmr1@news.hawaii.edu>
Source record: 47122

(I posted the msg below last week but never saw it appear.)

I plan on erecting a multi-band inverted V with several insulators and
associated shorting jumpers along each leg so that with all jumpers open,
the antenna is resonant on 10m; with the first insulator on each leg
shorted, the antenna is resonant on 15m; with the first and second insulators
on each leg shorted the antenna is resonant on 20m; et cetera. Shorting and
opening with the jumpers across the insulators is easier than winding accurate
traps (as in the trap dipole thread).

For a balun, I'm considering N4UJW's "Ugly Balun"
(see http://www.hamuniverse.com/balun.html).
UJW leaves the diameter of the coil form to the reader, only specifying that
18-21 feet of coax be used. Can anyone tell me if there is an optimum
diameter, considering that most of my operations will be on 20m and 40m?
(On that page, UJW has two balun projects -- see the first one.)

73, Jeff KH6O

Chief Petty Officer, U.S. Coast Guard
Mathematics Lecturer, University of Hawaii System
--

209. Re: Trap dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 07:45:32 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <0oh6q2la19ftbm31tqnumkev9v6p50qrd1@4ax.com>
Source record: 47123

On Mon, 08 Jan 2007 20:37:23 -0600, Nate Bargmann
<n0nb.DO.NOT.SPAM@ME.networksplus.net> wrote:

>> I don't follow the logic of this at all. Are you expecting the trap
>> to cut off all frequencies above 27.5 MHz?
>
>This is what W8JI's site hints at. Is he wrong, or am I misunderstanding
>him?

Hi Nate,

Simply examine the transfer characteristics of any series or parallel,
resonant circuit. It has a peak, not a band-reject characteristic,
that is why it is called resonant. You resonate traps at one distinct
frequency where the roll-off may serve the purpose over a slightly
wider region. A 10M trap does not "remove" the surplus wire for all
frequencies above, say, 28.4 MHz, and probably doesn't work for the FM
portion of the band.

73's
Richard Clark, KB7QHC

210. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 09:38:47 UTC
From: Jeff <jeff@local.host>
Message-ID: <45a362a4$0$1609$834e42db@reader.greatnowhere.com>
Source record: 47124
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

"> However, actual statute law trumps bureaucracy. The Federal Register merely
> records laws that have already been enacted. The Constitution was in
> effect prior to the existence of a FR and nowhere is the FR mentioned in
> today's constitution.

True, but is there some other piece of Statute Law that states that legislation cannot come into force until it has been promulgated in the Federal Register?

Jeff

211. Re: Coax choke balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 14:05:51 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <3jNoh.30316$hI.8394@newssvr11.news.prodigy.net>
Source record: 47125

Jeffrey Herman wrote:
> (I posted the msg below last week but never saw it appear.)

Hi Jeff, here's my answer repeated from three days ago.
****
w5dxp wrote:
> Jeffrey Herman wrote:
>> Hi Cecil,
>> It seems like it's been a decade since we debated on RRAP. I hope all is
>> well with you.
>
> Things are terrible. I can't dunk a basketball anymore. :-)
> Good to hear from you.
>
>> For a balun, I'm considering N4UJW's "Ugly Balun"
>> (see http://www.hamuniverse.com/balun.html).
>> UJW leaves the diameter of the coil form to the reader, only specifying that
>> 18-21 feet of coax be used. Can you (or anyone else on RRAA) tell me if there
>> is an optimum diameter, considering that most of my operations will be on 20m?
>
> This subject was recently beat to death over on QRZ.com or
> eHam.net, I can't remember which. Here's some actual
> measurements showing how the choking impedance varies
> with frequency:
>
> http://www.k1ttt.net/technote/airbalun.html
>
> An ugly balun (N turns of coax) will not cover a 10:1
> frequency range very well. If it performs well on 10m,
> it doesn't have very much choking impedance on 80m. If
> it performs well on 80m, it will have reached its series
> resonant low impedance point before it reaches 10m. An
> ugly balun performs reasonably well over a 3:1 frequency
> range. And the choking problem worsens considerably with
> non-resonant antenna systems.
>
> However, the necessary choking impedance is minimized
> if the antenna is low impedance resonant as yours will
> be. I made some measurements on 20 turns of coax on a
> 2 liter pop bottle. It was parallel resonant at 14 MHz
> (good high impedance) and series resonant at 28 MHz
> (bad low impedance). It would probably function pretty
> well from 40m to 15m.
>

> A toroidal 1:1 choke-balun is much more broadbanded than
> an ugly balun. For your antenna, ten turns of RG-400 on
> a FT-240-61 toroid would, like mine, be good enough.
> The AB-240-kit contains that toroid and comes with
> instructions for winding a 1:1 choke-balun, all for $9.
> However, I would not recommend that balun for non-
> resonant antenna systems where three of those toroids
> stacked would be about right. That web page is at:
>
> http://www.amidoncorp.com/aai_cost_experimenter.htm
--
73, Cecil http://www.w5dxp.com

212. Re: Rohn 25G question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 14:12:45 UTC
From: "Carl R. Stevenson" <wk3cqth@wk3c.com>
Message-ID: <IZKdncObsYV5Pz7YUSdV9g@ptd.net>
Source record: 47026

Cecil,

Rohn 15 is tapered at the top of the sections to fit inside of the bottom
... I don't recall the exact dimensions, but the top, tapered part should be
"concentric" with the bottom of the next section and fit inside.
(you may already know all of this and may be describing something different)

73,
Carl - wk3c

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:pmcoh.29771$hI.6933@newssvr11.news.prodigy.net...
>I have two 10' sections of 25G where the spacing
> between posts is the specified 11.25" at the bottom
> but is only 11" at the top. These sections will not
> fit together. Does anyone know anything about 25G
> sections with 11" spacing between the upper posts?
> The 11" spacing is too precise to be an accident.
> --
> 73, Cecil http://www.w5dxp.com

213. Re: Rohn 25G question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 14:41:42 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <GQNoh.30323$hI.27536@newssvr11.news.prodigy.net>
Source record: 47027

Carl R. Stevenson wrote:
> Rohn 15 is tapered at the top of the sections to fit inside of the bottom
> ... I don't recall the exact dimensions, but the top, tapered part should be
> "concentric" with the bottom of the next section and fit inside.
> (you may already know all of this and may be describing something different)

The two pieces I have are not concentric and each
tapered part slants toward the middle at about 3
degrees rather than pointing straight out. The
slant is enough to cause the pieces not to fit
together.
--
73, Cecil http://www.w5dxp.com

214. Re: Rohn 25G question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 15:13:27 UTC
From: "Carl R. Stevenson" <wk3cqth@wk3c.com>
Message-ID: <YoKdnWuuYo6BLD7YUSdV9g@ptd.net>
Source record: 47028

Sounds like a manufacturing defect - or they got tweaked somehow ...

Good luck - if you try to bend them to fit, you really should check for
cracks - including all of the bracing and connecting welds.

73,
Carl - wk3c

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:GQNoh.30323$hI.27536@newssvr11.news.prodigy.net...
> Carl R. Stevenson wrote:
>> Rohn 15 is tapered at the top of the sections to fit inside of the bottom
>> ... I don't recall the exact dimensions, but the top, tapered part should
>> be "concentric" with the bottom of the next section and fit inside.
>> (you may already know all of this and may be describing something
>> different)
>
> The two pieces I have are not concentric and each
> tapered part slants toward the middle at about 3
> degrees rather than pointing straight out. The
> slant is enough to cause the pieces not to fit
> together.
> --
> 73, Cecil http://www.w5dxp.com

215. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 15:31:45 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <ZyOoh.40528$cB6.17674@bignews7.bellsouth.net>
Source record: 47029

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:12q60n5507ale3b@corp.supernews.com...
> The responses from the professors frankly baffle me. If that's what they
> said, and if they meant what you think they mean, then yes, I disagree
> with the professors. Folks will have to decide whether to believe them, or
> me, or learn more about antenna operation so they can come to their own
> informed conclusions.
>
> I won't comment on the Navy training manual, recalling some of the
> simplifications made in the equivalent Air Force documents in an effort to
> make electronics understandable by the target audience.
>
> Roy Lewallen, W7EL
>
I am also very familiar with the Military's method of training. even the FAA
does the same thing. They are trying to train a group of people that just
walked in off the street and a test said they had an aptitude to learn
electronics. In reality they may have no previous knowledge at all. All of
this training must take place in a few months so shortcuts in explaining it
may be taken, math used is often limited to an 8th grade level. Believe me
military training manuals are not the gospel of electronics but they are a
very good place to start without a pre-engineering prerequisit.

216. Re: cloth?: dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 15:43:27 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <YJOoh.40531$cB6.13057@bignews7.bellsouth.net>
Source record: 47030

"John Ferrell" <johnferrell@sprintmail.com> wrote in message
news:ac26q2dil7gajf71n7em4ta4lgpte877u9@4ax.com...
> On Mon, 08 Jan 2007 21:34:51 GMT, Owen Duffy <none@no.where> wrote:
>
>>John Ferrell <johnferrell@sprintmail.com> wrote in
>>news:63r4q2hblvemna2rilp447mv9tv2kprp1v@4ax.com:
>>
>>> I get a little worried about more than a couple of watts around areas
>>> with people.
>
>>
>>On the other hand, it has been demonstrated that UV radiation is a health
>>hazard, and there is no "safe" exposure level (ie a threshold below which
>>no changes will take place in living cells). If one took a balanced
>>approach, before becoming too concerned about EMR MPE, one would protect
>>one's self from ANY sunshine, direct or indirect.
> I am there too. The effects seem to be accumulative to some of us...
>
>>
>>If it appears that ham's brains have been addled by RF, they were
>>probably that way before exposure to EMR, it might just be a factor for
>>selection of hams. (You don't have to be mad to be a ham, but it helps!)
>>
>>Owen
>
> I managed to get an RF burn from a 25 watt nav transmitter once and it
> hurt! It was slw to heal as well.
>
> My problem is that I really don't know, I have yet to do that
> homework.
>
> I have a similar problem of my own in the near future. I have a 24
> foot Winniebago RV that is at least skinned with fiber glass. I would
> like to try HF mobile Lots of homework ahead...
> John Ferrell W8CCW

I gave up trying to talk while driving, it only took one close call for me
to quit. After I set up camp I lay some radials out on the ground and set up
an 18 ft fibergalss whip. Vehicle has antennas for 10/11m and 2m.

217. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 15:47:19 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <bOOoh.4122$ji1.2875@newssvr12.news.prodigy.net>
Source record: 47031

Jimmie D wrote:
> Believe me
> military training manuals are not the gospel of electronics but they are a
> very good place to start without a pre-engineering prerequisit.

Does military current still flow from minus to plus?
--
73, Cecil http://www.w5dxp.com

218. Re: cloth?: dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 15:50:16 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <YQOoh.4124$ji1.3841@newssvr12.news.prodigy.net>
Source record: 47032

Jimmie D wrote:
> I gave up trying to talk while driving, ...

While driving, I find it hard to talk on a cellphone
but easy to talk on a ham radio. There's something
about half-duplex, push-to-talk that makes it easier,
maybe that I don't have to talk and listen at the
same time.
--
73, Cecil http://www.w5dxp.com

219. Re: cloth?: dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 15:55:46 UTC
From: richardharrison@webtv.net
Message-ID: <17816-45A3BB02-570@storefull-3254.bay.webtv.net>
Source record: 47034

John Ferrell wrote:
"The effects seem to be accumulative to some of us."

Perhaps. Intensity, proximity, and radiated frequency are important in my experience.

I worked years in a shortwave broadcasting plant where about a megawatt was being continuously radiated around the clock. No one of the many employees ever showed any effect from the exposure.

One the other hand, my ham friend, W5OQJ, was a movie projectionist. He contracted a chest cold. In an attempt to "bake it out", he exposed his chest to the the ultra violet from the electric arc of the projector. Next morning, he was dead.

Best regards, Richard Harrison, KB5WZI

220. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 16:28:23 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <PnPoh.40532$cB6.7773@bignews7.bellsouth.net>
Source record: 47035

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:bOOoh.4122$ji1.2875@newssvr12.news.prodigy.net...
> Jimmie D wrote:
>> Believe me military training manuals are not the gospel of electronics
>> but they are a very good place to start without a pre-engineering
>> prerequisit.
>
> Does military current still flow from minus to plus?
> --
> 73, Cecil http://www.w5dxp.com

They did in the mid 70s. We have a newbie at work that just got out of the Navy and was showing me his training books, I will ask him.I always considered flow from + to - becasue it make dealing with solidstate easier even though I was taught - to +. Also I always remembered they said it flowed from - to + to answer their irrelavent questions.Last I heard an electic current was a flow of cuurent carriers tha tcould be electrons or holes flowing in opposite direction, to me it is mox nix.

Jimmie

221. Re: cloth?: dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 16:33:56 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <_sPoh.40533$cB6.30287@bignews7.bellsouth.net>
Source record: 47036

"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:17816-45A3BB02-570@storefull-3254.bay.webtv.net...
> John Ferrell wrote:
> "The effects seem to be accumulative to some of us."
>
> Perhaps. Intensity, proximity, and radiated frequency are important in
> my experience.
>
> I worked years in a shortwave broadcasting plant where about a megawatt
> was being continuously radiated around the clock. No one of the many
> employees ever showed any effect from the exposure.
>
> One the other hand, my ham friend, W5OQJ, was a movie projectionist. He
> contracted a chest cold. In an attempt to "bake it out", he exposed his
> chest to the the ultra violet from the electric arc of the projector.
> Next morning, he was dead.
>
> Best regards, Richard Harrison, KB5WZI
>
Sounds like a guy I knew that pressed his face against the open end of a
.6MW peak radar trying to fix his sinus problem. He developed cancer there.

222. Re: will a 10 meter fm antenna work on SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 16:48:42 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <MGPoh.40534$cB6.15639@bignews7.bellsouth.net>
Source record: 47037

"Dave" <noone@nowhere.com> wrote in message
news:HbadnQtEBrJhkwzYnZ2dnUVZ_qmpnZ2d@crocker.com...
> hopefully by 'quad' you mean a 4-band antenna. it could be a bit of a
> problem with low bridges and parking garages otherwise. and yes, an
> antenna doesn't care what kind of modulation you use, though you may want
> to lengthen it a bit if its tuned up near the top of the band for fm
> repeaters and such.
> <nobody@nowhere.com> wrote in message
> news:ksu1p257lnl938alftj6drpheak809mocn@4ax.com...
>> I'm thinking of getting a quad antenna for my car. I believe its 10m,
>> 6m, 2m, and 70cm. I wondering if the 10m will work with ssb.
>>
>> Just curious.
>>
>>
>>
>
>

Not sure if changing the length of this type of antenna will work or not. It should be done with some caution as changing the length may effect the operation on the other bands.Dont make changes you cant undo. If you are uing the antenna with out a spring adding it may solve yuor problem for 10M but make it unusable for all the other bands without removing the spring.

223. woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 17:36:57 UTC
From: Mark@kb9rqz.aprs
Message-ID: <0lk7q25ue5rrj7dlnulpssumfm5jbb70j5@4ax.com>
Source record: 47038
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.policy,alt.ham-radio.vhf-uhf,rec.radio.amateur.equipment

On Tue, 9 Jan 2007 10:44:17 -0500, "Mark@kb9rqz.aspr"
<Mark@kp9rqz.asr> wrote:

>
you still aint me woger
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

224. Re: Rohn 25G question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 19:19:29 UTC
From: You <You@shadow.orgs>
Message-ID: <You-13F4EE.10181109012007@netnews.worldnet.att.net>
Source record: 47039

In article <Ldxoh.14976$sR.10268@newssvr29.news.prodigy.net>,
Cecil Moore <mycall@hotmail.com> wrote:

> Ron wrote:
> > I expect that the support bracing is bent and if you straighten it the
> > problem will go away. Sounds like someone was a little rough with these
> > sections.
>
> Nope, the bottom of the tapered section is the
> specified 11.25". Somewhere between the beginning
> and end of the 4" tapered section is where the
> problem occurs. And two sections are virtually
> identical which would seem to rule out any
> accident.

Might be a Transistion Section, between Rohn 25 and 15.....

225. Re: Rohn 25G question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 19:49:26 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <alSoh.61205$wP1.15359@newssvr14.news.prodigy.net>
Source record: 47040

You wrote:
> Might be a Transistion Section, between Rohn 25 and 15.......

Don't know much about 15. Someone else suggested
that someone may have used three sections of
water pipe tied together at the top, for a top
section. I'll just have to bring them back in
spec before I try to install them again.
--
73, Cecil http://www.w5dxp.com

226. Re: Rohn 25G question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 21:02:07 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <epToh.15$s8.10@bignews6.bellsouth.net>
Source record: 47041

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:pmcoh.29771$hI.6933@newssvr11.news.prodigy.net...
>I have two 10' sections of 25G where the spacing
> between posts is the specified 11.25" at the bottom
> but is only 11" at the top. These sections will not
> fit together. Does anyone know anything about 25G
> sections with 11" spacing between the upper posts?
> The 11" spacing is too precise to be an accident.
> --
> 73, Cecil http://www.w5dxp.com

I have one laying on the ground and all the sections are 11.25 except for
one and I know it got warped.

Jimmie

227. Re: Antenna preamplifier

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 21:06:36 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <rtToh.16$s8.15@bignews6.bellsouth.net>
Source record: 47042

"Reinhard Zwirner" <reinhard_zwirner@web.de> wrote in message
news:45A2B98A.DA0869C8@t-online.de...
> Marios Lazos schrieb:
>>
>> Hi you all there!
>>
>> I need to build an antenna preamplifier for the FM band.So after a short
>> looking i found the follow Fets:BF198,BF199,BF173 to design
>
> Those transistors aren't FETs, just silicon npn transistors for
> RF applications. You can find the data<sheets at
>
> http://www.datasheetcatalog.com/>
>
> HTH
>
> Reinhard

The good are are pretty cheap, mine was a Wineguard and it worked great.The
only other one I have tried that really gave an improvment in sensitivity
was made by Blonder Tongue. There are a lot of others that just provide gain
and can actually make reception worse.

228. Re: cloth?: dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 21:10:27 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12q81646s1v5a4d@corp.supernews.com>
Source record: 47043

Jimmie D wrote:
> Sounds like a guy I knew that pressed his face against the open end of a
> .6MW peak radar trying to fix his sinus problem. He developed cancer there.

I know someone who drank water, and he got stomach cancer.

The effects of high intensity radar have been studied in great depth for decades. As far as I know, no evidence has ever been found that they're able to cause cancer.

Roy Lewallen, W7EL

229. Re: cloth?: dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 21:12:58 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12q81aqnpbcdaa0@corp.supernews.com>
Source record: 47044

Richard Harrison wrote:
> John Ferrell wrote:
> "The effects seem to be accumulative to some of us."
>
> Perhaps. Intensity, proximity, and radiated frequency are important in
> my experience.
> . . .

Sure enough, I've got indisputable proof. The longer I'm a ham, the dimmer my eyesight and hearing, the shakier my hand, the unsteadier my gait. I can't remember things as well as I used to. And I'm even growing more hair out of my ears!

Watch out, this stuff is dangerous in the long haul!

Roy Lewallen, W7EL

230. Re: Rohn 25G question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 21:58:50 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <oeUoh.31$09.15@bignews7.bellsouth.net>
Source record: 47045

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:pmcoh.29771$hI.6933@newssvr11.news.prodigy.net...
>I have two 10' sections of 25G where the spacing
> between posts is the specified 11.25" at the bottom
> but is only 11" at the top. These sections will not
> fit together. Does anyone know anything about 25G
> sections with 11" spacing between the upper posts?
> The 11" spacing is too precise to be an accident.
> --
> 73, Cecil http://www.w5dxp.com

You may have a 25T of 25TGIA tapered base.
These are 12.5 inches outside to outside on one and 12 inches on the other.

Jimmie

231. Re: cloth?: dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 22:03:30 UTC
From: Danny Richardson <n_group@k6mhe.com>
Message-ID: <1248q217hhr8rrhem49881l82tbdmnj93q@4ax.com>
Source record: 47046

On Tue, 09 Jan 2007 13:12:58 -0800, Roy Lewallen <w7el@eznec.com>
wrote:

>Richard Harrison wrote:
>> John Ferrell wrote:
>> "The effects seem to be accumulative to some of us."
>>
>> Perhaps. Intensity, proximity, and radiated frequency are important in
>> my experience.
>> . . .
>
>Sure enough, I've got indisputable proof. The longer I'm a ham, the
>dimmer my eyesight and hearing, the shakier my hand, the unsteadier my
>gait. I can't remember things as well as I used to. And I'm even growing
>more hair out of my ears!
>
>Watch out, this stuff is dangerous in the long haul!
>
>Roy Lewallen, W7EL

Yea, me too Roy. Bun unlike you I hot jumped Loran transmitting
towers. And for those not aware the transmitting power was one
mega-watt. On a damp day you sure could draw a heck of an arc when you
jumped off.

Danny, K6MHE

232. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 23:08:08 UTC
From: David <nospam@nospam>
Message-ID: <K8OdnZI5Ca7RvTnYnZ2dnUVZ8s6gnZ2d@bt.com>
Source record: 47047

When I read many academic books on antenna theory, most of them appear to say that the radials reflect the radio wave emitted by the vertical. I do not think that I am reading the books out of context. The replies from two professors of antenna theory indicate that they believe that the radials reflect the radio wave and form a mirror image.

Looking at the vertical monopole with four radials, I suspect that Douglas Miron is correct in his book. He says that the radials radiate but have horizontal cancelling fields.

I would expect the radials to radiate because current is forced through them by the RF generator. The current splits between the radials, thus causing the fields to cancel in the horizontal direction. The fields probably have an effect in the vertical direction, causing a change in radiation pattern and affecting angle of radiation.

I am not sure whether the return current through the radials causes any form of mirror image. On a PCB track above a ground plane, the current returns through the ground plane via the path of least impedance which is often directly underneath the PCB track. The PCB track is the positive voltage side. The ground plane current is the 0V side. It is said that the current in the ground plane mirrors that flowing through the PCB track.

233. Re: cloth?: dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 23:27:41 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98B46A5F97D62nonenowhere@61.9.191.5>
Source record: 47048

Roy Lewallen <w7el@eznec.com> wrote in
news:12q81aqnpbcdaa0@corp.supernews.com:

> Richard Harrison wrote:
>> John Ferrell wrote:
>> "The effects seem to be accumulative to some of us."
>>
>> Perhaps. Intensity, proximity, and radiated frequency are important
>> in my experience.
>> . . .
>
> Sure enough, I've got indisputable proof. The longer I'm a ham, the
> dimmer my eyesight and hearing, the shakier my hand, the unsteadier my
> gait. I can't remember things as well as I used to. And I'm even
> growing more hair out of my ears!
>
> Watch out, this stuff is dangerous in the long haul!

Epidemiological studies often provide "indisputable proof" to people looking for support for their "beliefs". For instance, if they don't want a mobile phone tower in their visual environment, then the results of such studies are elevated to "indisputable proof" to oppose such structures.

The illogical thing is that there is more opposition to taller towers, though they are safer from an EMR perspective (both in terms of the radiation from the tower, and the power radiated by mobiles to communicate with the tower). That indicates to me that EMR safety is not uppermost in their minds, and their concern is a misrepresentation.

Thing is, when you depend on epidemiological studies, while you can create a lot of FUD (fear, uncertainty and doubt), you can't really prove anything safe.

Owen

234. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-09 23:29:56 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12q89blgv52hsd0@corp.supernews.com>
Source record: 47049

Elevated radials do radiate. However, assuming a symmetrical structure, the radiation is minimal (assuming there's another normally radiating conductor in the system) because the fields from the wires nearly cancel in all directions. At right angles to the plane of the radials and along the center line, the cancellation is complete and radiation zero -- again assuming a perfectly symmetrical structure. In a typical ground plane vertical system, the contribution to the total field from the radials is minimal, in any direction.

Anyone interested in the pattern could model a radial structure by itself, with a source in each radial wire at the common junction. In the absence of loss, the model would radiate the entire amount of power fed to it, so it wouldn't be representative of the amount of contribution to the total field which the radials provide in a conventional ground plane type antenna. But it would show you the shape of the field radiated from the radials. I did this out of curiosity for two radials -- the pattern is a volume of revolution of a cloverleaf 2D pattern.

The radiation from buried radials is much less yet due to the lossiness of the ground.

There's no point in my commenting further on the concept of a few radials as a "mirror".

Roy Lewallen, W7EL

David wrote:
> When I read many academic books on antenna theory, most of them appear to
> say that the radials reflect the radio wave emitted by the vertical. I do
> not think that I am reading the books out of context. The replies from two
> professors of antenna theory indicate that they believe that the radials
> reflect the radio wave and form a mirror image.
>
> Looking at the vertical monopole with four radials, I suspect that Douglas
> Miron is correct in his book. He says that the radials radiate but have
> horizontal cancelling fields.
>
> I would expect the radials to radiate because current is forced through them
> by the RF generator. The current splits between the radials, thus causing
> the fields to cancel in the horizontal direction. The fields probably have
> an effect in the vertical direction, causing a change in radiation pattern
> and affecting angle of radiation.
>
> I am not sure whether the return current through the radials causes any form
> of mirror image. On a PCB track above a ground plane, the current returns
> through the ground plane via the path of least impedance which is often

> directly underneath the PCB track. The PCB track is the positive voltage
> side. The ground plane current is the 0V side. It is said that the current
> in the ground plane mirrors that flowing through the PCB track.
>
>
>

235. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 00:07:30 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <45a42e47$0$5256$4c368faf@roadrunner.com>
Source record: 47050
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

"Jeff" <jeff@local.host> wrote in message
news:45a362a4$0$1609$834e42db@reader.greatnowhere.com...
>
> "> However, actual statute law trumps bureaucracy. The Federal Register
> merely
>> records laws that have already been enacted. The Constitution was in
>> effect prior to the existence of a FR and nowhere is the FR mentioned in
>> today's constitution.
>
> True, but is there some other piece of Statute Law that states that
> legislation cannot come into force until it has been promulgated in the
> Federal Register?

Yes, and as it was pointed out to me, it can (and probably is usually true) that the effectivity can be conditional on the FR publication if this is stated in the body of the law, as it was. I continue to be amazed at our system of laws; legislators make laws without knowing when they will actually become effective. The actual effectivity dates are delegated to non-elected bureaucrats who publish a paper. I cannot imagine that some laws whose effectivity dates can mean the accumulation (or loss) of wealth for each day publication is delayed or speeded up could have not a corruptive effect on these nameless people.

A war could be declared but not be put into effect until 30 days after publication in the Federal Register.

236. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 00:18:20 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <ghWoh.58046$qO4.55190@newssvr13.news.prodigy.net>
Source record: 47051
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

Stefan Wolfe wrote:
> legislators make laws without knowing when they will
> actually become effective.

Heck, legislators often make ineffective laws.
--
73, Cecil http://www.w5dxp.com

237. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 00:22:16 UTC
From: Mark@kb9rqz.aprs
Message-ID: <lcc8q258t44f1on3fk4vbf6qlnjup0b18o@4ax.com>
Source record: 47052
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

On Tue, 9 Jan 2007 19:07:30 -0500, "Stefan Wolfe" <stefan@eml.com>
wrote:

>
>"Jeff" <jeff@local.host> wrote in message
>news:45a362a4$0$1609$834e42db@reader.greatnowhere.com...
>>
>> "> However, actual statute law trumps bureaucracy. The Federal Register
>> merely
>>> records laws that have already been enacted. The Constitution was in
>>> effect prior to the existence of a FR and nowhere is the FR mentioned in
>>> today's constitution.
>>
>> True, but is there some other piece of Statute Law that states that
>> legislation cannot come into force until it has been promulgated in the
>> Federal Register?
>
>Yes, and as it was pointed out to me, it can (and probably is usually true)
>that the effectivity can be conditional on the FR publication if this is
>stated in the body of the law, as it was. I continue to be amazed at our
>system of laws; legislators make laws without knowing when they will
>actually become effective. The actual effectivity dates are delegated to
>non-elected bureaucrats who publish a paper. I cannot imagine that some laws
>whose effectivity dates can mean the accumulation (or loss) of wealth for
>each day publication is delayed or speeded up could have not a corruptive
>effect on these nameless people.
>
>A war could be declared but not be put into effect until 30 days after
>publication in the Federal Register.

OTOH the army is smart enough to fight it and do the paperwork later
>
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

238. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 00:26:14 UTC
From: Mark@kb9rqz.aprs
Message-ID: <ekc8q2lq9va6deq65fgs2qid0efqfo231n@4ax.com>
Source record: 47053
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

On Wed, 10 Jan 2007 00:18:20 GMT, Cecil Moore <mycall@hotmail.com>
wrote:

>Stefan Wolfe wrote:
>> legislators make laws without knowing when they will
>> actually become effective.
>
>Heck, legislators often make ineffective laws.

not often generaly make ineffective laws
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

239. Re: cloth?: dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 00:53:38 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12q8e8jasctvq93@corp.supernews.com>
Source record: 47054

In the U.S., unfortunately, "proof" that something has caused harm means convincing a jury consisting of people who, on the average, probably couldn't find Japan on a map and around half of whom don't believe in evolution.

Roy Lewallen, W7EL

Owen Duffy wrote:
>
> Epidemiological studies often provide "indisputable proof" to people
> looking for support for their "beliefs". For instance, if they don't
> want a mobile phone tower in their visual environment, then the results
> of such studies are elevated to "indisputable proof" to oppose such
> structures.
>
> The illogical thing is that there is more opposition to taller towers,
> though they are safer from an EMR perspective (both in terms of the
> radiation from the tower, and the power radiated by mobiles to
> communicate with the tower). That indicates to me that EMR safety is not
> uppermost in their minds, and their concern is a misrepresentation.
>
> Thing is, when you depend on epidemiological studies, while you can
> create a lot of FUD (fear, uncertainty and doubt), you can't really
> prove anything safe.
>
> Owen
>

240. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 00:55:55 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eo1dopqqi1@news.service.uci.edu>
Source record: 47055

Cecil Moore wrote:

> Does military current still flow from minus to plus?

I believe electron current still does. But it doesn't really matter.
It's just that I really hate having to explain thermionic emission
as a process whereby heating the cathode causes charge to be emitted
from the anode. :-)

73 de ac6xg

241. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 01:02:31 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <45a43b2f$0$8940$4c368faf@roadrunner.com>
Source record: 47056

"John Smith I" <assemblywizard@gmail.com> wrote in message
news:M6Coh.29$Tf.112751@news.sisna.com...

>
> However, there is a possibility NOW that amateur radio will change and the
> dead wood will be replaced by progressively minded individuals ...

You seem to be assuming that all progressive individuals were blocked from amateur radio due to the code requirement. That is simply not true. There are many progressive individuals who passed or could have passed the Morse test. Also, amateur radio is not zero-sum: A new non morse ham does not replace an old morse ham; he/she simply adds to the existing base of all hams in the service. True, your claim is supported by the fact that natural attrition will generally result in young hams replacing old hams; however, future hams, young and old, who are not tested for Morse, might very well have wanted to pass, and indeed passed the Morse test, had it been required; therefore, non-progressives who could have passed the test, and who would would have wanted to pass the test are not prevented from entering the service. Also, the small subset of individuals who 1) could not pass the test and 2) are progessive is only a small percentage of all hams, both progressive and non-progressive, who either have or do not have the ability to pass a Morse test. There are many hams on this group whom I would call progressive but all of whom have passed the Morse test; they may not have favored it but they themselves passed it.

So, tell me how is there a "possibility" that amateur radio will change significantly when the impact of no code testing is obviously so small?

242. Re: FCC and the Federal register

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 01:05:09 UTC
From: N2EY@AOL.COM
Message-ID: <1168391108.974819.224940@77g2000hsv.googlegroups.com>
Source record: 47033
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

Jeff wrote:
> "> However, actual statute law trumps bureaucracy. The Federal Register
> merely
> > records laws that have already been enacted. The Constitution was in
> > effect prior to the existence of a FR and nowhere is the FR mentioned in
> > today's constitution.
>
> True, but is there some other piece of Statute Law that states that
> legislation cannot come into force until it has been promulgated in the
> Federal Register?

No - but there doesn't have to be.

The basic problem is that some folks either didn't read or didn't
understand
the test of the Report and Order.

FCC 06-178

can be downloaded from:

http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-06-178A1.pdf

in PDF

On Sheet 17 (of 41) it says:

"VI. ORDERING CLAUSES

....

40. IT IS FURTHER ORDERED that Part 97 of the Commission's Rules IS
AMENDED as specified in Appendix A, effective [30 days after
publication in the
Federal Register]."

There's no need of any external law tying FCC action to the Federal
Register, because
the FCC did that as part of the R&O itself, rather than specifying an
effective date.

AFAIK, it's done this way to avoid conflicts. The R&O is effectively
"out there" for anyone to
look at, but if there were some sort of conflict with another govt.
agency, etc., or a mistake in the R&O, FCC could take action before
the effective date, and/or hold up implementation by not
publishing. That's extremely doubtful in this case - the delay in

getting the R&O published
is almost certainly simple bureaucratic procedure.

Not all FCC actions go through that procedure. Emergency declarations
are one example - they're usually effective immediately.

Sooner or later all the wheels will turn!

73 de Jim, N2EY

243. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 01:17:06 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <m8Xoh.61259$wP1.34801@newssvr14.news.prodigy.net>
Source record: 47057

```
Jim Kelley wrote:
> Cecil Moore wrote:
>> Does military current still flow from minus to plus?
>
> I believe electron current still does. But it doesn't really matter.
> It's just that I really hate having to explain thermionic emission as a
> process whereby heating the cathode causes charge to be emitted from the
> anode. :-)

Just throw in a little relativity.
--
73, Cecil http://www.w5dxp.com
```

244. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 01:41:42 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <kvXoh.124$Dy1.306241@news.sisna.com>
Source record: 47060

Stefan Wolfe wrote:
> ...
> So, tell me how is there a "possibility" that amateur radio will change
> significantly when the impact of no code testing is obviously so small?
>
>

Simple, take for example einstein, tesla, hawkins, they would only need
to pass the written and learn no new pseudo-musical skills/talents like
morse ...

... who knows, perhaps if einstein were still alive he might even bother
getting a license now!

JS

245. Re: Trap dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 02:41:04 UTC
From: Nate Bargmann <n0nb.DO.NOT.SPAM@ME.networksplus.net>
Message-ID: <gY2dnZ1Zu8vdzznYnZ2dnUVZ_oDinZ2d@bluevalley.net>
Source record: 47058

On Mon, 08 Jan 2007 23:45:32 -0800, Richard Clark wrote:

> Hi Nate,
>
> Simply examine the transfer characteristics of any series or parallel,
> resonant circuit. It has a peak, not a band-reject characteristic,
> that is why it is called resonant. You resonate traps at one distinct
> frequency where the roll-off may serve the purpose over a slightly
> wider region. A 10M trap does not "remove" the surplus wire for all
> frequencies above, say, 28.4 MHz, and probably doesn't work for the FM
> portion of the band.

Honestly, Richard, your explanation was always my assumption and understanding. W8JI seems to be saying that by resonating them lower the benefit was lower loss. Now, I believe he was examining the 40m traps used in W8NX's antenna featured in various issues of QST.

I think I ought to construct the durned thing and not worry about the minutia. ;-)

- Nate >>

--

"The optimist proclaims that we live in the best of all possible worlds, the pessimist fears this is true."

246. Re: Trap dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 02:42:36 UTC
From: Nate Bargmann <n0nb.DO.NOT.SPAM@ME.networksplus.net>
Message-ID: <gY2dnZxZu8sBzznYnZ2dnUVZ_oDinZ2d@bluevalley.net>
Source record: 47059

On Tue, 09 Jan 2007 03:10:28 +0000, Cecil Moore wrote:

> Nate Bargmann wrote:
>> On Sun, 07 Jan 2007 21:47:05 -0800, Richard Clark wrote:
>>> I don't follow the logic of this at all. Are you expecting the trap
>>> to cut off all frequencies above 27.5 MHz?
>>
>> This is what W8JI's site hints at. Is he wrong, or am I misunderstanding
>> him?
>
> Unlike low pass filters, traps do not have a low impedance
> at lower frequencies and a higher impedance at high frequencies.
> The impedance plot Vs frequency is akin to a bell shaped
> curve with the maximum impedance at resonance.

Right. That has always been my understanding. I think W8JI was strictly looking at loss. His page has little commentary as I understand that what is there were slides at a Dayton forum.

- Nate >>

--

"The optimist proclaims that we live in the best of all possible worlds,
the pessimist fears this is true."

247. Re: Trap dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 03:01:35 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <kGYoh.9845$x67.6334@newssvr17.news.prodigy.net>
Source record: 47061

Nate Bargmann wrote:
> I think W8JI was strictly
> looking at loss. His page has little commentary as I understand that what
> is there were slides at a Dayton forum.

A trap would naturally have higher losses at
its resonant frequency because that's where the
internal circulating currents are the highest.
Detuning the trap would reduce trap losses.
Removing the trap would reduce trap losses. :-)
--
73, Cecil http://www.w5dxp.com

248. Re: Trap dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 03:36:35 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <apn8q25vlc4iol05do2b75nf0dkqhqse3p@4ax.com>
Source record: 47062

On Tue, 09 Jan 2007 20:41:04 -0600, Nate Bargmann
<n0nb.DO.NOT.SPAM@ME.networksplus.net> wrote:

>I think I ought to construct the durned thing and not worry about the
>minutia. ;-)

Hi Nate,

That idea has a lot of traction.

73's
Richard Clark, KB7QHC

249. Re: woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 03:58:32 UTC
From: Head2Mork4Head@yahoo.com
Message-ID: <1168401512.655182.228440@i39g2000hsf.googlegroups.com>
Source record: 47063
Cross-posted to:
alt.usenet.kooks,rec.radio.amateur.antenna,rec.radio.amateur.policy,alt.ham-radio.vhf-uhf,rec.radio.amateur.equipment

http://www.rrcom.com/you_&_your_stations_pictures/pic.jpeg

M...@kb9rqz.aprs wrote:
> On Tue, 9 Jan 2007 10:44:17 -0500, "Mark@kb9rqz.aspr"
> <Mark@kp9rqz.asr> wrote:
>
> >
> you still aint me woger
> http://kb9rqz.blogspot.com/
>
> --
> Posted via a free Usenet account from http://www.teranews.com

250. Re: woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 04:14:46 UTC
From: Mark@kb9rqz.aprs
Message-ID: <e1q8q2l0mjup23jffio9hnfh04hlpd3g58@4ax.com>
Source record: 47064
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.policy,alt.ham-radio.vhf-uhf,rec.radio.amateur.equipment

On 9 Jan 2007 19:58:32 -0800, Head2Mork4Head@yahoo.com wrote:

>http://www.rrcom.com/you_&_your_stations_pictures/pic.jpeg
>
interesting pic woger
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

251. Re: Choke balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 07:47:41 UTC
From: Rich McAllister K6RFM <rfm@pensfa.org>
Message-ID: <ouydnVsiCbS8BznYnZ2dnUVZ_s2vnZ2d@speakeasy.net>
Source record: 47065

Jeffrey Herman wrote:
> Cecil Moore <mycall@hotmail.com> wrote:
>> When one feeds the antenna system at a current maximum
>> point, the balun is non-critical. I am presently using
>> ten turns of RG-400 on an FT-240-61 toroid with no
>
> Hi Cecil,
> It seems like it's been a decade since we debated on RRAP. I hope all is
> well with you.
... and here *I* am again. Anybody heard from Gary Coffman?

> For a balun, I'm considering N4UJW's "Ugly Balun"
> (see http://www.hamuniverse.com/balun.html).
> UJW leaves the diameter of the coil form to the reader,

So, my question is about choke baluns too. I just put up a shiny new GAP Eagle (yah, yah, I know short multiband verticals are snake oil, if I had a big lot I might do something different.) They recommended a small coax coil balun, but when I did that (as compared to just checking the resonance at the little tail coming out of the antenna) the 20M resonance went to pieces-- previously it had been <1:2 SWR (compared to 50 ohms) throughout the band, it went to >1:3 (but pretty flat) everywhere. I ended up just using a ferrite-bead choke balun I had around, and everything was fine. So, does anybody here have any idea why the coax coil choke and the ferrite bead choke would have been so different?

Rich, K6RFM

252. Re: Choke balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 08:11:48 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3n79q21degh7q92oqphq4h7vq4mahf7s1e@4ax.com>
Source record: 47066

On Tue, 09 Jan 2007 23:47:41 -0800, Rich McAllister K6RFM
<rfm@pensfa.org> wrote:

>So, does anybody here have any idea
>why the coax coil choke and the ferrite bead choke would have been so
>different?

Hi Rich,

I have been using a GAP Eagle for years, and it resonates in every band as advertised (which is not to be mistaken for works miracles in every band).

It comes with its own ferrite choke (aka 1:1 BalUn) on the pigtail lead coming out of the bottom. Over the years and with wind, that has chipped and broken, but replacing it returned the original performance. By the way, I did have it elevated 10 feet up - this makes a difference.

73's
Richard Clark, KB7QHC

253. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 12:33:36 UTC
From: Dave <W1MCE@comcast.net>
Message-ID: <GeadnVyCoN6CQDnYnZ2dnUVZ_oannZ2d@comcast.com>
Source record: 47067
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

Cecil Moore wrote:

> Stefan Wolfe wrote:
>
>> legislators make laws without knowing when they will actually become
>> effective.
>
>
> Heck, legislators often make ineffective laws.

We now have a USA Congress that was elected on an anti-Iraq war platform. Yesterday the key Democrats made the evening news in stating that they won't vote to cut off $$$ for the war. But, they will provide a non-binding resolution that the 'Sense of Congress' disapproves of the war. Heck, we knew that before the fools got sworn in!

If you're against the war, vote against paying for the war!! [become responsible ... not a wishy washy dish-rag!] AKA Put up or shut up!

/s/ DD, W1MCE

254. Re: FCC and the Federal register

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 12:41:02 UTC
From: Dave <W1MCE@comcast.net>
Message-ID: <tOqdnTXZmPBBQznYnZ2dnUVZ_vipnZ2d@comcast.com>
Source record: 47068
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

Section VI ORDERING CLAUSES, Paragraph 40

"It is further ordered That Part 97 of the Commission's rules IS AMENDED as specified in Appendix A, effective [30 Days after publication in the Federal Register]."

So, watch the FR.

N2EY@AOL.COM wrote:

> Jeff wrote:
>
>">> However, actual statute law trumps bureaucracy. The Federal Register
>>merely
>>
>>>records laws that have already been enacted. The Constitution was in
>>>effect prior to the existence of a FR and nowhere is the FR mentioned in
>>>today's constitution.
>>
>>True, but is there some other piece of Statute Law that states that
>>legislation cannot come into force until it has been promulgated in the
>>Federal Register?
>
>
> No - but there doesn't have to be.
>
> The basic problem is that some folks either didn't read or didn't
> understand
> the test of the Report and Order.
>
>
> FCC 06-178
>
> can be downloaded from:
>
> http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-06-178A1.pdf
>
> in PDF
>
> On Sheet 17 (of 41) it says:
>
> "VI. ORDERING CLAUSES
>
> ....

>
> 40. IT IS FURTHER ORDERED that Part 97 of the Commission's Rules IS
> AMENDED as specified in Appendix A, effective [30 days after
> publication in the
> Federal Register]."
>
> There's no need of any external law tying FCC action to the Federal
> Register, because
> the FCC did that as part of the R&O itself, rather than specifying an
> effective date.
>
> AFAIK, it's done this way to avoid conflicts. The R&O is effectively
> "out there" for anyone to
> look at, but if there were some sort of conflict with another govt.
> agency, etc., or a mistake in the R&O, FCC could take action before
> the effective date, and/or hold up implementation by not
> publishing. That's extremely doubtful in this case - the delay in
> getting the R&O published
> is almost certainly simple bureaucratic procedure.
>
> Not all FCC actions go through that procedure. Emergency declarations
> are one example - they're usually effective immediately.
>
> Sooner or later all the wheels will turn!
>
> 73 de Jim, N2EY
>

255. Re: Choke balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 14:07:09 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <hq6ph.32937$Gr2.4863@newssvr21.news.prodigy.net>
Source record: 47069

Rich McAllister K6RFM wrote:
> So, does anybody here have any idea
> why the coax coil choke and the ferrite bead choke would have been so
> different?

Was the coax choke single layer or bunched?
How many turns on what diameter? Here's some
measured data:

http://www.k1ttt.net/technote/airbalun.html

Note the narrow bandwidth of the coax coils
Vs the broad bandwidth of the beads.
--
73, Cecil http://www.w5dxp.com

256. Re: Rohn 25G question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 14:11:32 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <ou6ph.82$%6.55@bigfe9>
Source record: 47070

"Jimmie D" <jimmiedee@bellsouth.net> wrote in message
news:oeUoh.31$09.15@bignews7.bellsouth.net...
>
> "Cecil Moore" <mycall@hotmail.com> wrote in message
> news:pmcoh.29771$hI.6933@newssvr11.news.prodigy.net...
>>I have two 10' sections of 25G where the spacing
>> between posts is the specified 11.25" at the bottom
>> but is only 11" at the top. These sections will not
>> fit together. Does anyone know anything about 25G
>> sections with 11" spacing between the upper posts?
>> The 11" spacing is too precise to be an accident.
>> --
>> 73, Cecil http://www.w5dxp.com
>
> You may have a 25T of 25TGIA tapered base.
> These are 12.5 inches outside to outside on one and 12 inches on the
> other.
>
> Jimmie
>
OK, I have a 5ft base and it is tapered too, not as much as the 10 ft
section, about half as much.

257. Re: 2-meter horizontal omni recommendation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 16:05:17 UTC
From: W4WNT <w4wnt@carolina.rr.com>
Message-ID: <45a50ec4$0$5287$4c368faf@roadrunner.com>
Source record: 47071

Hello Elden,

Take a look at Par Electronics 2m loops as a commercial option. Very good, sturdy antennas and horizontal orientation. I've used them mobile as a rover in VHF contests.

Another possibility is building a 2m Yagi. Look up "Cheap Yagis" on your search engine and find WA5VJB's article from the Clear Lake Amateur Radio Club. I've built the 432 beam and it works very well. The 2m version should also work.

Good luck,

Bill, W4WNT

"Elden Fenison" <usenet@moondog.org.invalid> wrote in message news:20070101180859168 07-usenet@moondogorginvalid...
> Greetings,
>
> I'm thinking I want to move off of the repeater scene and start getting
> involved in 2-meter SSB. Around here, horizontal is the only way to go
> with that.
>
> I'd like to put an omni-directional 2-meter horizontally-polarized antenna
> on top of the 10ft mast on my roof that is currently hosting my GP3 (this
> will replace the GP3). Mainly, I don't want to mess with a directional
> beam and a rotor.
>
> Any recommendations as to a store-bought unit that might be well-suited to
> this purpose?
>
> Thanks ahead for any suggestions. :)
>
> --
> -=Elden=-
> http://www.moondog.org
>

258. Re: Choke balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 16:24:35 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <ar8ph.26512$QU1.18670@newssvr22.news.prodigy.net>
Source record: 47072

Rich McAllister K6RFM wrote:
> So, my question is about choke baluns too.

Here's some good technical information on the
various ferrite materials.

http://www.amidoncorp.com/aai_ferritecores.htm
--
73, Cecil http://www.w5dxp.com

259. Rotor mast through the roof.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 16:32:05 UTC
From: TimBob <tmize57@juno.com>
Message-ID: <1168446725.092991.193180@i39g2000hsf.googlegroups.com>
Source record: 47073

Anybody ever mount a rotor in the attic and run the mast straight up thru the roof? Seems like I remember an article in 73 Amateur Radio or QST about this. I'm considering trying this, theirs a nice pop-out in my roof for a vent that would be perfect for this. Then the hole would not be in the main roof, just the small section of the pop-out. Seems like it would be fairly easy to seal, and could also put a large pan with a drain line under the rotor just in case any water did get thru. Any idea's, suggestions? Thanks
Tim N7XAU

260. i punce in agin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 18:03:07 UTC
From: "Mark@kb9rqz.aspr" <Mark@kp9rqz.asr>
Message-ID: <45a51dad$0$4815$88260bb3@free.teranews.com>
Source record: 47074
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner,rec.radio.cb,alt.usenet.kooks,rec.arts.poems,rec.music.hip-hop

ok I back four anoter tuff day on the news grupes it my job tast is waht I
do so bringit on you loosers
show-na-to-va (that is the greeting for this time of year as JEW rendered
phonicticaly)
happy new years it means and it can be better one if Wismen Robson and SC a
few just decided to not to be as hateful with the punce gotcha he wonders
why I simple don't bother to ty impoving my spelling do u hav anyting
cognet two say?
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

261. woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 18:36:00 UTC
From: an_old_friend <konstans@hotmail.com>
Message-ID: <1168454159.711016.185780@o58g2000hsb.googlegroups.com>
Source record: 47075
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner,rec.radio.cb

Mark@kb9rqz.aspr wrote:
>
nope just woger forging again

262. Re: Rotor mast through the roof.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 20:46:33 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <Ggcph.141$%6.130@bigfe9>
Source record: 46976

"TimBob" <tmize57@juno.com> wrote in message
news:1168446725.092991.193180@i39g2000hsf.googlegroups.com...
> Anybody ever mount a rotor in the attic and run the mast straight up
> thru the roof? Seems like I remember an article in 73 Amateur Radio or
> QST about this. I'm considering trying this, theirs a nice pop-out in
> my roof for a vent that would be perfect for this. Then the hole would
> not be in the main roof, just the small section of the pop-out. Seems
> like it would be fairly easy to seal, and could also put a large pan
> with a drain line under the rotor just in case any water did get thru.
> Any idea's, suggestions? Thanks
> Tim N7XAU
>

263. Re: Rotor mast through the roof.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 22:29:11 UTC
From: nonoise <"william_warren_nonoise\\@speakeasy.(nonoise)net">
Message-ID: <RrOdnQDWjOEl9TjYnZ2dnUVZ_vOlnZ2d@speakeasy.net>
Source record: 46977

TimBob wrote:
> Anybody ever mount a rotor in the attic and run the mast straight up
> thru the roof? Seems like I remember an article in 73 Amateur Radio or
> QST about this. I'm considering trying this, theirs a nice pop-out in
> my roof for a vent that would be perfect for this. Then the hole would
> not be in the main roof, just the small section of the pop-out. Seems
> like it would be fairly easy to seal, and could also put a large pan
> with a drain line under the rotor just in case any water did get thru.
> Any idea's, suggestions? Thanks
> Tim N7XAU
>

TimBob,

This is a great idea: with the shaft coming down through the roof into the attic, you can utilize the Armstrong[tm} brand of rotors and save a bundle! Armstrong[tm] rotors are both quicker and more accurate than other models, since they have none of the servo-feedback delays associated with traditional units.

You _will_ need to add copper or lead "flashing" to the mast, constructed so that it overhangs the opening and prevents wind-driven rain from leaching into the house. A drip pan is always a good idea, but it's _not_ a substitute for proper flashing. Check the roof timbers to make sure they're capable of withstanding the wind and/or ice loads the antenna may place on them; if in doubt, get a professional engineer to look it over.

William
(Filter noise for direct replies)
--
A little learning is a dang'rous thing;
Drink deep, or taste not the Pierian spring;
There shallow draughts intoxicate the brain,
And drinking largely sobers us again.
-- Alexander Pope, Essay on Criticism

264. Re: Coax choke balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 23:36:31 UTC
From: John <groupssixnot@verizon.net>
Message-ID: <eo3t9uncp1@aioe.org>
Source record: 46978

Jeffrey Herman wrote:
> (I posted the msg below last week but never saw it appear.)
>
> I plan on erecting a multi-band inverted V with several insulators and
> associated shorting jumpers along each leg so that with all jumpers open,
> the antenna is resonant on 10m; with the first insulator on each leg
> shorted, the antenna is resonant on 15m; with the first and second insulators
> on each leg shorted the antenna is resonant on 20m; et cetera. Shorting and
> opening with the jumpers across the insulators is easier than winding accurate
> traps (as in the trap dipole thread).
>
> For a balun, I'm considering N4UJW's "Ugly Balun"
> (see http://www.hamuniverse.com/balun.html).
> UJW leaves the diameter of the coil form to the reader, only specifying that
> 18-21 feet of coax be used. Can anyone tell me if there is an optimum
> diameter, considering that most of my operations will be on 20m and 40m?
> (On that page, UJW has two balun projects -- see the first one.)
>
> 73, Jeff KH6O
>
> Chief Petty Officer, U.S. Coast Guard
> Mathematics Lecturer, University of Hawaii System

G4FGQ, Reg Edwards, made lots of DOS programs. One was SELFRES3. Go for it at http://www.btinternet.com/~g4fgq.regp/ by clicking on "DOWNLOAD PROGRAMS FROM HERE". Then look for SELFRES3 (Performance of solenoid-wound choke coils, particularly coaxial chokes in antenna feedlines).

I'll bet it will make Reg happy if it is of use to you.

73,
John

265. Vertical, radial, modeled with NEC4

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-10 23:58:36 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <T4fph.463$sH1.309@newsfe12.lga>
Source record: 46979

I have question about performance of radial(s) in particular situation,
close or on the ground, but don't have NEC4 to model it.

Could anyone model with NEC4 engine these two situations please:

1. 200 ft tall vertical radiator, at 1.8 MHz with single horizontal 200 ft
radial,
a, at 6 ft above ground
b, 1 ft above ground
c, 3 inches above ground
d, buried, say 3 inches
using average real ground

2. Same as above cases but over "perfect" ground (salt water or salty marsh)

I would like to see the current distribution along the wires in all cases
and vertical radiation diagrams.

If you could email me the results or if you like to post them on web site, I
would appreciate that very much.

Thanks, 73 Yuri, K3BU

266. Re: FCC and the Federal register

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-11 01:00:09 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <45a58c1a$0$18890$4c368faf@roadrunner.com>
Source record: 46980
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

<N2EY@AOL.COM> wrote in message
news:1168391108.974819.224940@77g2000hsv.googlegroups.com...
t some folks either didn't read or didn't
> understand
> the test of the Report and Order.
>
Well, I did understand the Morse test but I confess that I never did
understand the test of the Report and Order. :-))

267. Re: GO AHEAD, you can transmit voice SSB NOW!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-11 01:03:31 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <45a58ce7$0$5187$4c368faf@roadrunner.com>
Source record: 46981

"John Smith I" <assemblywizard@gmail.com> wrote in message
news:kvXoh.124$Dy1.306241@news.sisna.com...
> Stefan Wolfe wrote:
>> ...
>> So, tell me how is there a "possibility" that amateur radio will change
>> significantly when the impact of no code testing is obviously so small?
>>
>>
>
> Simple, take for example einstein, tesla, hawkins, they would only need to
> pass the written and learn no new pseudo-musical skills/talents like morse
> ...

I notice that you keep saying "hawkins". You are referring to Steven
Hawking, correct?

268. Re: Vertical, radial, modeled with NEC4

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-11 01:28:27 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12qb4lssj42epce@corp.supernews.com>
Source record: 46982

All except case d can be modeled with NEC-2 based programs including
EZNEC. NEC-4 won't give significantly different results.

Roy Lewallen, W7EL

Yuri Blanarovich wrote:
> I have question about performance of radial(s) in particular situation,
> close or on the ground, but don't have NEC4 to model it.
>
> Could anyone model with NEC4 engine these two situations please:
>
> 1. 200 ft tall vertical radiator, at 1.8 MHz with single horizontal 200 ft
> radial,
> a, at 6 ft above ground
> b, 1 ft above ground
> c, 3 inches above ground
> d, buried, say 3 inches
> using average real ground
>
> 2. Same as above cases but over "perfect" ground (salt water or salty marsh)
>
> I would like to see the current distribution along the wires in all cases
> and vertical radiation diagrams.
>
> If you could email me the results or if you like to post them on web site, I
> would appreciate that very much.
>
> Thanks, 73 Yuri, K3BU
>
>

269. Re: 2-meter horizontal omni recommendation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-11 01:39:59 UTC
From: Jim - NN7K <NN7K@NOWAY.NET>
Message-ID: <Qzgph.15555$Gw4.1131@newssvr23.news.prodigy.net>
Source record: 46983

Also check M squared's website, and KB6KQ. Both
make very good Halo equivalents (Omni).

http://www.kb6kq.com/

http://www.m2inc.com/ And, also M squared
makes great yagis. ect. and NO phoney gain claims!
Spendy, but they do deliver results!

Jim NN7K

W4WNT wrote:
> Hello Elden,
>
> Take a look at Par Electronics 2m loops as a commercial option. Very good,
> sturdy antennas and horizontal orientation. I've used them mobile as a rover
> in VHF contests.
>
>
>
> "Elden Fenison" <usenet@moondog.org.invalid> wrote in message
> news:20070101180859168O7-usenet@moondogorginvalid...
>> Greetings,
>>
>> I'm thinking I want to move off of the repeater scene and start getting
>> involved in 2-meter SSB. Around here, horizontal is the only way to go
>> with that.
>>
>> I'd like to put an omni-directional 2-meter horizontally-polarized antenna
>> on top of the 10ft mast on my roof that is currently hosting my GP3 (this
>> will replace the GP3). Mainly, I don't want to mess with a directional
>> beam and a rotor.
>>
>> Any recommendations as to a store-bought unit that might be well-suited to
>> this purpose?
>>
>> Thanks ahead for any suggestions. :)
>>
>> --
>> -=Elden=-
>> http://www.moondog.org
>>
>
>

270. Re: 2m Big Wheel Plans - Again

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-11 03:10:32 UTC
From: John Doe <hgorden@adelphia.net>
Message-ID: <EoWdnQg3cs0-NzjYnZ2dnUVZ_sSmnZ2d@adelphia.com>
Source record: 46984

I picked up an original 2m "BIG WHEEL" over the weekend - this will get mounted with my pair of original "SATURN SIX HALO'S stacked 6ft apart horizontally".

I plan taking the wheel apart - changing the rusted hardware and cleaning up the aluminum rods and other pieces - replacing both of the mounting U-bolts - I will measure the element lengths and take some pictures -

Please - email me off line for copies of the photos if you need them.

"Tom Ring" <news0003@taring.org> wrote in message news:457a1397$0$6142$39cecf19@news.twtelecom.net...
> Ok, let's try this again.
>
> I googled for plans. Thanks to those that gave me the results I already
> found, but they were still useless.
>
> One person responded via email, thank you sir.
>
> The others wandered off on related subjects, as this list is want (wont?)
> to do. That is just fine, I have no problem with that, we learn much that
> way. I hope we get a decent ez file out of it. And whether it shows the
> impedance change when stacked that the articles speak of.
>
> Now, does anyone have any plans with things like dimensions? Other than
> the original 1961 version, which has to have been tweaked at least a
> little.
>
> Thanks.
>
> tom
> K0TAR

271. Re: i punce in agin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-11 05:19:21 UTC
From: "Text Medium No. 5" <mhm29x21@meow.flonk>
Message-ID: <pan.2007.01.11.05.19.09.745650@hail.eris.flonk.meow.all.hail.discordia.meow.flonk.mockery.demon.flonk.meow.i.am.not.really.leola>
Source record: 46985
Cross-posted to: alt.baldspot,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner,rec.radio.cb,alt.usenet.kooks,rec.arts.poems,rec.music.hip-hop

Hail Eris! On Wed, 10 Jan 2007 13:03:07 -0500, Mark@kb9rqz.aspr jabbered
inanely:

> ok I back four anoter tuff day on the news grupes it my job tast is waht
> I
> do so bringit on you loosers
> show-na-to-va (that is the greeting for this time of year as JEW
> rendered
> phonicticaly)
> happy new years it means and it can be better one if Wismen Robson and SC
> a
> few just decided to not to be as hateful with the punce gotcha he wonders
> why I simple don't bother to ty impoving my spelling do u hav anyting
> cognet two say?
> http://kb9rqz.blogspot.com/

If there's anything more pathetic than a dyslexic in desperate need of a
spell-check program but who refuses to use one, it's a really convincing
frog of same. Wabbit, you've already won the Bartlo once. Are you trying
for another?

--
Shon'ai COOSN-029-06-71069
"I was told there would be cookies."
Cross-Poasters For Goddess!
Remember: Straight people can't help it!
A petition to make the Five-Fingered Hand of Eris
the official symbol for the planet Eris:
http://www.petitiononline.com/ffhoeris/

"If you don't have pedicures AT LEAST every two weeks, don't talk to me.
If you don't floss every night and morning and brush at least twice a
day, don't talk to me. If you don't spend money on you hair and get
great cuts and color, don't talk to me. If you are heavy, don't talk to
me. If you don't shower every morning and take a nice bubble bath every
night, don't talk to me. If you don't have a loved one in your arms,
don't talk to me. If you don't keep an immaculate house, don't talk to
me. If you don't work, don't talk to me." -- Clearly, Martha Vandella
never wants to talk to me, which is for the best, really.
MID: <1161934857.062934.91900@i42g2000cwa.googlegroups.com>

272. woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-11 05:28:56 UTC
From: Mark@kb9rqz.aprs
Message-ID: <vmibq2dfb6a3f3ne639in1me9ehogor1lf@4ax.com>
Source record: 46986
Cross-posted to: alt.baldspot,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner,rec.radio.cb,rec.arts.poems,rec.music.hip-hop

On Thu, 11 Jan 2007 05:19:21 GMT, "Text Medium No. 5"
<mhm29x21@meow.flonk> wrote:

>Hail Eris! On Wed, 10 Jan 2007 13:03:07 -0500, Mark@kb9rqz.aspr jabbered
>inanely:
>
>> ok I back four anoter tuff day on the news grupes it my job tast is waht
>> I
>> do so bringit on you loosers
>> show-na-to-va (that is the greeting for this time of year as JEW
>> rendered
>> phonicticaly)
>> happy new years it means and it can be better one if Wismen Robson and SC
>> a
>> few just decided to not to be as hateful with the punce gotcha he wonders
>> why I simple don't bother to ty impoving my spelling do u hav anyting
>> cognet two say?
>> http://kb9rqz.blogspot.com/
>
>If there's anything more pathetic than a dyslexic in desperate need of a
>spell-check program but who refuses to use one, it's a really convincing
>frog of same. Wabbit, you've already won the Bartlo once. Are you trying
>for another?

nothing convicing about Jews for example are rarely anti semtic
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

273. Re: Choke balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-11 07:54:54 UTC
From: Rich McAllister K6RFM <rfm@pensfa.org>
Message-ID: <e-qdnY93wYrScDjYnZ2dnUVZ_sWdnZ2d@speakeasy.net>
Source record: 46987

Cecil Moore wrote:
> Rich McAllister K6RFM wrote:
>> So, does anybody here have any idea why the coax coil choke and the
>> ferrite bead choke would have been so different?
>
> Was the coax choke single layer or bunched?
> How many turns on what diameter?

Just 4 turns about 6" diameter, bunched up and secured with cable ties as GAP recommended. Hard to believe there was some kind of narrow-band resonance that just hit 20M, but I guess stranger things have happened.

Rich

274. Re: Choke balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-11 08:06:20 UTC
From: Rich McAllister K6RFM <rfm@pensfa.org>
Message-ID: <y8Wdnf_cq5xicjjYnZ2dnUVZ_u6rnZ2d@speakeasy.net>
Source record: 46988

Richard Clark wrote:
> On Tue, 09 Jan 2007 23:47:41 -0800, Rich McAllister K6RFM
> <rfm@pensfa.org> wrote:
>
>> So, does anybody here have any idea
>> why the coax coil choke and the ferrite bead choke would have been so
>> different?
>
> Hi Rich,
>
> I have been using a GAP Eagle for years, and it resonates in every
> band as advertised (which is not to be mistaken for works miracles in
> every band).

Sure, any small antenna like this is going to be a compromise. I was actually pleasantly surprised by the performance on 40M during the RTTY Roundup last weekend, I expected the Eagle to pretty much suck wind compared to my old full-size dipole, but it compared very favorably.

>
> It comes with its own ferrite choke (aka 1:1 BalUn) on the pigtail
> lead coming out of the bottom. Over the years and with wind, that has
> chipped and broken, but replacing it returned the original
> performance.

I've got the GAP-supplied ferrite choke protected with heatshrink tubing, and the whole thing secured pretty well to the mast, so I'm hoping not much will flop around and it will last a good long time.

By the way, I did have it elevated 10 feet up - this
> makes a difference.

I've got it at the same spot as my old Cushcraft R5, a 10-foot mast on the porch roof secured to the main roof rafters so the mast sticks up about 3 feet over the main roof, the base of the Eagle ending up about 30 feet in the air. This basically is the only spot I have which is both reasonably accessible in case I need to fiddle with the connections and a good distance (at least 20 feet) away from major metal like power/phone lines, etc. It's also just about the midpoint of my lot so I keep the radiation as far away from my neighbors as possible;I figure that has to help with RFI and also helps me do the radiation-exposure self-evaluation with a clearer conscience.

Rich, K6RFM

275. Re: Rediscovering ether?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-11 12:31:34 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1168518694.790255.280950@k58g2000hse.googlegroups.com>
Source record: 46989

Oh my! The Big Bang Theory is going to need some serious patching up
now... Fred Hoyle has to be chuckling from the hereafter...

denny / k8do

276. Re: Choke balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-11 14:16:07 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <HErph.9922$x67.4380@newssvr17.news.prodigy.net>
Source record: 46990

Cecil Moore wrote:
> Rich McAllister K6RFM wrote:
>> So, my question is about choke baluns too.
>
> Here's some good technical information on the
> various ferrite materials.
>
> http://www.amidoncorp.com/aai_ferritecores.htm

The K material appears to have been developed for baluns.
--
73, Cecil http://www.w5dxp.com

277. Re: Rotor mast through the roof.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-11 14:18:18 UTC
From: "R. Scott" <spamtrap@w7psk.net>
Message-ID: <JBpJqJ.sr@news.boeing.com>
Source record: 46991

"TimBob" <tmize57@juno.com> wrote in message
news:1168446725.092991.193180@i39g2000hsf.googlegroups.com...
> Anybody ever mount a rotor in the attic and run the mast straight up
> thru the roof? Seems like I remember an article in 73 Amateur Radio or
> QST about this. I'm considering trying this, theirs a nice pop-out in
> my roof for a vent that would be perfect for this. Then the hole would
> not be in the main roof, just the small section of the pop-out. Seems
> like it would be fairly easy to seal, and could also put a large pan
> with a drain line under the rotor just in case any water did get thru.
> Any idea's, suggestions? Thanks
> Tim N7XAU

I remember reading that article and it seems a ton of work/prevention goes
into that method. I'm going the Roof Tower direction and Glen Martin makes
some pretty nice ones, 4, 8 or 9 feet would seem to work better than what
you need to put a mast through the roof.

Just a 2nd idea

I'm going 9ft myself. Its all built but setting in my garage waiting for the
water we are getting in the Puget Sound to stop. Which at this rate might
be spring :).

Scotty W7PSK.

278. Re: Vertical, radial, modeled with NEC4

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-11 16:00:19 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <eo5mupnkc1@aioe.org>
Source record: 46992

Thanks, we have at least two gentlemen with NEC4 trying to model the situations. We will rehash the subject in direct mail, due to the need for exchanging files and will summarize the results and conclusions as we go.

73 Yuri, K3BU

"Roy Lewallen" <w7el@eznec.com> wrote in message news:12qb4lssj42epce@corp.supernews.com...
> All except case d can be modeled with NEC-2 based programs including
> EZNEC. NEC-4 won't give significantly different results.
>
> Roy Lewallen, W7EL
>
> Yuri Blanarovich wrote:
>> I have question about performance of radial(s) in particular situation,
>> close or on the ground, but don't have NEC4 to model it.
>>
>> Could anyone model with NEC4 engine these two situations please:
>>
>> 1. 200 ft tall vertical radiator, at 1.8 MHz with single horizontal 200
>> ft radial,
>> a, at 6 ft above ground
>> b, 1 ft above ground
>> c, 3 inches above ground
>> d, buried, say 3 inches
>> using average real ground
>>
>> 2. Same as above cases but over "perfect" ground (salt water or salty
>> marsh)
>>
>> I would like to see the current distribution along the wires in all cases
>> and vertical radiation diagrams.
>>
>> If you could email me the results or if you like to post them on web
>> site, I would appreciate that very much.
>>
>> Thanks, 73 Yuri, K3BU

279. Re: Rotor mast through the roof.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-11 16:30:07 UTC
From: Ron <wa0kds@yahoo.com>
Message-ID: <45A66818.2010208@yahoo.com>
Source record: 46994

I new a guy that had a mast come into his shack so that he could had
turn the antenna. A storm with one big lightening bolt removed one wall
of his shack. It probably was not grounded good enough.

Ron WA0KDS

nonoise wrote:
> TimBob wrote:
>
>> Anybody ever mount a rotor in the attic and run the mast straight up
>> thru the roof? Seems like I remember an article in 73 Amateur Radio or
>> QST about this. I'm considering trying this, theirs a nice pop-out in
>> my roof for a vent that would be perfect for this. Then the hole would
>> not be in the main roof, just the small section of the pop-out. Seems
>> like it would be fairly easy to seal, and could also put a large pan
>> with a drain line under the rotor just in case any water did get thru.
>> Any idea's, suggestions? Thanks
>> Tim N7XAU
>>
>
> TimBob,
>
> This is a great idea: with the shaft coming down through the roof into
> the attic, you can utilize the Armstrong[tm} brand of rotors and save a
> bundle! Armstrong[tm] rotors are both quicker and more accurate than
> other models, since they have none of the servo-feedback delays
> associated with traditional units.
>
> You _will_ need to add copper or lead "flashing" to the mast,
> constructed so that it overhangs the opening and prevents wind-driven
> rain from leaching into the house. A drip pan is always a good idea, but
> it's _not_ a substitute for proper flashing. Check the roof timbers to
> make sure they're capable of withstanding the wind and/or ice loads the
> antenna may place on them; if in doubt, get a professional engineer to
> look it over.
>
> William
> (Filter noise for direct replies)

280. Re: i punce in agin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-11 16:30:16 UTC
From: Kali <kali@powder.keg>
Message-ID: <eo5omk$5qt$5@blackhelicopter.databasix.com>
Source record: 46993
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner,rec.radio.cb,alt.usenet.kooks,rec.arts.poems,rec.music.hip-hop

In <45a51dad$0$4815$88260bb3@free.teranews.com>,
Mark@kb9rqz.aspr Mark@kp9rqz.asr said:
: ok I back four anoter tuff day on the news grupes it my job tast is waht I
: do so bringit on you loosers
: show-na-to-va (that is the greeting for this time of year as JEW rendered
: phonicticaly)
: happy new years it means and it can be better one if Wismen Robson and SC a
: few just decided to not to be as hateful with the punce gotcha he wonders
: why I simple don't bother to ty impoving my spelling do u hav anyting
: cognet two say?
: http://kb9rqz.blogspot.com/

OK, I'll bite. WTF is a punce in your country?

Kali
--
"If we knew what it was we were doing, it would not be called
research, would it?"
- Albert Einstein

281. Re: Rotor mast through the roof.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-11 16:30:33 UTC
From: Ron <wa0kds@yahoo.com>
Message-ID: <45A66832.5030006@yahoo.com>
Source record: 46995

I knew a guy that had a mast come into his shack so that he could had
turn the antenna. A storm with one big lightening bolt removed one wall
of his shack. It probably was not grounded good enough.

Ron WA0KDS

nonoise wrote:
> TimBob wrote:
>
>> Anybody ever mount a rotor in the attic and run the mast straight up
>> thru the roof? Seems like I remember an article in 73 Amateur Radio or
>> QST about this. I'm considering trying this, theirs a nice pop-out in
>> my roof for a vent that would be perfect for this. Then the hole would
>> not be in the main roof, just the small section of the pop-out. Seems
>> like it would be fairly easy to seal, and could also put a large pan
>> with a drain line under the rotor just in case any water did get thru.
>> Any idea's, suggestions? Thanks
>> Tim N7XAU
>>
>
> TimBob,
>
> This is a great idea: with the shaft coming down through the roof into
> the attic, you can utilize the Armstrong[tm} brand of rotors and save a
> bundle! Armstrong[tm] rotors are both quicker and more accurate than
> other models, since they have none of the servo-feedback delays
> associated with traditional units.
>
> You _will_ need to add copper or lead "flashing" to the mast,
> constructed so that it overhangs the opening and prevents wind-driven
> rain from leaching into the house. A drip pan is always a good idea, but
> it's _not_ a substitute for proper flashing. Check the roof timbers to
> make sure they're capable of withstanding the wind and/or ice loads the
> antenna may place on them; if in doubt, get a professional engineer to
> look it over.
>
> William
> (Filter noise for direct replies)

282. Re: Rotor mast through the roof.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-11 18:10:57 UTC
From: TimBob <tmize57@juno.com>
Message-ID: <1168539057.469585.111650@i56g2000hsf.googlegroups.com>
Source record: 46996

R. Scott wrote:
> "TimBob" <tmize57@juno.com> wrote in message
> news:1168446725.092991.193180@i39g2000hsf.googlegroups.com...
> > Anybody ever mount a rotor in the attic and run the mast straight up
> > thru the roof? Seems like I remember an article in 73 Amateur Radio or
> > QST about this. I'm considering trying this, theirs a nice pop-out in
> > my roof for a vent that would be perfect for this. Then the hole would
> > not be in the main roof, just the small section of the pop-out. Seems
> > like it would be fairly easy to seal, and could also put a large pan
> > with a drain line under the rotor just in case any water did get thru.
> > Any idea's, suggestions? Thanks
> > Tim N7XAU
>
> I remember reading that article and it seems a ton of work/prevention goes
> into that method. I'm going the Roof Tower direction and Glen Martin makes
> some pretty nice ones, 4, 8 or 9 feet would seem to work better than what
> you need to put a mast through the roof.
>
> Just a 2nd idea
>
> I'm going 9ft myself. Its all built but setting in my garage waiting for the
> water we are getting in the Puget Sound to stop. Which at this rate might
> be spring :).
>
>
> Scotty W7PSK.

**Thanks for your feedback! One of the reasons I am thinking about
thru the roof is for a little stealth, I would only want to put the
antenna's, (2 meter and 6 meters beams) about 5 ft above the roof.
They would be mostly hidden when looking at the front of the house from
the street. They are fairly small antenna's, I have them mounted on a
small telescoping mast right now with no problems for the last two
years. Rafters and joists are 2x6 and 2x8's, so I'm sure those are
heavy enough. I would think that between a cone shaped metal flashing
on the mast with rubber or some sort of UV resistant tape to seal it,
and then a rubber vent pipe seal at the roof level and maybe even some
o-rings on the mast inside the roof, plus a pan underneath the rotor
should insure no moisture inside. Of course all this would be grounded
very well! But a roof mount tower would sure be alot easier!
Tim N7XAU

283. Re: cloth?: dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-11 19:07:45 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <eo61u1$17i6$1@f04n12.cac.psu.edu>
Source record: 46997

Roy Lewallen wrote:
> In the U.S., unfortunately, "proof" that something has caused harm means
> convincing a jury consisting of people who, on the average, probably
> couldn't find Japan on a map and around half of whom don't believe in
> evolution.

So thats why I didn't get pick the last time I was called for jury
duty!!! I could locate Japan! ;^)

- 73 de Mike KB3EIA -

284. Re: cloth?: dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-11 19:33:00 UTC
From: David <nospam@nospam>
Message-ID: <YridnW3QkqRGDTvYRVnyswA@bt.com>
Source record: 46998

Is aluminium (baking) foil any good as a ground plane? How does it compare to metal mesh?

285. woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-11 21:47:51 UTC
From: Mark@kb9rqz.org
Message-ID: <p3cdq2d0f87147144ji2qvpue8vi1hujsg@4ax.com>
Source record: 46999
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner,rec.radio.cb,rec.arts.poems,rec.music.hip-hop

On Thu, 11 Jan 2007 10:30:16 -0600, Kali <kali@powder.keg> wrote:

>In <45a51dad$0$4815$88260bb3@free.teranews.com>,
>Mark@kb9rqz.aspr Mark@kp9rqz.asr said:
>: ok I back four anoter tuff day on the news grupes it my job tast is waht I
>: do so bringit on you loosers
>: show-na-to-va (that is the greeting for this time of year as JEW rendered
>: phonicticaly)
>: happy new years it means and it can be better one if Wismen Robson and SC a
>: few just decided to not to be as hateful with the punce gotcha he wonders
>: why I simple don't bother to ty impoving my spelling do u hav anyting
>: cognet two say?
>: http://kb9rqz.blogspot.com/
>
>OK, I'll bite. WTF is a punce in your country?
>
>Kali
just another wogerism
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

286. Re: woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 00:17:00 UTC
From: Yougurt Sugir <ajinn@here.nu>
Message-ID: <G8ydndy4ALIYTjvYnZ2dnUVZ_t6qnZ2d@giganews.com>
Source record: 47000
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner,rec.radio.cb,rec.arts.poems,rec.music.hip-hop

```
<Mark@kb9rqz.org> wrote in message news:p3cdq2d0f87147144ji2qvpue8vi1hujsg@4ax.com...
> On Thu, 11 Jan 2007 10:30:16 -0600, Kali <kali@powder.keg> wrote:
>
>>In <45a51dad$0$4815$88260bb3@free.teranews.com>,
>>Mark@kb9rqz.aspr Mark@kp9rqz.asr said:
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>>: why I simple don't bother to ty impoving my spelling do u hav anyting
>>: cognet two say?
>>: http://kb9rqz.blogspot.com/
>>
>>OK, I'll bite. WTF is a punce in your country?
>>
>>Kali
> just another wogerism
> http://kb9rqz.blogspot.com/

O fucken... What a pack of morons.

I hope you are plonkable.

--
-----------------------------------------
AJ - http://ClitIns.Com e In.
(800 folders. -- kiddie-filtered -- FREE,
Usenet Porn.)

>
> --
> Posted via a free Usenet account from http://www.teranews.com
>
```

287. Re: woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 00:23:10 UTC
From: Mark@kb9rqz.org
Message-ID: <s6ldq2h7oi3qglpsf5v2oi6t9k750asc5p@4ax.com>
Source record: 47001
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner,rec.radio.cb,rec.arts.poems,rec.music.hip-hop

On Thu, 11 Jan 2007 16:17:00 -0800, "Yougurt Sugir" <ajinn@here.nu>
wrote:

>
><Mark@kb9rqz.org> wrote in message news:p3cdq2d0f87147144ji2qvpue8vi1hujsg@4ax.com...
>> On Thu, 11 Jan 2007 10:30:16 -0600, Kali <kali@powder.keg> wrote:
>>
>>>In <45a51dad$0$4815$88260bb3@free.teranews.com>,
>>>Mark@kb9rqz.aspr Mark@kp9rqz.asr said:
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>>>: http://kb9rqz.blogspot.com/
>>>
>>>OK, I'll bite. WTF is a punce in your country?
>>>
>>>Kali
>> just another wogerism
>> http://kb9rqz.blogspot.com/
>
>O fucken... What a pack of morons.
>
>I hope you are plonkable.

go for it
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

288. Re: i punce in agin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 00:38:50 UTC
From: Cardinal Snarky of the Fannish Inquisition <inquisition@smof.org>
Message-ID: <pan.2007.01.12.00.38.46.470336@smof.org>
Source record: 47002
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner,rec.radio.cb,alt.usenet.kooks,rec.arts.poems,rec.music.hip-hop

On Thu, 11 Jan 2007 10:30:16 -0600, Kali sat in thee Comfee Chaire, and
didst finally confess, after taking Muche Tea:
> Mark@kp9rqz.asr said:
> : ok I back four anoter tuff day on the news grupes it my job tast is
> : waht I
> : do so bringit on you loosers
> : show-na-to-va (that is the greeting for this time of year as JEW
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> : SC a
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> : wonders
> : why I simple don't bother to ty impoving my spelling do u hav anyting
> : cognet two say?
> : http://kb9rqz.blogspot.com/
>
> OK, I'll bite. WTF is a punce in your country?

Oh, don't get trolled by Wabbit. Basically, he's calling Mark a cunt,
and in the verb form, I think he's also calling him a cocksucker.

--

____
Hail Eris!
Demon Prince of Absurdity

"And no, I did not have sex with my son. But if I did I certainly
wouldn't tell you. Something so beautiful and precious should be kept
private." -- Kathy L. Mosesian, or possibly not really her, confesses
she may be a liar and committer of incest with her own son, in MID:
<cfcd3f4660694e3afeaadaa2723e9ab1@msgid.frell.theremailer.net>

The reporter asked Colin Powell (or George Bush), "What proof do you
have that Iraq has weapons of mass destruction?"
He replied, "We kept the receipts." -- Bill Hicks

"They thought I was fair game. I was an instrument of purpose to achieve
their desires and not 100 percent real and ALSO that they had me by the
short curlies because I thought that the world revolved around them and
therefore I think that I am fair game and rightly so. If they want to
play dirty, I get to too. It's not a one-way street. I will use the
physcial strength that I have over them, my superior 5'7-3/4" height
advantage, the boxing moves I paid to learn, the suprise of pussyfooting

up to them with their back to me in a public place 18 1/2 years after the fact and thus not only do will they not know that I am but a pica's distance away from them, but that I even exist on earth." -- Chris Tsao is secretly John Wentzky's psychic twin. MID: <1161246083.152300.195760@m73g2000cwd.googlegroups.com>

Looney Maroon nominee for August 2006 Johnny D Wentzky foamed:
"You never asked someone who goes into areas of the internet that are only for adults who has an underage id somehow or another if they are a cop posing as an underage person online?
I guess lots of people just don't watch dateline or read stories much. Why don;t you go to pervertedjustice,com and see what they do. They are awash in their self-proclaimed glory after they lied to membners of the public.
They are awash in their self-proclaimed glory after they posed as an underage person and agreed to do all sorts of sex acts wioth adult males, and they are adults posing as teenager themselves. They make themsleves into liars by falsely impersonating underage persons and by not fuilfilling the words they tell the victims online in their chats. Why don't you read it where they tell these victims of their deceit about how they have been with grown men and such? Why don't you read it where they say, "That would be cool." after someone makes an advance towards an adult who is posing as a teenager? And, where they agree to meet the person, etc.
Lost control, didn't you?
Is that why you feel as if you need to lie so much now? I see where lots of these false impersonation games are not sticking. They feel as if they can lie and then order the victims to get counseling in the gayblade, governmental, pro-choice tax leech counseling centers. They are doing nothing more than usury and fraud in many cases." -- Wentzky almost comes out of the closet as a pedo/ephebophile in MID: <H%%Eg.28916$Uq1.22411@bignews6.bellsouth.net>

289. wooger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 00:41:09 UTC
From: Mark@kb9rqz.org
Message-ID: <98mdq29r6ii29if6c1m83or0k2d24is48o@4ax.com>
Source record: 47003
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner,rec.radio.cb,alt.usenet.kooks,rec.arts.poems,rec.music.hip-hop

On Fri, 12 Jan 2007 00:38:50 GMT, Cardinal Snarky of the Fannish
Inquisition <inquisition@smof.org> wrote:

>On Thu, 11 Jan 2007 10:30:16 -0600, Kali sat in thee Comfee Chaire, and
>didst finally confess, after taking Muche Tea:
>> Mark@kp9rqz.asr said:
>> : ok I back four anoter tuff day on the news grupes it my job tast is
>> : waht I
>> : do so bringit on you loosers
>> : show-na-to-va (that is the greeting for this time of year as JEW
>> : rendered
>> : phonicticaly)
>> : happy new years it means and it can be better one if Wismen Robson and
>> : SC a
>> : few just decided to not to be as hateful with the punce gotcha he
>> : wonders
>> : why I simple don't bother to ty impoving my spelling do u hav anyting
>> : cognet two say?
>> : http://kb9rqz.blogspot.com/
>>
>> OK, I'll bite. WTF is a punce in your country?
>
>Oh, don't get trolled by Wabbit. Basically, he's calling Mark a cunt,
>and in the verb form, I think he's also calling him a cocksucker.

is that what he is saying thanks I wasn't sure myself
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

290. Re: Rotor mast through the roof.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 03:18:49 UTC
From: Bob Miller <NOSPAM@neosoft.com>
Message-ID: <sbvdq2l18ur0pukf7bjfijrqooum38rm3b@4ax.com>
Source record: 47004

On 11 Jan 2007 10:10:57 -0800, "TimBob" <tmize57@juno.com> wrote:

>
>R. Scott wrote:
>> "TimBob" <tmize57@juno.com> wrote in message
>> news:1168446725.092991.193180@i39g2000hsf.googlegroups.com...
>> > Anybody ever mount a rotor in the attic and run the mast straight up
>> > thru the roof? Seems like I remember an article in 73 Amateur Radio or
>> > QST about this. I'm considering trying this, theirs a nice pop-out in
>> > my roof for a vent that would be perfect for this. Then the hole would
>> > not be in the main roof, just the small section of the pop-out. Seems
>> > like it would be fairly easy to seal, and could also put a large pan
>> > with a drain line under the rotor just in case any water did get thru.
>> > Any idea's, suggestions? Thanks
>> > Tim N7XAU
>>
>> I remember reading that article and it seems a ton of work/prevention goes
>> into that method. I'm going the Roof Tower direction and Glen Martin makes
>> some pretty nice ones, 4, 8 or 9 feet would seem to work better than what
>> you need to put a mast through the roof.
>>
>> Just a 2nd idea
>>
>> I'm going 9ft myself. Its all built but setting in my garage waiting for the
>> water we are getting in the Puget Sound to stop. Which at this rate might
>> be spring :).
>>
>>
>> Scotty W7PSK.
>
>**Thanks for your feedback! One of the reasons I am thinking about
>thru the roof is for a little stealth, I would only want to put the
>antenna's, (2 meter and 6 meters beams) about 5 ft above the roof.
>They would be mostly hidden when looking at the front of the house from
>the street. They are fairly small antenna's, I have them mounted on a
>small telescoping mast right now with no problems for the last two
>years. Rafters and joists are 2x6 and 2x8's, so I'm sure those are
>heavy enough. I would think that between a cone shaped metal flashing
>on the mast with rubber or some sort of UV resistant tape to seal it,
>and then a rubber vent pipe seal at the roof level and maybe even some
>o-rings on the mast inside the roof, plus a pan underneath the rotor
>should insure no moisture inside. Of course all this would be grounded
>very well! But a roof mount tower would sure be alot easier!
>Tim N7XAU

I guess it depends on which one you buy, but are you sure you want a clanging rotator in the attic? Might be loud.

bob
k5qwg

291. Better for DX: Vertical or dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 05:33:10 UTC
From: Rick <reply.in.newsgroup@spam.no>
Message-ID: <nv6eq298f2f5kdnekbmir1170an90ubc0j@4ax.com>
Source record: 47005

I am interested in operation primarily on 160, 80, and 40.

I have space for a full-size dipole for 160 but I cannot get it up very high, maybe 30 feet, higher than that only at great expense and with great difficulty.

I will likely put up a 160-meter dipole at 30 feet and feed it with ladder line and a tuner, and use it for NVIS work on 160-40.

For DX, though, I'm wondering if I will be happy with a vertical such as the Voyager DX from Gap Antennas, or if I should bite the bullet and go to the expense and difficulty of getting the dipole up 60-80 feet (which still won't be very high, compared with a wavelength, at 160 or 80).

What's your advice?

292. Re: Better for DX: Vertical or dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 06:29:52 UTC
From: "n3ox.dan@gmail.com" <n3ox.dan@gmail.com>
Message-ID: <1168583392.432115.197570@11g2000cwr.googlegroups.com>
Source record: 47006

> What's your advice?

Get a copy of ON4UN's low band DXing.

Search the Topband archives Re: antennas.

Measure/estimate your ground conductivity and permittivity and get
comfortable with a modeling program.

And finally, experiment.

I don't mean to be glib but there's really no quick answer to what
antenna you'd be happy with for DX on 40,80 and 160. 30 feet for a
horizontal antenna *is* too low, generally.

Maybe someone can comment on the Voyager DX... I can't, specifically.
Verticals are good, short verticals are compromises and must be treated
with care.

- - - - - - - - -

This is what I use:

http://www.n3ox.net/projects/sixtyvert

I can certainly work more 40&80m DX on this than on the 30 foot high,
100 foot long centerfed wire I used to use on those bands. As far as
160m goes, this is the first time I can work 160 DX at all...

73,
Dan

293. Re: Better for DX: Vertical or dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 06:36:23 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <l6aeq292vuivhfe95p8meuc0qsb7pl3cuf@4ax.com>
Source record: 47007

On Fri, 12 Jan 2007 00:33:10 -0500, Rick <reply.in.newsgroup@spam.no>
wrote:

>What's your advice?

Hi Rick,

Choose your poison.

A 30 foot high 160M dipole is a notable ground hugging air cooled
resistor. A GAP is probably worse.

A combination of the two might be in order (which does NOT mean buy a
GAP to do this). Erect a 30 foot vertical and top load it with what
would have been the dipole.

I will leave to others what could be done in higher bands (with one
word of advice, GAPs don't usually perform very well on their lowest
band(s), but have been to be reported as good verticals otherwise).

73's
Richard Clark, KB7QHC

294. Re: Better for DX: Vertical or dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 07:07:03 UTC
From: Bryan <bryan.swadenerNOSPAM@comcast.net>
Message-ID: <INqdnecwurPxrjrYnZ2dnUVZ_oWdnZ2d@giganews.com>
Source record: 47008

Dan wrote:
> http://www.n3ox.net/projects/sixtyvert
>
> I can certainly work more 40&80m DX on this than on the 30 foot high,
> 100 foot long centerfed wire I used to use on those bands. As far as
> 160m goes, this is the first time I can work 160 DX at all...
>
> 73,
> Dan

Hmm... very interesting... and do-able. I've been thinking myself about erecting a vertical for 80/40 (but didn't want to waste my time). Thanks Dan!

73,
Bryan WA7PRC

295. Re: Rotor mast through the roof.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 08:22:04 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <0fcW8zCsU0pFFARm@ifwtech.co.uk>
Source record: 47009

Bob Miller wrote:
>>**Thanks for your feedback! One of the reasons I am thinking about
>>thru the roof is for a little stealth, I would only want to put the
>>antenna's, (2 meter and 6 meters beams) about 5 ft above the roof.
>>They would be mostly hidden when looking at the front of the house from
>>the street. They are fairly small antenna's, I have them mounted on a
>>small telescoping mast right now with no problems for the last two
>>years. Rafters and joists are 2x6 and 2x8's, so I'm sure those are
>>heavy enough. I would think that between a cone shaped metal flashing
>>on the mast with rubber or some sort of UV resistant tape to seal it,
>>and then a rubber vent pipe seal at the roof level and maybe even some
>>o-rings on the mast inside the roof, plus a pan underneath the rotor
>>should insure no moisture inside. Of course all this would be grounded
>>very well! But a roof mount tower would sure be alot easier!
>>Tim N7XAU
>
>I guess it depends on which one you buy, but are you sure you want a
>clanging rotator in the attic? Might be loud.
>

It's more of a rumbling... but it comes through the bedroom ceiling,
which is not good.

For VHF yagis like the ones Tim is proposing, I had very good results
with a fixed pole and the rotor on top. A non-rotating pole is much
easier to install and make waterproof, and you can buy a ready-made
flashing adapter to take the pipe through the roof. (Back in the 1970s
I had to buy an extra concrete roof tile and drill a hole through it,
and then solder up a little 'stovepipe' flashing adapter from sheet
lead, but even that wasn't so hard.)

Inside the roof, I screwed a triangle of heavy plywood onto the roof
timbers to spread the sideways load, and then drilled the ply for
U-bolts. The pole should be supported as high up as possible, but don't
drill through any structural timbers. At the bottom of the pole, the
weight and sideways load were similarly spread over 3-4 ceiling rafters.
Very little noise comes down through the ceiling when the rotor is
outside.

It worked so well that I became more ambitious and converted the pole
into a guyed tilt-over arrangement, taking the antennas up to 10-15ft
above the roof line, and also making them easier to work on when tilted
over.

When we moved house, the pole was pulled out, and the original roof tile
was put back leaving no evidence.

YRMV (your roof, that is) but this option is well worth considering for
VHF beams.

--
73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

296. Re: i punce in agin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 11:47:34 UTC
From: Guy <nospam@nospam.nospam>
Message-ID: <45a77560$0$5192$4c368faf@roadrunner.com>
Source record: 47010
Cross-posted to: alt.baldspot,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner,rec.radio.cb,alt.usenet.kooks,rec.arts.poems,rec.music.hip-hop

No results found for punce.

dictionary.com

"Text Medium No. 5" <mhm29x21@meow.flonk> wrote in message
news:pan.2007.01.11.05.19.09.745650@hail.eris.flonk.meow.all.hail.discordia.meow.flonk.mockery.demon.flonk.meow.i.am.not.really.leola...
> Hail Eris! On Wed, 10 Jan 2007 13:03:07 -0500, Mark@kb9rqz.aspr jabbered
> inanely:
>
>> ok I back four anoter tuff day on the news grupes it my job tast is waht
>> I
>> do so bringit on you loosers
>> show-na-to-va (that is the greeting for this time of year as JEW
>> rendered
>> phonicticaly)
>> happy new years it means and it can be better one if Wismen Robson and
>> SC
>> a
>> few just decided to not to be as hateful with the punce gotcha he wonders
>> why I simple don't bother to ty impoving my spelling do u hav anyting
>> cognet two say?
>> http://kb9rqz.blogspot.com/
>
> If there's anything more pathetic than a dyslexic in desperate need of a
> spell-check program but who refuses to use one, it's a really convincing
> frog of same. Wabbit, you've already won the Bartlo once. Are you trying
> for another?
>
> --
> Shon'ai COOSN-029-06-71069
> "I was told there would be cookies."
> Cross-Poasters For Goddess!
> Remember: Straight people can't help it!
> A petition to make the Five-Fingered Hand of Eris
> the official symbol for the planet Eris:
> http://www.petitiononline.com/ffhoeris/
>
> "If you don't have pedicures AT LEAST every two weeks, don't talk to me.
> If you don't floss every night and morning and brush at least twice a
> day, don't talk to me. If you don't spend money on you hair and get
> great cuts and color, don't talk to me. If you are heavy, don't talk to
> me. If you don't shower every morning and take a nice bubble bath every

> night, don't talk to me. If you don't have a loved one in your arms,
> don't talk to me. If you don't keep an immaculate house, don't talk to
> me. If you don't work, don't talk to me." -- Clearly, Martha Vandella
> never wants to talk to me, which is for the best, really.
> MID: <1161934857.062934.91900@i42g2000cwa.googlegroups.com>

297. Re: Better for DX: Vertical or dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 11:53:11 UTC
From: KC1DI <davekc1di@gmail.com>
Message-ID: <45a776a4$0$27054$4c368faf@roadrunner.com>
Source record: 47011

Rick wrote:
> I am interested in operation primarily on 160, 80, and 40.
>
> I have space for a full-size dipole for 160 but I cannot get it up
> very high, maybe 30 feet, higher than that only at great expense and
> with great difficulty.
>
> I will likely put up a 160-meter dipole at 30 feet and feed it with
> ladder line and a tuner, and use it for NVIS work on 160-40.
>
> For DX, though, I'm wondering if I will be happy with a vertical such
> as the Voyager DX from Gap Antennas, or if I should bite the bullet
> and go to the expense and difficulty of getting the dipole up 60-80
> feet (which still won't be very high, compared with a wavelength, at
> 160 or 80).
>
> What's your advice?
Hi Rick,

As someone has said get a copy of ON4UN's Low band dxing..
I would not particularly recommend the Gap Antenna for Low Bands.

Than being said if you and put out a decent radial system for dx
Transmitting anyway I'd say you want some sort of vertical.

Why not try a Inverted L. Try to get as much vertical as possible.
Base tune it with a matching network- The SGC line works well for that
application. you can read more about Inverted L's in Cebik's write up at:

http://www.cebik.com/wire/ltv.html

Good Luck
73, Dave Kc1di

298. Re: cloth?: dipole coiley?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 12:02:51 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12qeu7dilpqtve0@corp.supernews.com>
Source record: 47012

The short answer is that it would be very good at VHF and above, and poorer at lower frequencies. How it would compare with a metal mesh depends on the frequency, the nature of the mesh, and the application, so there's no simple answer to the comparison question.

To make it reasonably opaque to currents and fields, it needs to be at least several skin depths thick. As far as I've been able to tell, aluminum foil is roughly 0.02 mm thick. That would be 3 skin depths at about 150 MHz; below that frequency, it would be increasingly transparent. Above that frequency, it would have the same resistance as a group of separated wires having the same surface area. Because it has such a large surface area, I'd expect it to do as well as or better than most wire meshes down into the HF range. But as I said earlier, it depends.

Roy Lewallen, W7EL

David wrote:
> Is aluminium (baking) foil any good as a ground plane? How does it compare
> to metal mesh?
>
>

299. Re: Better for DX: Vertical or dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 13:57:24 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <8tMph.58327$qO4.3057@newssvr13.news.prodigy.net>
Source record: 47013

Rick wrote:
> What's your advice?

Check out the Inverted-L antenna. Also check the
vertical Vs horizontal noise level at your QTH.
My 40m vertical had 2 S-units higher noise than
my 80m dipole rendering it useless for weak
signal DX.
--
73, Cecil http://www.w5dxp.com

300. Re: FCC and the Federal register

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 15:00:18 UTC
From: "Carl R. Stevenson" <wk3cqth@wk3c.com>
Message-ID: <jp-dnXUmScEYPzrYUSdV9g@ptd.net>
Source record: 47014
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

<N2EY@AOL.COM> wrote in message
news:1168391108.974819.224940@77g2000hsv.googlegroups.com...
> The basic problem is that some folks either didn't read or didn't
> understand the test of the Report and Order.

I believe Jim meant "text" not "test" above - an easy typo to make.

>
> FCC 06-178
>
> can be downloaded from:
>
> http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-06-178A1.pdf
>
> in PDF
>
> On Sheet 17 (of 41) it says:
>
> "VI. ORDERING CLAUSES
>
> ....
>
> 40. IT IS FURTHER ORDERED that Part 97 of the Commission's Rules IS
> AMENDED as specified in Appendix A, effective [30 days after
> publication in the
> Federal Register]."
>
> There's no need of any external law tying FCC action to the Federal
> Register, because
> the FCC did that as part of the R&O itself, rather than specifying an
> effective date.

There is an "external law" which ties all federal agency rulemakings to the
Federal Register.

It's called the Administrative Procedures Act and it's Title 5 USC, Chapter
5, sections 511-599.

The Administrative Procedure Act (APA) is the law under which some 55 U.S.
government federal regulatory agencies like the FDA and EPA (and FCC)
create the rules and regulations necessary to implement and enforce major
legislative acts such as the Food Drug and Cosmetic Act, Clean Air Act or
Occupational Health and Safety Act (and the Communications Act, as
ammended).

>
> AFAIK, it's done this way to avoid conflicts. The R&O is effectively
> "out there" for anyone to
> look at, but if there were some sort of conflict with another govt.
> agency, etc., or a mistake in the R&O, FCC could take action before
> the effective date, and/or hold up implementation by not
> publishing. That's extremely doubtful in this case - the delay in
> getting the R&O published
> is almost certainly simple bureaucratic procedure.

I'm sure that the delay (not abnormal at all) in publishing in the FR is
just that - the bureaucracy.

> Not all FCC actions go through that procedure. Emergency declarations
> are one example - they're usually effective immediately.

True - but the APA requires that there be very good reasons for not giving
the citizenry due and reasonable notice before new regulations take effect.

> Sooner or later all the wheels will turn!

Agreed ...
73,
Carl - wk3c

301. Re: Better for DX: Vertical or dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 15:15:09 UTC
From: Rick <reply.in.newsgroup@spam.no>
Message-ID: <jm8fq216ea89l88f5ar14o29bim8vekovj@4ax.com>
Source record: 47015

On Thu, 11 Jan 2007 22:36:23 -0800, Richard Clark <kb7qhc@comcast.net>
wrote:

>A 30 foot high 160M dipole is a notable ground hugging air cooled
>resistor. A GAP is probably worse.

Good morning, Richard.

Actually, 30 feet is on the low side of "about right" on 160 and on
the high side of "about right" on 80, for NVIS work, of which I do a
lot. For DX, I agree that it's not of much use.

And yet...

My current antenna is an inverted V up about 35 feet in the center, 90
feet each leg, fed with ladder line. It started life as a
60-foot-high inverted V, full length for 160, in which configuration
it worked rather well. Then a storm came by and knocked a tree down
... well, I digress... :-(

I had earlier put up the inverted V via one of those "expensive and
difficult" mechanisms I mentioned earlier (hired a 60-foot cherry
picker and operator). I couldn't do that again, so I hoisted what was
left of the antenna up to the top of my 35-foot tower, and trimmed the
legs so that they would stay within the property line. Kept the
ladder line feeder, and I tune it with an LDG RT-11 autotuner with the
LDG balun.

I use that antenna on all bands including 160, with a Yaesu FT-817
running a cloud-burning 5 watts, and it works amazingly well for the
power level.

But, as usual, I want more. :-)

Thanks to you and others here for the feedback on the GAP. I REALLY
wasn't up for spending almost half a grand for a vertical.

302. Re: Better for DX: Vertical or dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 15:22:13 UTC
From: Rick <reply.in.newsgroup@spam.no>
Message-ID: <9h9fq2dgrs8rtgoq7b2ku1tg34nq3phrh0@4ax.com>
Source record: 47016

On Fri, 12 Jan 2007 13:57:24 GMT, Cecil Moore <mycall@hotmail.com>
wrote:

>Check out the Inverted-L antenna.

Doesn't the horizontal part of the inverted L need to be as high as possible for best results? I'd run into the same problems I'm running into in putting a dipole or inverted V up high enough.

>Also check the
>vertical Vs horizontal noise level at your QTH.
>My 40m vertical had 2 S-units higher noise than
>my 80m dipole rendering it useless for weak
>signal DX.

I have a fairly high noise level around here on any of the horizontal antennas I've tried.

But, I have an MFJ-1026 "Deluxe Noise Canceling Signal Enhancer" :-) that does an amazing job of cutting down the noise IF the noise is primarily from one general direction (which seems to be the case around here although I haven't been able to pinpoint it).

That's one of the reasons I wanted to try some kind of a vertical and see how that worked.

I read somewhere that ground mounted verticals with radials on or buried in the ground tend to be noisier. Is that true? That's one of the reasons I was considering the GAP Voyager DX... doesn't require an extensive radial system.

303. FA: Heathkit HD-1481 Remote Coax Switch

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 15:30:04 UTC
From: Norm VE3CZI <ve3czi@arrl.net>
Message-ID: <5QNph.7403$Ah.5580@read2.cgocable.net>
Source record: 47017
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.swap

Have for auction a Previously Owned Heathkit HD-1481 Remote Coax Antenna
Switch in Good working condx with Manual.
http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&ih=011&sspagename=STRK%3AMESE%3AIT&viewitem=
&item=320070483123&rd=1&rd=1

Tnx for looking....Norm VE3CZI

304. Re: i punce in agin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 16:01:14 UTC
From: "Dennis M. Hammes" <scrawlmark@arvig.net>
Message-ID: <7fKdnYoKP9AeLTrYnZ2dnUVZ_sWdnZ2d@onvoy.com>
Source record: 47018
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner,rec.radio.cb,alt.usenet.kooks,rec.arts.poems,rec.music.hip-hop

Kali wrote:

> In <45a51dad$0$4815$88260bb3@free.teranews.com>,
> Mark@kb9rqz.aspr Mark@kp9rqz.asr said:
> : ok I back four anoter tuff day on the news grupes it my job tast is waht I
> : do so bringit on you loosers
> : show-na-to-va (that is the greeting for this time of year as JEW rendered
> : phonicticaly)
> : happy new years it means and it can be better one if Wismen Robson and SC a
> : few just decided to not to be as hateful with the punce gotcha he wonders
> : why I simple don't bother to ty impoving my spelling do u hav anyting
> : cognet two say?
> : http://kb9rqz.blogspot.com/
>
> OK, I'll bite. WTF is a punce in your country?
>
> Kali

Well, Florida had Punce de Leon, and "show-na-to-va" is a tennis
player, but he's too stupid to put two together in his own hand, so
can you blame him for having to find friends on cognet?

Perhaps he'll find Tommy, who doesn't know what the Fountain of Youth
is, either.

There was an old Bishop whose clucking
Confessed he knew nothing of fucking;
Forget a good boff,
He can't even fuck off,
So he just has to settle for sucking.

--
-------(m+
~/:o)_|
I do not "negotiate" for half my baby back, Solomon.
http://scrawlmark.org

305. Re: i punce in agin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 16:13:42 UTC
From: Art Deco <erfc-1024@usa.net>
Message-ID: <120120070913428587%erfc-1024@usa.net>
Source record: 47019
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner,rec.radio.cb,alt.usenet.kooks,rec.arts.poems,rec.music.hip-hop

Cardinal Snarky of the Fannish Inquisition <inquisition@smof.org> wrote:

>On Thu, 11 Jan 2007 10:30:16 -0600, Kali sat in thee Comfee Chaire, and
>didst finally confess, after taking Muche Tea:
>> Mark@kp9rqz.asr said:
>> : ok I back four anoter tuff day on the news grupes it my job tast is
>> : waht I
>> : do so bringit on you loosers
>> : show-na-to-va (that is the greeting for this time of year as JEW
>> : rendered
>> : phonicticaly)
>> : happy new years it means and it can be better one if Wismen Robson and
>> : SC a
>> : few just decided to not to be as hateful with the punce gotcha he
>> : wonders
>> : why I simple don't bother to ty impoving my spelling do u hav anyting
>> : cognet two say?
>> : http://kb9rqz.blogspot.com/
>>
>> OK, I'll bite. WTF is a punce in your country?
>
>Oh, don't get trolled by Wabbit. Basically, he's calling Mark a cunt,
>and in the verb form, I think he's also calling him a cocksucker.

Gee, someone posting sex lames to usenet. How unusual.

306. Balanced line switcher?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 16:19:58 UTC
From: Bob Miller <NOSPAM@neosoft.com>
Message-ID: <76dfq2ta6e3qnqt5tbb8htuip9q3k0f914@4ax.com>
Source record: 47020

Someone over on the shortwave newsgroup asked about this device, and what it might be.

Any ideas?

http://cgi.ebay.com/_W0QQitemZ280068890746

Tnx,

bob
k5qwg

307. Re: FCC and the Federal register

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 16:22:54 UTC
From: an_old_friend <konstans@hotmail.com>
Message-ID: <1168618974.114123.85820@11g2000cwr.googlegroups.com>
Source record: 47021
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

Carl R. Stevenson wrote:
> <N2EY@AOL.COM> wrote in message
> news:1168391108.974819.224940@77g2000hsv.googlegroups.com...
> > The basic problem is that some folks either didn't read or didn't
> > understand the test of the Report and Order.

> > AFAIK, it's done this way to avoid conflicts. The R&O is effectively
> > "out there" for anyone to
> > look at, but if there were some sort of conflict with another govt.
> > agency, etc., or a mistake in the R&O, FCC could take action before
> > the effective date, and/or hold up implementation by not
> > publishing. That's extremely doubtful in this case - the delay in
> > getting the R&O published
> > is almost certainly simple bureaucratic procedure.
>
> I'm sure that the delay (not abnormal at all) in publishing in the FR is
> just that - the bureaucracy.

indeed it is normal I am just hoping that we will not soon start see
ProCode insisting well maybe trhey changed their mind
>
> > Not all FCC actions go through that procedure. Emergency declarations
> > are one example - they're usually effective immediately.
>
> True - but the APA requires that there be very good reasons for not giving
> the citizenry due and reasonable notice before new regulations take effect.
>
> > Sooner or later all the wheels will turn!
>
> Agreed ...

and they grind slowly and frankly they grind slower for me than you and
Jim , Carl I am one of the few people in point of fact diretly affected
by them
> 73,
> Carl - wk3c

308. woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 16:23:58 UTC
From: Mark@kb9rqz.org
Message-ID: <qfdfq2hv1l8sccc6n1qo0o6ti4o04t6kfg@4ax.com>
Source record: 47022
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner,rec.radio.cb

On Fri, 12 Jan 2007 09:13:42 -0700, Art Deco <erfc-1024@usa.net>
wrote:

>Cardinal Snarky of the Fannish Inquisition <inquisition@smof.org> wrote:
>
>>On Thu, 11 Jan 2007 10:30:16 -0600, Kali sat in thee Comfee Chaire, and
>>didst finally confess, after taking Muche Tea:
>>> Mark@kp9rqz.asr said:
>>> : ok I back four anoter tuff day on the news grupes it my job tast is
>>> : waht I
>>> : do so bringit on you loosers
>>> : show-na-to-va (that is the greeting for this time of year as JEW
>>> : rendered
>>> : phonicticaly)
>>> : happy new years it means and it can be better one if Wismen Robson and
>>> : SC a
>>> : few just decided to not to be as hateful with the punce gotcha he
>>> : wonders
>>> : why I simple don't bother to ty impoving my spelling do u hav anyting
>>> : cognet two say?
>>> : http://kb9rqz.blogspot.com/
>>>
>>> OK, I'll bite. WTF is a punce in your country?
>>
>>Oh, don't get trolled by Wabbit. Basically, he's calling Mark a cunt,
>>and in the verb form, I think he's also calling him a cocksucker.
>
>Gee, someone posting sex lames to usenet. How unusual.

yes odd esp in the targeted gruoo RRAP
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

309. Re: Better for DX: Vertical or dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 16:36:45 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <xOOph.19621$yC5.16438@newssvr27.news.prodigy.net>
Source record: 47023

Rick wrote:
> Doesn't the horizontal part of the inverted L need to be as high as
> possible for best results? I'd run into the same problems I'm running
> into in putting a dipole or inverted V up high enough.

Not exactly. Make the vertical section of the Inv-L
as long as feasible. The vertical section is the
highest current section and therefore has the greatest
effect. Or instead of an Inv-L, make it a T antenna
with a vertical section and a symmetrical top hat.
The symmetrical top hat doesn't do much radiating.

Here's what EZNEC says using VERT1.ez as the reference.
40m 33' Vert1 has -0.04 dBi gain omnidirectional.

16.5'-16.5'Inv-L has 1.04 dBi gain with some directivity.

16.5'-23.5' T antenna has 0.19 dBi gain omnidirectional.
Note: 16.5' = vertical, 23.5' = horizontal top hat.

Performance wise, I don't think you could tell the real
vertical from the T except for the T's lower feedpoint
impedance.
--
73, Cecil, http://www.qsl.net/w5dxp

310. Re: Better for DX: Vertical or dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 17:21:14 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1168622474.053393.65780@m58g2000cwm.googlegroups.com>
Source record: 47024

Rick ha escrito:

> I am interested in operation primarily on 160, 80, and 40.
>
> I have space for a full-size dipole for 160 but I cannot get it up
> very high, maybe 30 feet, higher than that only at great expense and
> with great difficulty.
>
> I will likely put up a 160-meter dipole at 30 feet and feed it with
> ladder line and a tuner, and use it for NVIS work on 160-40.
>
> For DX, though, I'm wondering if I will be happy with a vertical such
> as the Voyager DX from Gap Antennas, or if I should bite the bullet
> and go to the expense and difficulty of getting the dipole up 60-80
> feet (which still won't be very high, compared with a wavelength, at
> 160 or 80).
>
> What's your advice?

High Rick,

Easy question, difficult answer.

Basically, a vertical antenna has more low elevation radiation with respect to dipoles at h<0.25*lambda above ground. However, it is, in most cases, difficult to get a reasonable efficiency in the vertical case. In addition, the amount of low angle radiation depends on the type of soil. Many horizontal dipoles operate better than verticals (on DX).

My practical proof is: when I get more signal strength (not S/N ratio) out of an antenna when receiving a station, I will generate more signal strength at the station's receiver. When you are able to do a simulation, simulate your antenna (with perfect ground) and determine the BW. Build your antenna and measure the bandwidth. When your bandwidth has doubled (with respect to simulation), your efficiency is about 50%. Make sure that your wire thickness in the simulation is equal to the real antenna.

Regarding horizontal dipoles. Up to h= 0.2*lambda, the radiation pattern does virtually not change; however the efficiency does. A halve wave dipole at h=0.1*lambda will put more energy in the earth (and radiates less) with respect to the same dipole at 0.2*lambda. At low height, an efficiency of less then 15% is not uncommon. It is because of the low efficiency (power dissipation in the soil) that most HF dipoles has reasonable bandwidth....

Above h=0.25*lambda the vertical radiation will reduce gradually in favour of the radiation at lower elevation.

When you are above bad soil, I would recommend you to try to increase the height (especially for 160m) of your dipole. This is because of a vertical antenna in combination with poor soil will probably have a low efficiency and radiation under low elevation will be suppressed (because of the relative high pseudo Brewster Angle).

When you can make h=80ft (24.3m), your 160m dipole will still have an "NVIS" radiation pattern, but with higher efficiency, so finally more radiated power in any direction (therefore also at low elevation). Same is valid for 80m, radiaton pattern will flatten a little bit in favour of lower elevation. At 40m, radiation at high elevation will become less, enhancing radiation at lower elevation. At 20m your will get multiple lobes in the elevation radiation pattern.

When you go vertical, your height will be limited too. Probably the height will be far below a quarter wavelength (for 80 and 160, unless you use a kite or balloon....). This will result in a low radiation resistance in combination with a high feed current. This feed current must be drawn out of a ground network. Mostly, the ground network will dissipate lots of the RF power. Of course, the situation is better when you live in an area with heavy, wet, mineral rich ground (like me).

Maybe for 40m you can get a (top loaded) vertical into a halve wave resonance. The input impedance will be very high (in the kOhm range), resulting in low feed current. This will reduce ground losses significantly. Another option to force the antenna into halve wave resonance is to add inductance in the middle of the wire. The disadvantage of relative short forced halve wave radiators is the very high end-fed impedance (>10 kOhm). Mostly this requires a dedicated tuner.

Top-loading the antenna (L, T, square, or multi wire cap) will give more current in the top of the antenna. This increases the radiation resistance (maximum factor 4) and decreases the losses in the ground system (better overall efficiency). It also eases matching.

Regarding the ground system. Try to get as much as metal connected to ground from where you feed the (vertical) radiator. More smaller ground rods do better then one very long one. Ground your (asymmetrical) tuner to the ground system and add a common mode coax choke between the tuner and Transceiver. There can be RF voltage on the tuner with respect to the transceiver's ground. If the VSWR of the radiator itself is not that bad, you may put the choke between the tuner and the radiator.

Another option is a floating ground (I am planning to do this for the next JOTA for 40m with a halve wave radiator). Two or three ground wires of 0.25*lambda are completely above the ground (some 6 feet). Depending on your back yard, this may be a problem. For a multi-band antenna this will require multiple wires.

A complete other option is using a (side-fed) loop.

The Voyager DX antenna.
I do not have experience with that antenna, however it is also used with a counterpoise kit (I saw on several reviews). If this kit is really necessary to operate the antenna, then it is a more or less asymmetrical antenna that needs ground. The bandwidth of 90 kHz at 160m is rather high. It may be the result of poor efficiency.

In brief:
#If you have very good ground, you may try a vertical monopole antenna.
#In case of very bad ground and no opportunity to make a good ground system, use the horizontal dipoles (as high as possible) and or use a vertical polarized radiator that has high radiation resistance at the feed point (halve wave characteristic prefered).

Best Regards,

Wim
PA3DJS

311. Re: Better for DX: Vertical or dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 17:34:12 UTC
From: Caveat Lector <CL@nowhere.com>
Message-ID: <oEPph.7432$xj6.3608@newsfe13.phx>
Source record: 47025

"Rick" <reply.in.newsgroup@spam.no> wrote in message
news:nv6eq298f2f5kdnekbmir1170an90ubc0j@4ax.com...
>
> I am interested in operation primarily on 160, 80, and 40.
>

Your passport to the low bands

ON4UN's Low-Band DXing

http://www.arrl.org/catalog/7040/

Reviews at URL:
http://www.eham.net/reviews/detail/2802

CL

312. GPA vs Vert dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 18:00:46 UTC
From: Andr&#65533; <nospam@free.fr>
Message-ID: <45a7cccc$0$300$426a74cc@news.free.fr>
Source record: 46926

Hello,

(pse excuse my english)

I have some questions about GPA and vertical dipole
(vertical quarter wave with four horizontal radials and half wave center
feed vertical)

With a modelling software (MMANA) and antennas calculated in free space
conditions, at resonance,I get 72 Ohms for the dipole (correct), but only 22
Ohms for the GPA as I expected 36;

does anybody know the reason ?

Another question, The radiation patterns seem to be identical for both
antennas, so I expected the same gain with GPA or dipole, but the soft give
2.13 dBi for the dipole (correct) but only 1.57 dBi for the GPA.

Not due to the fact that the currents are greater in the GPA, as the soft
was working in 'no loss' conditions for the wires.

Tnx if you have solutions,

73

Andr&#65533;
F5AD
---
http://f5ad.free.fr/

313. Re: i punce in agin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 18:06:49 UTC
From: Yougurt Sugir <ajinn@here.nu>
Message-ID: <X5-dnTRPzICkUzrYnZ2dnUVZ_qarnZ2d@giganews.com>
Source record: 46927
Cross-posted to: alt.baldspot,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner,rec.radio.cb,alt.usenet.kooks,rec.arts.poems,rec.music.hip-hop

```
No results found for smilage.

...as in: "Smilage varies"(TM)

dictionary.com

--
----------------------------------------
AJ - http://ClitIns.Com e In.
(800 folders. -- kiddie-filtered -- FREE,
Usenet Porn.)

"Guy" <nospam@nospam.nospam> wrote in message
news:45a77560$0$5192$4c368faf@roadrunner.com...
> No results found for punce.
>
> dictionary.com
>
>
> "Text Medium No. 5" <mhm29x21@meow.flonk> wrote in message
> news:pan.2007.01.11.05.19.09.745650@hail.eris.flonk.meow.all.hail.discordia.meow.flonk.m
ockery.demon.flonk.meow.i.am.not.really.leola...
>> Hail Eris! On Wed, 10 Jan 2007 13:03:07 -0500, Mark@kb9rqz.aspr jabbered
>> inanely:
>>
>>> ok I back four anoter tuff day on the news grupes it my job tast is waht
>>> I
>>> do so bringit on you loosers
>>> show-na-to-va (that is the greeting for this time of year as JEW
>>> rendered
>>> phonicticaly)
>>> happy new years it means and it can be better one if Wismen Robson and SC
>>> a
>>> few just decided to not to be as hateful with the punce gotcha he wonders
>>> why I simple don't bother to ty impoving my spelling do u hav anyting
>>> cognet two say?
>>> http://kb9rqz.blogspot.com/
>>
>> If there's anything more pathetic than a dyslexic in desperate need of a
>> spell-check program but who refuses to use one, it's a really convincing
>> frog of same. Wabbit, you've already won the Bartlo once. Are you trying
>> for another?
>>
>> --
```

>> Shon'ai COOSN-029-06-71069
>> "I was told there would be cookies."
>> Cross-Poasters For Goddess!
>> Remember: Straight people can't help it!
>> A petition to make the Five-Fingered Hand of Eris
>> the official symbol for the planet Eris:
>> http://www.petitiononline.com/ffhoeris/
>>
>> "If you don't have pedicures AT LEAST every two weeks, don't talk to me.
>> If you don't floss every night and morning and brush at least twice a
>> day, don't talk to me. If you don't spend money on you hair and get
>> great cuts and color, don't talk to me. If you are heavy, don't talk to
>> me. If you don't shower every morning and take a nice bubble bath every
>> night, don't talk to me. If you don't have a loved one in your arms,
>> don't talk to me. If you don't keep an immaculate house, don't talk to
>> me. If you don't work, don't talk to me." -- Clearly, Martha Vandella
>> never wants to talk to me, which is for the best, really.
>> MID: <1161934857.062934.91900@i42g2000cwa.googlegroups.com>
>
>

314. Re: i punce in agin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 18:07:54 UTC
From: Yougurt Sugir <ajinn@here.nu>
Message-ID: <PZudnUEbYazmUzrYnZ2dnUVZ_t6qnZ2d@giganews.com>
Source record: 46928
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner,rec.radio.cb,alt.usenet.kooks,rec.arts.poems,rec.music.hip-hop

"Art Deco" <erfc-1024@usa.net> wrote in message
news:120120070913428587%erfc-1024@usa.net...

> Gee, someone posting sex lames to usenet. How unusual.

Gee... a moron laming someone on Usenet, blah...

--

AJ - http://ClitIns.Com e In.
(800 folders. -- kiddie-filtered -- FREE,
Usenet Porn.)

315. Re: i punce in agin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 18:12:29 UTC
From: Kali <kali@powder.keg>
Message-ID: <eo8j28ngf3@blackhelicopter.databasix.com>
Source record: 46929
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner,rec.radio.cb,alt.usenet.kooks,rec.arts.poems,rec.music.hip-hop

In <120120070913428587%erfc-1024@usa.net>, Art Deco erfc-1024
@usa.net said:
: Cardinal Snarky of the Fannish Inquisition <inquisition@smof.org> wrote:
:
: >On Thu, 11 Jan 2007 10:30:16 -0600, Kali sat in thee Comfee Chaire, and
: >didst finally confess, after taking Muche Tea:
: >> Mark@kp9rqz.asr said:
: >> : ok I back four anoter tuff day on the news grupes it my job tast is
: >> : waht I
: >> : do so bringit on you loosers
: >> : show-na-to-va (that is the greeting for this time of year as JEW
: >> : rendered
: >> : phonicticaly)
: >> : happy new years it means and it can be better one if Wismen Robson and
: >> : SC a
: >> : few just decided to not to be as hateful with the punce gotcha he
: >> : wonders
: >> : why I simple don't bother to ty impoving my spelling do u hav anyting
: >> : cognet two say?
: >> : http://kb9rqz.blogspot.com/
: >>
: >> OK, I'll bite. WTF is a punce in your country?
: >
: >Oh, don't get trolled by Wabbit. Basically, he's calling Mark a cunt,
: >and in the verb form, I think he's also calling him a cocksucker.

So as a verb, punce = to fellate. Thank you.

: Gee, someone posting sex lames to usenet. How unusual.
:
Seeing is believing.

Kali
--
"If we knew what it was we were doing, it would not be called
research, would it?"
- Albert Einstein

316. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 18:16:50 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <eo8jal$3es$1@aioe.org>
Source record: 46930

"Roy Lewallen"
> Elevated radials do radiate. However, assuming a symmetrical structure,
> the radiation is minimal (assuming there's another normally radiating
> conductor in the system) because the fields from the wires nearly cancel
> in all directions. At right angles to the plane of the radials and along
> the center line, the cancellation is complete and radiation zero --
> again assuming a perfectly symmetrical structure. In a typical ground
> plane vertical system, the contribution to the total field from the
> radials is minimal, in any direction.

Here is a link to a NEC-2 study I did about a month ago for a broadcast board, based on this configuration. Roy, I'd be grateful for your comments if you see anything you don't agree with there.

http://www.freefilehosting.org/public/28237/1560%20Plots.pdf

RF

317. Re: i punce in agin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 18:45:16 UTC
From: The Secretary of HomIntern <YkR4N53909@WòéM.6Ró>
Message-ID: <pan.2007.01.12.18.45.12.477425@bisexuals.for.lgbt.freedom>
Source record: 46931
Cross-posted to: alt.baldspot,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner,rec.radio.cb,alt.usenet.kooks,rec.arts.poems,rec.music.hip-hop

On Fri, 12 Jan 2007 06:47:34 -0500, Guy k'lamed:

> No results found for punce.
>
> dictionary.com

Yeah, it's strictly slang, and largely homo-/biphobic.

--

Hail Eris! "The personal _is_ political."
Bent Depraved N. Deviant Cock-Smoker, Esq., Superfaggot
COOSN-029-06-71069
"Stupidity excuses nothing. It's only a reason...." -- Phxbrd
Economic Left/Right: -7.63 Social Libertarian/Authoritarian: -7.38
"The whining has just begun." -- John Wentzky
Killfiled by: directory; Anim8rfsk
"It's not nice to misrepresent Mother Nature."
http://www.lowgenius.net/kookway.htm
TEH WAY OF THE K00K
Never learn from your mistakes.
Always practice your mistakes; you may get them right.
Always pick on those smarter and tougher than you.
Always believe that only you know the TRVTH.
Never allow logic or reason get in the way of a good k00k.
When being overwhelmed by logic and reason: k00ksuit!
If you are going to be wrong, do it at the top of your lungs.
When caught in a lie: LIE!
When in doubt: Order the Crab Won Ton
Plagiarism is your friend. Use it.
Whenever contradicted; morph, start calling people names, and make false
accusations. Include the children of your target in your allegations,
even if they don't have any.
(06-Jun-05) When nobody else will listen, post to your own fan group.
(06-Jun-05) Obviously, since you have your own fan group, this must mean
that you have fans. Post prolifically to your fan group - you wouldn't
want to disappoint them!
(10-May-2005)Everyone reads usenet. Approval here means approval
everywhere.
Post numerous blank posts, or posts containing only a message id.
Post numerous copy&paste web articles from crackerpot websites.
Never forget to call kookologists "k00ks."
If there are several, call them "sockpuppets" too

When all else fails, accuse various and sundry kookologists of e-mailing viruses to you. This is a sure-fire method of garnering sympathy and ensuring that the General Public will always see things your way. An especially effective sub-strategy here is to accuse them of infecting you with the 'Sasser' worm via e-mail.
Quote notorious scientists or writers - it makes it look as if they approve the drivel you are writing!
(9-Jul-05) Anytime your computer is infected with a virus, bogged down by spyware, attacked over your internet connection, or otherwise suffers from preventable problems, government agencies are responsible and are trying to silence you and are monitoring your computer files.
Ignore all traffic signs and feel free to trespass, you don't have to obey any rules.
Scare your enemies with lawsuits, police escorts and whines.
Always back up your empty (albeit noisy) threats with phony LARTs, false police reports, and harassing letters to the FBI and other gubbermint agencies.
Be vigilant in your redundancy. The more you repeat yourself, the more likely others will believe you!
If you can't find anyone as crazy as yourself to support you in the flamewars you start with the normal population, create sock puppets and use anonymous remailers that shamelessly hang on every word you write.
(17-Mar-05) When dealing with law enforcement, remember that it is they who have the problem, not you. Be sure to inform them of this at every available opportunity, as they will surely appreciate your constructive criticism. Be sure to make them aware that YOU KNOW YOUR RIGHTS! ("The cops like that, when people know their rights. That way they don't have to read them to you on the way to the station." - George Carlin)
The more your fake personalities adulate you, the more respect you'll get!
When confronted with a reality that you don't like: Announce loudly that you are departing, never to return as long as there's an Internet. Come back in three or four days and claim you were drunk, hacked, abducted by alience, or forged. Alternately you can just not even mention your prior departure, and if anyone asks you about it, either ignore them or respond with something along the lines of "YOUR NOT THE BOSS OF ME! *PLONK*!" People really know you mean business then.
Always remain clueproof.
(20-Mar-05) Anyone who does not believe that you are the reincarnation of [$DEITY_OR_PROPHET] is obviously an infidel lacking in faith whose soul in in peril of everlasting damnation.
When responding to one line challenges, post paragraphs of rants and screed in response.
Incoherency is not a roadblock to poasting.
Neither is illiteracy.
Delusions poasted often enough become fact.
Claim you will destroy <insert newsfroup> for attacking you.
When spnaked, send cmsg for Fanboi newsfroup(s).
Find your Lame, Use your Lame, Be your Lame!
Post Edit when the TRVTH hurts.

Always sneck the offending newsfroups.
Always poast pictures of yourself so you can be admired in all your k00ky glory.
Always accuse others of the very acts you are guilty of.
Post lots of boasts about your high IQ and incredible talents.
(20-Mar-05) If you repeat a lie often enough, it becomes the truth.
Anybody who fails to understand this is engaged in a deliberate campaign of misinformation and character assassination.
Always <plonk> somebody just before replying the plonkee!
The k00k considers itself the most intelligent person in any conversation, possibly on the planet. Other people are benighted and ignorant, and have been waiting their whole lives for the k00k to rescue them from intellectual darkness.
Write a self-published book and claim it a success. Bonus points for comparing it to "Mein Kampf" and/or the Bible.
Declare yourself equal to a deity of your choice.
Claim that you've come from other planets.
Claim thousands of past lives.
Frothing complaints carry far more weight when you send them from "legal@" some domain.
Nothing strikes terror into the hearts of your detractors more than telling them that you're archiving their messages for possible use in the future.
Never forget that everyone else posting to Usenet is a paid disinformation agent looking to discredit you.
Usenet is governed by US law. If a poster in Romania killfiles you, he's obviously violating your 1st Amendment rights and can be sued.
Every news admin in the world hangs out in NANAU, and they're just dying to nuke the account of that meanyhead who just called you "fucknozzle". Drop 'em a line - that's what they're there for, after all.
AUK will be closed down. Just you wait and see.
They've nuked hundreds of accounts in the name of free speech and *yours* will be next.
The k00k will, without any trace of irony, lie, manipulate, impersonate, censor, and declare themselves powerful in ways ranging from the ability to have an account shut down to being God Herself, in order to convince people that they are not liars, manipulators, censors, or insane.
Abuse women while telling how many hundreds you've loved. Nevermind that you're one ugly motherfucker and that there were 30,000 femininas that thought you were a scumbag with bad teeth.
Remember that your ko0ky klaims are 'facts', and that 'facts' do not require proof.
Do not neglect to poast your responses to forums that the originator doesn't read. This will make the people in that forum very impressed with how you tear him to shreds without him being able to respond. They like it even better if you are off-topic for that forum.
Keep in mind that lack of evidence supporting your konspiracy theory actually _is_ evidence, of how effective the konspiracy is in hiding.
(06-Oct-05) When spanked, always retreat to the safety of the Ad Hominem.

(04-Aug-2005) When spanked mercilessly for days on end, proving with each poast just what an illiterate and ignorant fool you are, ALWAYS claim ownership of [person(s),froup(s)]. This works on so many levels. It inspires dread in your opponents that they will no longer be able to poast in their home froup and that they will eventually have to pay rent, to name just two.
Any problems with your poasts are the fault of the konspirators, who are trying to stop you from preventing the extinction of humanity.
Konspiracies that are able to subvert whole governments are always unable to silence konspiracy ko0ks.
The entire United States government is willing to spend millions of dollars for the sole purpose of harassing you.
Hollywood is making movies based on your personal life.
Do not consult psychiatrists or other mental health professionals. They are part of the konspiracy, and will sedate you and lock you away and keep you drugged if you tell them the truth.
Numerology and Astrology are respectable sciences and are useful for proving your case.
Everyone is Tim Hill, or David Green, or...
There is a fine line between trolling and kookery. Find that line and cross it repeatedly. When you are killfiled and/or LARTed for net.abuse as a result, claim victory. If you lose multiple accounts, this merely proves that you are indeed a world-class troll, with a black-belt in manipulation.
If you respond to every post someone else makes, they're obsessed. If they respond to less than 1% of your posts, they're even more obsessed.
Publishing people's real names, addresses, and phone numbers when there's no other way for you to come out of a flamewar with any dignity is cool, and proves that you are a master of secret internet information stores, and absolutely not to be fucked with.
Everyone is out to get you. You can put a stop to this by telling everyone that they're out to get you at every available opportunity.
You are the only sane one.
Those that give you a hard time about morally bankrupt things you yourself admit to are just persecutioners of the new inquisition.
Yelling in all caps and cursing at your detractors is debate. Your detractors laughing at you with sarcastic remarks is obvious anger and jealousy.
If doing something results in the loss of your account, legal hassles, or blunt trauma injury, do it again. It always works better the second time.
Asterisks, lots and lots of Asterisks.
Poking holes in kookscreed is stalking, and is a felony.
K00ks LOVE to "connect the dots". They are, of course, dots that only the k00k can see.
"They laughed at Einstein, too!"

...with thanks to Aratzio, Dr. Flonkenstein, Dan Baldwin, Cujo, CJ Osterwald, Jade, Bookman, and John Henry, of AUK. Meow. Original thread at http://tinyurl.com/3fsho - some posts may not appear due to

x-no-archive headers. The spelling mistakes are intentional, dolt.

318. Re: Rotor mast through the roof.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 18:55:12 UTC
From: Tam/WB2TT <t-tammaru@c0mca$t.net>
Message-ID: <c7ednVj6O-UaRDrYnZ2dnUVZ_vipnZ2d@comcast.com>
Source record: 46932

"TimBob" <tmize57@juno.com> wrote in message
news:1168539057.469585.111650@i56g2000hsf.googlegroups.com...
>
> R. Scott wrote:
>> "TimBob" <tmize57@juno.com> wrote in message
>> news:1168446725.092991.193180@i39g2000hsf.googlegroups.com...
>> > Anybody ever mount a rotor in the attic and run the mast straight up
>> > thru the roof? Seems like I remember an article in 73 Amateur Radio or
>> > QST about this. I'm considering trying this, theirs a nice pop-out in
>> > my roof for a vent that would be perfect for this. Then the hole would
>> > not be in the main roof, just the small section of the pop-out. Seems
>> > like it would be fairly easy to seal, and could also put a large pan
>> > with a drain line under the rotor just in case any water did get thru.
>> > Any idea's, suggestions? Thanks
>> > Tim N7XAU
>>
>> I remember reading that article and it seems a ton of work/prevention
>> goes
>> into that method. I'm going the Roof Tower direction and Glen Martin
>> makes
>> some pretty nice ones, 4, 8 or 9 feet would seem to work better than
>> what
>> you need to put a mast through the roof.
>>
>> Just a 2nd idea
>>
>> I'm going 9ft myself. Its all built but setting in my garage waiting for
>> the
>> water we are getting in the Puget Sound to stop. Which at this rate
>> might
>> be spring :).
>>
>>
>> Scotty W7PSK.
>
> **Thanks for your feedback! One of the reasons I am thinking about
> thru the roof is for a little stealth, I would only want to put the
> antenna's, (2 meter and 6 meters beams) about 5 ft above the roof.
> They would be mostly hidden when looking at the front of the house from
> the street. They are fairly small antenna's, I have them mounted on a
> small telescoping mast right now with no problems for the last two
> years. Rafters and joists are 2x6 and 2x8's, so I'm sure those are
> heavy enough. I would think that between a cone shaped metal flashing
> on the mast with rubber or some sort of UV resistant tape to seal it,

> and then a rubber vent pipe seal at the roof level and maybe even some
> o-rings on the mast inside the roof, plus a pan underneath the rotor
> should insure no moisture inside. Of course all this would be grounded
> very well! But a roof mount tower would sure be alot easier!
> Tim N7XAU
>
I have a small rotator and a short mast fastened to a vent pipe in the back of the house for a UHF TV antenna. Something like that might work, if the antennas are not too big. I suspect the overall long term cost will be less.

Tam/WB2TT

319. Re: Rotor mast through the roof.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 20:27:07 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <eo8qurpji1@theodyn.ncf.ca>
Source record: 46933

"Tam/WB2TT" (t-tammaru@c0mca$t.net) writes:

> I have a small rotator and a short mast fastened to a vent pipe in the back
> of the house for a UHF TV antenna. Something like that might work, if the
> antennas are not too big. I suspect the overall long term cost will be less.
>
> Tam/WB2TT
>
>
Yes. I think the notion of putting the mast through a hole in the roof
dates to the time of "armstrong rotators" ie you'd rotate by hand, and
thus need the access to the mast.

You want some height above the roof so it doesn't affect the antenna, and
surely that amounts to enough for a small mast section and the rotor. Or
as you suggest, mount it on something outside that is below the roof, and
then have a mast to get it up high enough.

ONe winter, I had a two metre beam on a one section of mast, tied (I
can't remember with what) to the balcony (using the railing and a support
to the roof of the balcony) in the back. That was difficult to rotate by
hand, but it was doable.

When it went on the roof the next summer, again just enough mast was used
to raise it so the roof didn't interfere with the antenna's pattern, and
there was ample room to fit in a rotor.

Michael VE2BVW

320. Re: FCC and the Federal register

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 23:37:35 UTC
From: U-Know-Who <no-one@nowhere.com>
Message-ID: <1168645175_483@sp6iad.superfeed.net>
Source record: 46934
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

"an_old_friend" <konstans@hotmail.com> wrote in message
news:1168618974.114123.85820@11g2000cwr.googlegroups.com...
>
> Carl R. Stevenson wrote:
>> <N2EY@AOL.COM> wrote in message
>> news:1168391108.974819.224940@77g2000hsv.googlegroups.com...
>> > The basic problem is that some folks either didn't read or didn't
>> > understand the test of the Report and Order.
>
>> > AFAIK, it's done this way to avoid conflicts. The R&O is effectively
>> > "out there" for anyone to
>> > look at, but if there were some sort of conflict with another govt.
>> > agency, etc., or a mistake in the R&O, FCC could take action before
>> > the effective date, and/or hold up implementation by not
>> > publishing. That's extremely doubtful in this case - the delay in
>> > getting the R&O published
>> > is almost certainly simple bureaucratic procedure.
>>
>> I'm sure that the delay (not abnormal at all) in publishing in the FR is
>> just that - the bureaucracy.
>
> indeed it is normal I am just hoping that we will not soon start see
> ProCode insisting well maybe trhey changed their mind
>>
>> > Not all FCC actions go through that procedure. Emergency declarations
>> > are one example - they're usually effective immediately.
>>
>> True - but the APA requires that there be very good reasons for not
>> giving
>> the citizenry due and reasonable notice before new regulations take
>> effect.
>>
>> > Sooner or later all the wheels will turn!
>>
>> Agreed ...
>
> and they grind slowly and frankly they grind slower for me than you and
> Jim , Carl I am one of the few people in point of fact diretly affected
> by them

Mark, I think they just don't want you on HF. What do you think?

Posted Via Usenet.com Premium Usenet Newsgroup Services

** SPEED ** RETENTION ** COMPLETION ** ANONYMITY **
---
http://www.usenet.com

321. Re: FCC and the Federal register

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-12 23:49:30 UTC
From: N2EY@AOL.COM
Message-ID: <1168645770.421195.52040@38g2000cwa.googlegroups.com>
Source record: 46935
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

Carl R. Stevenson wrote:
> <N2EY@AOL.COM> wrote in message
> news:1168391108.974819.224940@77g2000hsv.googlegroups.com...
> > The basic problem is that some folks either didn't read or didn't
> > understand the test of the Report and Order.
>
> I believe Jim meant "text" not "test" above - an easy typo to make.
>
Yep!

> > FCC 06-178
> >
> > can be downloaded from:
> >
> > http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-06-178A1.pdf
> >
> > in PDF
> >
> > On Sheet 17 (of 41) it says:
> >
> > "VI. ORDERING CLAUSES
> >
> > ....
> >
> > 40. IT IS FURTHER ORDERED that Part 97 of the Commission's Rules IS
> > AMENDED as specified in Appendix A, effective [30 days after
> > publication in the
> > Federal Register]."
> >
> > There's no need of any external law tying FCC action to the Federal
> > Register, because
> > the FCC did that as part of the R&O itself, rather than specifying an
> > effective date.
>
> There is an "external law" which ties all federal agency rulemakings to the
> Federal Register.
>
> It's called the Administrative Procedures Act and it's Title 5 USC, Chapter
> 5, sections 511-599.
>
> The Administrative Procedure Act (APA) is the law under which some 55 U.S.
> government federal regulatory agencies like the FDA and EPA (and FCC)
> create the rules and regulations necessary to implement and enforce major

> legislative acts such as the Food Drug and Cosmetic Act, Clean Air Act or
> Occupational Health and Safety Act (and the Communications Act, as
> ammended).

I did not know that! Thanks Carl!

It makes perfect sense that there would be legislation requiring the
publication of routine new rules in the Federal Register before they
become effective.

> > AFAIK, it's done this way to avoid conflicts. The R&O is effectively
> > "out there" for anyone to
> > look at, but if there were some sort of conflict with another govt.
> > agency, etc., or a mistake in the R&O, FCC could take action before
> > the effective date, and/or hold up implementation by not
> > publishing. That's extremely doubtful in this case - the delay in
> > getting the R&O published
> > is almost certainly simple bureaucratic procedure.
>
> I'm sure that the delay (not abnormal at all) in publishing in the FR is
> just that - the bureaucracy.

Agreed.

Also, after having made a couple of obvious typos and contradictions in
the "omnibus" R&O, FCC might be taking extra measures to be sure that
sort of thing isn't in this one.

> > Not all FCC actions go through that procedure. Emergency declarations
> > are one example - they're usually effective immediately.
>
> True - but the APA requires that there be very good reasons for not giving
> the citizenry due and reasonable notice before new regulations take effect.

Those emergency declarations are the exceptions that prove the rule
IMHO.

> > Sooner or later all the wheels will turn!
>
> Agreed ...

Next Tuesday at the soonest.

73 de Jim, N2EY

322. Re: FCC and the Federal register

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-13 00:59:01 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <45a82ed5$0$18896$4c368faf@roadrunner.com>
Source record: 46936
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

"Carl R. Stevenson" <wk3cqth@wk3c.com> wrote in message
news:jp-dnXUmScEYPzrYUSdV9g@ptd.net...
>
> <N2EY@AOL.COM> wrote in message
> news:1168391108.974819.224940@77g2000hsv.googlegroups.com...
>> The basic problem is that some folks either didn't read or didn't
>> understand the test of the Report and Order.
>
> I believe Jim meant "text" not "test" above - an easy typo to make.

Resulting in an easy joke to make.

Couldn't resist.

323. Re: FCC and the Federal register

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-13 01:00:53 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <45a82f45$0$5786$4c368faf@roadrunner.com>
Source record: 46937
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

<N2EY@AOL.COM> wrote in message
news:1168645770.421195.52040@38g2000cwa.googlegroups.com...
> Carl R. Stevenson wrote:
>> <N2EY@AOL.COM> wrote in message
>> news:1168391108.974819.224940@77g2000hsv.googlegroups.com...
>> > The basic problem is that some folks either didn't read or didn't
>> > understand the test of the Report and Order.
>>
>> I believe Jim meant "text" not "test" above - an easy typo to make.
>>
> Yep!

I think you meant "Yes". Another typo?
(hah hah)

324. Re: Better for DX: Vertical or dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-13 05:52:20 UTC
From: nm5k@wt.net
Message-ID: <1168667540.632707.250810@q2g2000cwa.googlegroups.com>
Source record: 46938

Cecil Moore wrote:

>
> Performance wise, I don't think you could tell the real
> vertical from the T except for the T's lower feedpoint
> impedance.
> --
> 73, Cecil, http://www.qsl.net/w5dxp

The T is better if he wants it to act like a DX vertical.
The L is ok, but if the horizontal wire is fairly long,
there will be a good bit of horizontal radiation.
This can be good for a mix of NVIS and DX, but
for DX only, the T is usually better. The T will have
an overhead null the same as a normal monopole.
I'd say most peoples L's on 160 have more horizontal
wire than vertical... :/ I know mine did. I could only
get mine about 45 ft vertical . That left 80-90 ft running
across the backyard. I often feed my coax fed dipoles
as a top hat vertical on 160 by shorting the coax, and
feeding as a vertical. At the moment I have a turnstile on
80m, and a dipole on 40. "6 legs total"
The 4 60 ft wires make a good "X" top hat..
MK

325. Re: Better for DX: Vertical or dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-13 12:16:52 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12qhjdnhfn79j92@corp.supernews.com>
Source record: 46939

The T is simply a top loaded vertical. The top portion radiates an insignificantly small amount for the same reason ground plane radials don't radiate. (Hey, wonder if they act as an "image" mirror to reflect the signal into the ground?) (That was a joke.) The horizontal portion of an L antenna radiates like any end fed horizontal wire. If it's low, most of the radiation is at a high elevation angle.

Roy Lewallen, W7EL

nm5k@wt.net wrote:
> Cecil Moore wrote:
>
>> Performance wise, I don't think you could tell the real
>> vertical from the T except for the T's lower feedpoint
>> impedance.
>> --
>> 73, Cecil, http://www.qsl.net/w5dxp
>
> The T is better if he wants it to act like a DX vertical.
> The L is ok, but if the horizontal wire is fairly long,
> there will be a good bit of horizontal radiation.
> This can be good for a mix of NVIS and DX, but
> for DX only, the T is usually better. The T will have
> an overhead null the same as a normal monopole.
> I'd say most peoples L's on 160 have more horizontal
> wire than vertical... :/ I know mine did. I could only
> get mine about 45 ft vertical . That left 80-90 ft running
> across the backyard. I often feed my coax fed dipoles
> as a top hat vertical on 160 by shorting the coax, and
> feeding as a vertical. At the moment I have a turnstile on
> 80m, and a dipole on 40. "6 legs total"
> The 4 60 ft wires make a good "X" top hat..
> MK
>

326. Re: Better for DX: Vertical or dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-13 14:33:18 UTC
From: Harry7 <cpa599@gmail.com>
Message-ID: <1168698797.899671.71340@l53g2000cwa.googlegroups.com>
Source record: 46940

A few interesting designs at this web site
[http://members.tripod.com/~KE4UYP/index-22.html] may help you.

One is a a linear loaded 1/2 wave inverted L fed at the top of the L
rather than the base.

Another is a top & bottomed hatted, bottom fed L.

Neither design requires radials.

Author includes theoretical radiation patterns & SWR curves.

73

Terry
W9EJO

327. Re: Better for DX: Vertical or dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-13 14:34:59 UTC
From: Harry7 <cpa599@gmail.com>
Message-ID: <1168698898.750126.58780@11g2000cwr.googlegroups.com>
Source record: 46941

That's W8EJO, not 9.

Typo.

Harry7 wrote:
> A few interesting designs at this web site
> [http://members.tripod.com/~KE4UYP/index-22.html] may help you.
>
> One is a a linear loaded 1/2 wave inverted L fed at the top of the L
> rather than the base.
>
> Another is a top & bottomed hatted, bottom fed L.
>
> Neither design requires radials.
>
> Author includes theoretical radiation patterns & SWR curves.
>
> 73
>
> Terry
> W9EJO

328. Re: Better for DX: Vertical or dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-13 15:21:09 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <FN6qh.34053$Gr2.30961@newssvr21.news.prodigy.net>
Source record: 46942

nm5k@wt.net wrote:
> Cecil Moore wrote:
>> Performance wise, I don't think you could tell the real
>> vertical from the T except for the T's lower feedpoint
>> impedance.

> The T is better if he wants it to act like a DX vertical.
> The L is ok, but if the horizontal wire is fairly long,
> there will be a good bit of horizontal radiation.
> This can be good for a mix of NVIS and DX, but
> for DX only, the T is usually better. The T will have
> an overhead null the same as a normal monopole.

You're right but I wasn't talking about the Inv-L above.
When I said "real vertical", I was talking about a
normal 1/4WL monopole. The T and the 1/4WL vertical
have about the same performance if the T's vertical
section is not too short.
--
73, Cecil http://www.w5dxp.com

329. Re: Better for DX: Vertical or dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-13 15:24:00 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <kQ6qh.34054$Gr2.29461@newssvr21.news.prodigy.net>
Source record: 46943

Harry7 wrote:
> One is a a linear loaded 1/2 wave inverted L fed at the top of the L
> rather than the base.

We also haven't mentioned the half-square which
resembles the above.
--
73, Cecil http://www.w5dxp.com

330. Re: Better for DX: Vertical or dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-13 17:18:53 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <gb4iq2p966bqrnlkgjmfq4t0pbqljqqtn6@4ax.com>
Source record: 46944

On 11 Jan 2007 22:29:52 -0800, "n3ox.dan@gmail.com"
<n3ox.dan@gmail.com> wrote:

>> What's your advice?
>
>Get a copy of ON4UN's low band DXing.
>
>Search the Topband archives Re: antennas.
>
>Measure/estimate your ground conductivity and permittivity and get
>comfortable with a modeling program.
>
>And finally, experiment.
>
>I don't mean to be glib but there's really no quick answer to what
>antenna you'd be happy with for DX on 40,80 and 160. 30 feet for a
>horizontal antenna *is* too low, generally.
>
>Maybe someone can comment on the Voyager DX... I can't, specifically.
>Verticals are good, short verticals are compromises and must be treated
>with care.
>
>- - - - - - - - -
>
>This is what I use:
>
>http://www.n3ox.net/projects/sixtyvert
>
>I can certainly work more 40&80m DX on this than on the 30 foot high,
>100 foot long centerfed wire I used to use on those bands. As far as
>160m goes, this is the first time I can work 160 DX at all...
>
>73,
>Dan
Your sixtyvert antenna has me rethinking my vertical plans.

I have a forty foot utility pole laying on the ground while I plan the
details for a taller vertical.

In spite of my aversion to guys I think this pole is light enough to
be workable for me. My current vertical is a 45 foot wire off the
side of the tower tuned with an SGC-237. It seems to be working well
in spite of a minimal ground. It appears to me that the guy anchors
could be as simple as a few five gallon buckets of sand.

I sure hate to pay that much shipping though!

John Ferrell W8CCW

331. Re: Better for DX: Vertical or dipole? --- REVISED QUESTION IF TREES ARE ADDED

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-13 17:23:32 UTC
From: AC7PN <brunius@rockisland.com>
Message-ID: <1168709011.121285.24500@38g2000cwa.googlegroups.com>
Source record: 46945

What if you have a lot of 50 to 80ft tall pine trees on the acreage? I live on a 500ft hill that slopes down agressively from a 2 acre flatter spot at the top. The hill is covered in trees. I have a 70ft tower on the highest knobe that I can load up well with a gama match on 40m, 80M and 160m. The wire ground plane I has 45x 120ft wires which run down the hill through the woods.

The Top-Band seems OK. On 160M I worked all states in one weeked last winter (contest). But on 80m and 40m I have had very little luck working anything. I suspect the trees are grabbing all the RF energy.

Because the trees are virticle conductors I'm thinking that a horozontal dipole might work better. I'll only be able to get it as high as the tree tops. Maybe an average of 55ft high near the edge of an east facing clift. Since I live on the West Coast this might give me good coverage on the States on 40 and 80 meters for next falls Salmon Run? What do you think?

Bob
AC7PN

332. Re: Better for DX: Vertical or dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-13 17:27:33 UTC
From: mike luther <mike.luther@ziplog.com>
Message-ID: <12qi5jnpeop3d34@corp.supernews.com>
Source record: 46946

For what it may be worth ..

Roy Lewallen wrote:
> The T is simply a top loaded vertical. The top portion radiates an
> insignificantly small amount for the same reason ground plane radials
> don't radiate. (Hey, wonder if they act as an "image" mirror to reflect
> the signal into the ground?) (That was a joke.) The horizontal portion
> of an L antenna radiates like any end fed horizontal wire. If it's low,
> most of the radiation is at a high elevation angle.
>
> Roy Lewallen, W7EL
>
> nm5k@wt.net wrote:
>> Cecil Moore wrote:
>>
>>> Performance wise, I don't think you could tell the real
>>> vertical from the T except for the T's lower feedpoint
>>> impedance.
>>> --
>>> 73, Cecil, http://www.qsl.net/w5dxp
>>
>> The T is better if he wants it to act like a DX vertical.
>> The L is ok, but if the horizontal wire is fairly long,
>> there will be a good bit of horizontal radiation.
>> This can be good for a mix of NVIS and DX, but
>> for DX only, the T is usually better. The T will have
>> an overhead null the same as a normal monopole.
>> I'd say most peoples L's on 160 have more horizontal
>> wire than vertical... :/ I know mine did. I could only
>> get mine about 45 ft vertical . That left 80-90 ft running
>> across the backyard. I often feed my coax fed dipoles
>> as a top hat vertical on 160 by shorting the coax, and
>> feeding as a vertical. At the moment I have a turnstile on
>> 80m, and a dipole on 40. "6 legs total"
>> The 4 60 ft wires make a good "X" top hat..
>> MK
>>

For a long number of years I used a square loop antenna down low to the ground on HF. It was not fed in the 'usual' place, at the mid-point on the horizontal wire, either at the bottom of the square loop or on top. I chose to feed it half way up one of the vertical sides so as to obtain the best results I could from the vertical radiation for it. That so as to do the best job I could for 40 and 80 meter DX work without going after formal ground plane enhancement and working the feed point against that, as in ground plane verticals with radials.

In the 40 meter case the lowest horizontal wire was about ten feet or so above ground level. The actual loop was fed from a coax cable with the ground braid of the coax tied directly to the loop wire, and the feed match as a gamma match section using six inch open wire feed insulators for that, plus a series capacitor made from a cut off piece of coax cable the braid connected to the braid connect point end of the center wire of the feed coax and the inside coax wire connected to the gamma match line section. I had pair of three element quads made this way, with a pair of switched in or shorted wire stubs made from the same six inch open wire feed lines which if shorted, made that loop a director, and if opened, made it a reflector. They were supported at right angles to each other so I had four-way aiming capability here.

You can laugh all you want, but about 270 countries on 40CW confirmed from it wasn't too bad. And it placed way up there in the DX test single band entries for a long time from W5 land, which isn't really the easiest place from which to compete against the East and West coasts of the USA on low bands.

Yes, it was replaced by a four element phased vertical array, with elevated tuned radials. Which is definitely noisier on receive. But it has the advantage of being directionally switchable without going outside and getting on a step ladder four times just to change the fire direction in the middle of the night, or rain or .. even .. TRW's and twisters in this area of Texas. Of which there were only twenty tornadoes on the ground in a single day just a couple weeks ago right around here.

;)

For years now I've wanted to build a low three element rotary vertically fed 40 meter quad to test this against the four square switched phased vertical array I've used to romp the confirmed 40CW only card count to 321 now. That with about a level 5 or 6 ground level quality here in sandy pine tree country. But age, funds, want-to and other more important computer programming work in my preference list have gotten in the way.

If I ever can get this done I'd dearly love to post the comparative figures on a real-time real=workem romp! If it wouldn't be too much trouble for someone interested in this, making a 40 meter wire loop is pretty easy. You only need a pair of poles to support the top wire. I think you will be pleasantly surprised how quiet it is and how effective it is, if vertically fed, for working low band DX stations....

Mike - W5WQN

333. Re: Better for DX: Vertical or dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-13 17:49:59 UTC
From: nm5k@wt.net
Message-ID: <1168710598.239219.96770@51g2000cwl.googlegroups.com>
Source record: 46947

Cecil Moore wrote:
The T and the 1/4WL vertical
> have about the same performance if the T's vertical
> section is not too short.
> --
> 73, Cecil http://www.w5dxp.com

The closer to a 1/4 wave for the combined vertical
plus top hat wire , the better. You can even improve
farther as far as current distribution if you make it
longer. IE: 3/8 wave total length. That will raise the
max current point up into the vertical section more
towards the top, rather than the bottom. Course,
if you do this, you will need a cap to tune out the
reactance. Like Roy says, the hat radiates little.
Even just two wires is a pretty clean vertical pattern with
little radiation from the hat unless the total length
is so long as to place the current max at the apex
or into the horizontal wires . So I wouldn't get too
carried away with the total length past a 1/4 wave
if I wanted a strictly vertical pattern. When I ran both
an L and a T, the L would often do better at close to
medium distances in the early PM. But the T was
usually better once it stretched out a bit. So most
of the time, I preferred the T. At that time, I also had a
Z dipole, which was better for NVIS than the L.
Now all I have is the "coax dipole" T. I did away with the
others.. The Z dipole was generally the worse of the
three as far as DX. Course, I don't work too much DX
on 160m. I can't hear most of them with my micky
mouse receiving antennas... :/ I've heard W8JI working
stuff that didn't exist here on my radio.. I've pretty
much faced the fact I won't be having a killer 160 setup
until I can get out in the boondocks.
MK

334. Re: Better for DX: Vertical or dipole? --- REVISED QUESTION IF TREES ARE ADDED

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-13 20:22:15 UTC
From: Sum Ting Wong <sumtingwong@privacy.net>
Message-ID: <pofiq29g828bm86krs4i2e65aefoln7e9h@4ax.com>
Source record: 46948

On 13 Jan 2007 09:23:32 -0800, "AC7PN" <brunius@rockisland.com> wrote:

>Because the trees are virticle conductors I'm thinking that a
>horozontal dipole might work better. I'll only be able to get it as
>high as the tree tops. Maybe an average of 55ft high near the edge of
>an east facing clift. Since I live on the West Coast this might give me
>good coverage on the States on 40 and 80 meters for next falls Salmon
>Run? What do you think?

What do you think about a vee beam? Look over
http://www.cebik.com/gup/gup42.html to see if you think that might
work for you.

S.T.W.

335. Re: Balanced line switcher?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-13 20:59:59 UTC
From: Dave <W1MCE@comcast.net>
Message-ID: <v7ednbFAaPXQ1TTYnZ2dnUVZ_rXinZ2d@comcast.com>
Source record: 46949

An antenna switch for balanced lines.

Bob Miller wrote:
> Someone over on the shortwave newsgroup asked about this device, and
> what it might be.
>
> Any ideas?
>
> http://cgi.ebay.com/_W0QQitemZ280068890746
>
> Tnx,
>
> bob
> k5qwg

336. Toroidal 1:1 balun third 'magnetising' winding - trifilar or separate?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-13 22:03:04 UTC
From: ferrymanr <richardferryman@btinternet.com>
Message-ID: <Ft2dnS6Mk-OCyjTYRVnyuwA@bt.com>
Source record: 46950

I have dug out of my box an old 1:1 balun I wound several years ago, possibly to a design in to the ARRL Handbook or the Antenna Handbook neither of which I sill have. This was wound with the main winding bifilar on one half of the (BIG) core and the third 'magnetising' winding on the opposite side of the core.

I can find many balun designs using just the bifilar pair and some with a third winding trifilar with the first two but can't find reference to separating the third winding. Can anyone shed any light on why I might have done it this way. I'm sure it was recomended somewhere but my memory is fading.......

I'm just curious to know why it was done as on a quick test with antenna analyzer and 50 ohm carbon resistor as a load it seems to work well from below 3 to 30 MHz. An oscilloscope shows the output to be well balanced.

73 de Dick G4BBH

337. Re: Toroidal 1:1 balun third 'magnetising' winding - trifilar or separate?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-13 23:29:39 UTC
From: Danny Richardson <n_group@k6mhe.com>
Message-ID: <kmqiq2ljvmfe4tdv51hfe6tpdr5veduern@4ax.com>
Source record: 46951

On Sat, 13 Jan 2007 22:03:04 -0000, "ferrymanr"
<richardferryman@btinternet.com> wrote:
[snip]
>.......quick test with antenna
>analyzer and 50 ohm carbon resistor as a load it seems to work well from
>below 3 to 30 MHz. An oscilloscope shows the output to be well balanced.

I would be far more concerned as to what its common mode impedance is.
From what you describe it sounds like a voltage balun and those
generally have a poor common (blocking) mode impedance.

Danny, K6MHE

338. Re: Toroidal 1:1 balun third 'magnetising' winding - trifilar or separate?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-14 01:05:49 UTC
From: ferrymanr <richardferryman@btinternet.com>
Message-ID: <IMGdnbo0i9prHDTYRVnyggA@bt.com>
Source record: 46952

"Danny Richardson" <n_group@k6mhe.com> wrote in message
news:kmqiq2ljvmfe4tdv51hfe6tpdr5veduern@4ax.com...
>
> I would be far more concerned as to what its common mode impedance is.
> From what you describe it sounds like a voltage balun and those
> generally have a poor common (blocking) mode impedance.
>
> Danny, K6MHE
>

I would guess that you are right Danny and this is a voltage balun. I dug it out as I have recently moved to a flat in the centre of town 100 yards from a large telephone exchange and surrounded by noise sources. My old trusty vertical is giving me so much noise here that I want to put up a balanced antenna in the hope that this will reduce the interference. To minimise this noise I need a well balanced system. I already have coax up to the roof and balanced line would be difficult to route so am planning to fit a balun either at the dipole centre or a few feet below with a short balanced feed. I dug this balun out as it looked like it would give good balance. I have another (current) balun which has a simpler bifilar winding. I'm not sure which will be best for my application. Incidentally I only run QRP so efficiency is a major factor. I also considered a folded dipole using 600 ohm line as that would be less prone to static noise but would then have to look at a 4:1 design.

73 de Dick G4BBH

339. Re: Better for DX: Vertical or dipole? --- REVISED QUESTION IF TREES ARE ADDED

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-14 01:46:15 UTC
From: AC7PN <brunius@rockisland.com>
Message-ID: <1168739175.738335.262420@s34g2000cwa.googlegroups.com>
Source record: 46953

Sum Ting Wong wrote:
> What do you think about a vee beam? Look over
> http://www.cebik.com/gup/gup42.html to see if you think that might work for you.
>
> S.T.W.

I would have to run the wires down the face of the cliff to make one of
those. Using NEC I just don't know how to simulate the ground effects
when the land falls away at a 30->50 degree angle. At one place there
is a 60 ft shear verticle drop. My unterminated beverage off the cliff
headed East works well on receive but it is terrible on transmit.

340. Re: Better for DX: Vertical or dipole? --- REVISED QUESTION IF TREES ARE ADDED

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-14 02:11:40 UTC
From: Sum Ting Wong <sumtingwong@privacy.net>
Message-ID: <is3jq2tk8e2momscnq7efmdtecj13q4cia@4ax.com>
Source record: 46954

On 13 Jan 2007 17:46:15 -0800, "AC7PN" <brunius@rockisland.com> wrote:

>I would have to run the wires down the face of the cliff to make one of
>those. Using NEC I just don't know how to simulate the ground effects
>when the land falls away at a 30->50 degree angle. At one place there
>is a 60 ft shear verticle drop. My unterminated beverage off the cliff
>headed East works well on receive but it is terrible on transmit.

Beverages aren't supposed to work for transmitting so don't be
discouraged by that. I would think that the ground falling away would
be an advantage. Maybe Roy would care to comment on this, but I'd
just model it using the slope on those wires as if you have a really
high support point on the apex of the vee. Keep in mind that if you
don't terminate the legs of the vee then it will be bi-directional, so
if you're in the San Juans and point that sucker toward Florida you
should do equally well into Asia. Gee, I wish I had your problem! ;)

S.T.W.

341. Re: i punce in agin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-14 03:30:37 UTC
From: "Mike, who else?" <Mike@nowhere.net>
Message-ID: <xthqh.152091$hn.42399@edtnps82>
Source record: 46955
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy

X-Complaints-To: abuse@teranews.com

Anyone tried putting in a complaint, especially the REAL KB9RQZ? This guy is simply a troll.

Mike

342. Re: i punce in agin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-14 03:52:21 UTC
From: Not Lloyd <wascal@nospam>
Message-ID: <k8uuo.8uu.17.1@news.alt.net>
Source record: 46956
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy

"Mike, who else?" <Mike@nowhere.net> wrote in message
news:xthqh.152091$hn.42399@edtnps82...
> ***X-Complaints-To: abuse@teranews.com***
>
> Anyone tried putting in a complaint, especially the REAL KB9RQZ? This guy
> is simply a troll.
>
> Mike
>
A troll? Not according to him, he's not. The poor, deluded dyslexic is actually convinced that he is defending what he calls his "honor" against a plethora of unseen attackers. Mark is not unlike Roger Wiseman. Like Roger who sees Lloyd behind every tree and around each corner, Mark sees Steve Robesin in every shadow and behind every post. Mark is quite obviously obsessed with Mr. Robesin, just as Roger is with Lloyd Davies.
We've all watched when Robesin makes a handfull of posts every few weeks and Mark goes ballistic by replying to the posts hundreds of times and for weeks afterward.

Go ahead and complain, though it will do little good. In fact, this clown actually thinks that he is helping to clean up the newsgroups when quite the opposite is true.

343. Re: i punce in agin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-14 03:55:06 UTC
From: Not Lloyd <wascal@nospam>
Message-ID: <k8v3t.9f2.17.1@news.alt.net>
Source record: 46957
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy

"Mike, who else?" <Mike@nowhere.net> wrote in message
news:xthqh.152091$hn.42399@edtnps82...
> ***X-Complaints-To: abuse@teranews.com***
>
> Anyone tried putting in a complaint, especially the REAL KB9RQZ? This guy
> is simply a troll.
>
> Mike
>
>
www.ipunce.blogspot.com

344. Re: Toroidal 1:1 balun third 'magnetising' winding - trifilar or separate?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-14 04:32:50 UTC
From: Bryan <bryan.swadenerNOSPAM@comcast.net>
Message-ID: <NKadnVbPpImpLzTYnZ2dnUVZ_umlnZ2d@giganews.com>
Source record: 46958

Dick wrote:
> Danny Richardson wrote:
> >
> > I would be far more concerned as to what its common mode impedance is.
> > From what you describe it sounds like a voltage balun and those
> > generally have a poor common (blocking) mode impedance.
> >
> > Danny, K6MHE
> >
>
> I would guess that you are right Danny and this is a voltage balun. I dug
> it out as I have recently moved to a flat in the centre of town 100 yards
> from a large telephone exchange and surrounded by noise sources. My old
> trusty vertical is giving me so much noise here that I want to put up a
> balanced antenna in the hope that this will reduce the interference. To
> minimise this noise I need a well balanced system. I already have coax up
> to the roof and balanced line would be difficult to route so am planning
to
> fit a balun either at the dipole centre or a few feet below with a short
> balanced feed. I dug this balun out as it looked like it would give good
> balance. I have another (current) balun which has a simpler bifilar
> winding. I'm not sure which will be best for my application.
Incidentally
> I only run QRP so efficiency is a major factor. I also considered a
folded
> dipole using 600 ohm line as that would be less prone to static noise but
> would then have to look at a 4:1 design.
>
> 73 de Dick G4BBH
>

Hi Dick,

Have you considered a simple "Ugly Balun" (http://tinyurl.com/uvnt3)? It is nothing more than the end of your feedline coiled up, at the antenna feedpoint. Another better approach is a stack of ferrite cores at the feedpoint. These are commecially available, though you can easily make your own. I found some good reading here: http://tinyurl.com/uzvkh.

A folded dipole will look like 300 ohms. A 4:1 balun will present 75 ohms to the feedline; you'd need a 6:1 ratio in order to see 50 ohms.
That aside, a multiwire dipole (such as a folded dipole) will exhibit greater bandwidth than a single-wire dipole. My experience says that (at 80m) you'll see ~ 100 KHz for each set of wires, whether they're in the form of fan dipole, cage dipole, or folded dipole. I prefer a cage dipole over

the other two:
1 - same number of supports as with a single-wire dipole or folded-dipole
2 - matches directly into low-Z coaxial cable
I use one (in inverted-vee form during Field Day
(http://tinyurl.com/ybbsba)... approximately 400 KHz bandwidth, and uses
easy-to-make spreaders.

Vy 73 ob,
Bryan WA7PRC

345. Re: i punce

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-14 06:45:14 UTC
From: kb9rqz.homo@yahoo.com
Message-ID: <1168757113.893506.212630@38g2000cwa.googlegroups.com>
Source record: 46959
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.cb,alt.usenet.kooks,rec.radio.amateur.antenna

Cecil Moore wrote:
> I Punce wrote:
> > One why are all modorator proposed from the Extra class the smallest
> > clas of license?
>
> Because that set of moderators is not satisfied with
> anything except the highest standards?
> --
> 73, Cecil http://www.w5dxp.com

that you are a flaming harrasing annymouse I got it

it is YOUR kind that lose out completely under moderation I simple
wonder if the price of getting rid of you is worth the ocsts of
moderation

http://kb9rqz.blogspot.com/

346. Re: Toroidal 1:1 balun third 'magnetising' winding - trifilar or separate?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-14 07:20:13 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12qjmdg3ka4o765@corp.supernews.com>
Source record: 46960

The third winding converts a current balun into a voltage balun. If the antenna is completely symmetrical with respect to ground, the third winding carries no current and does nothing. If the antenna isn't symmetrical, the third winding forces an imbalance in current between the antenna halves. The difference current flows on the transmission line as a common mode current. So at best it does nothing, at worst it causes the very problem a balun is intended to prevent.

There's more about this at http://eznec.com/Amateur/Articles/Baluns.pdf.

Roy Lewallen, W7EL

347. Re: Better for DX: Vertical or dipole? --- REVISED QUESTION IF TREES ARE ADDED

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-14 07:36:00 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12qjnb3e7sq2tbe@corp.supernews.com>
Source record: 46961

Sum Ting Wong wrote:
> On 13 Jan 2007 17:46:15 -0800, "AC7PN" <brunius@rockisland.com> wrote:
>
>> I would have to run the wires down the face of the cliff to make one of
>> those. Using NEC I just don't know how to simulate the ground effects
>> when the land falls away at a 30->50 degree angle. At one place there
>> is a 60 ft shear verticle drop. My unterminated beverage off the cliff
>> headed East works well on receive but it is terrible on transmit.
>
> Beverages aren't supposed to work for transmitting so don't be
> discouraged by that. I would think that the ground falling away would
> be an advantage. Maybe Roy would care to comment on this, but I'd
> just model it using the slope on those wires as if you have a really
> high support point on the apex of the vee. Keep in mind that if you
> don't terminate the legs of the vee then it will be bi-directional, so
> if you're in the San Juans and point that sucker toward Florida you
> should do equally well into Asia. Gee, I wish I had your problem! ;)
>
> S.T.W.

NEC is of course limited to perfectly flat ground of infinite extent. If the ground slope is constant for a great distance, you can simulate it by tilting the antenna model the opposite direction then tilting the resulting pattern. But that's about all you can do. I still use Brian Beezley's TA program for analyzing the effects of non-flat ground, but it's long been unavailable and I don't know of any program since which does the same thing.

Roy Lewallen, W7EL

348. Re: Better for DX: Vertical or dipole? --- REVISED QUESTION IF TREES ARE ADDED

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-14 08:29:45 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <5734SuC5neqFFALk@ifwtech.co.uk>
Source record: 46962

Roy Lewallen wrote:
>NEC is of course limited to perfectly flat ground of infinite extent.
>If the ground slope is constant for a great distance, you can simulate
>it by tilting the antenna model the opposite direction then tilting the
>resulting pattern. But that's about all you can do. I still use Brian
>Beezley's TA program for analyzing the effects of non-flat ground, but
>it's long been unavailable and I don't know of any program since which
>does the same thing.

N6BV's HFTA program is supplied with all recent ARRL Antenna Books, and is updated and improved in each edition. For anyone who doesn't live on perfectly flat ground of infinite extent, HFTA can provide a lot of answers to the old question: "How good is my QTH?"

However, HTFA is limited to horizontal antennas, and I don't know of any program that does the same for verticals (it's a much more difficult problem).

--
73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

349. Re: Toroidal 1:1 balun third 'magnetising' winding - trifilar or separate?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-14 09:54:13 UTC
From: ferrymanr <richardferryman@btinternet.com>
Message-ID: <XYWdnUZcS8ZPYDTYnZ2dnUVZ8qWhnZ2d@bt.com>
Source record: 46963

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:12qjmdg3ka4o765@corp.supernews.com...
>>
> There's more about this at http://eznec.com/Amateur/Articles/Baluns.pdf.
>
> Roy Lewallen, W7EL

Thanks for the link Roy. A very useful document. Have also printed a copy
to place in the local club archives.

73 de Dick G4BBH

350. Re: Toroidal 1:1 balun third 'magnetising' winding - trifilar or separate?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-14 10:16:29 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12qk0o094m3te5c@corp.supernews.com>
Source record: 46964

ferrymanr wrote:
> "Roy Lewallen" <w7el@eznec.com> wrote in message
> news:12qjmdg3ka4o765@corp.supernews.com...
>> There's more about this at http://eznec.com/Amateur/Articles/Baluns.pdf.
>>
>> Roy Lewallen, W7EL
>
> Thanks for the link Roy. A very useful document. Have also printed a copy
> to place in the local club archives.
>
> 73 de Dick G4BBH

Please respect the copyright.

Roy Lewallen, W7EL

351. GR-1606A Mantenance Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-14 16:40:25 UTC
From: William Becks <wbecks@centurytel.net>
Message-ID: <NNudnZBltbk3wDfYnZ2dnUVZ_h-vnZ2d@centurytel.net>
Source record: 46965

Has anyone on this group had any experience in performing maintenance on a General Radio Type 1606A RF Bridge? The "Reactance" capacitor on my 1606A is a bit intermittent (noisy) when tuning the bridge after initial balance in order to make a measurement. The bridge is in nearly mint condition and probably suffers from lack of regular use more than anything. I am hesitant to jump in and apply standard electrical cleaning chemicals without obtaining some advice from those of you that have experience with this bridge and that may have had to clean a noisy variable cap in one of these units.

Any recommendations would be appreciated including any suggestions on where to send such an instrument repair and calibration service. Sorry for asking these questions here, but I know that more than a few of you either have a 1606A/B or may have had one at one time or another.

Thank you,

Bill

William G. Becks, WA8WG

352. Re: GR-1606A Mantenance Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-14 17:30:24 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <8rpkq2dg5s73nno893kumchnprkfufqf27@4ax.com>
Source record: 46966

On Sun, 14 Jan 2007 10:40:25 -0600, "William Becks"
<wbecks@centurytel.net> wrote:

>Any recommendations would be appreciated including any suggestions on where
>to send such an instrument repair and calibration service.

Hi William,

You already defined the cure: Use it more.

For calibration, there is not much that can be done except to compare
to standards (you won't have them). This would have to be done at a
primary or secondary Metrology lab, an instrument repair shop might
claim the capability, but without certificates of traceability you
would be paying for a job they didn't do.

73's
Richard Clark, KB7QHC

353. Re: GR-1606A Mantenance Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-14 21:05:35 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <mYwqh.3222$Oe2.3107@bignews7.bellsouth.net>
Source record: 46967

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:8rpkq2dg5s73nno893kumchnprkfufqf27@4ax.com...
> On Sun, 14 Jan 2007 10:40:25 -0600, "William Becks"
> <wbecks@centurytel.net> wrote:
>
>>Any recommendations would be appreciated including any suggestions on
>>where
>>to send such an instrument repair and calibration service.
>
> Hi William,
>
> You already defined the cure: Use it more.
>
> For calibration, there is not much that can be done except to compare
> to standards (you won't have them). This would have to be done at a
> primary or secondary Metrology lab, an instrument repair shop might
> claim the capability, but without certificates of traceability you
> would be paying for a job they didn't do.
>
> 73's
> Richard Clark, KB7QHC

Ive found that a tiny drop of DeOxit at the spring where the shaft contacts
the frame on most capacitors does wonders. Dont get carried away with it all
you need is just a little bit and dont get it on the plates.

354. Re: FCC and the Federal register

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-14 22:08:34 UTC
From: Mark@kb9rqz.org
Message-ID: <9dalq2tl97grhsu4t2otb3mopfratht01l@4ax.com>
Source record: 46968
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

On Fri, 12 Jan 2007 17:37:35 -0600, "U-Know-Who" <no-one@nowhere.com>
wrote:

>
>"an_old_friend" <konstans@hotmail.com> wrote in message
>news:1168618974.114123.85820@11g2000cwr.googlegroups.com...
>>
>> Carl R. Stevenson wrote:

>> and they grind slowly and frankly they grind slower for me than you and
>> Jim , Carl I am one of the few people in point of fact diretly affected
>> by them
>
>Mark, I think they just don't want you on HF. What do you think?

Tom you may indeed be dumb enough to think that.

But I am sure the FCC does not know me from Adam as they say
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

355. woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-14 22:09:12 UTC
From: Mark@kb9rqz.org
Message-ID: <efalq2lrbmb10aiohanrh448a0klicf2hf@4ax.com>
Source record: 46969
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner,rec.radio.cb,rec.arts.poems,rec.music.hip-hop

On Sat, 13 Jan 2007 12:17:14 -0500, "Mark@kb9rqz.aspr"
<Mark@kp9rqz.asr> wrote:

>
stil aint me
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

356. wogger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-14 22:10:39 UTC
From: Mark@kb9rqz.org
Message-ID: <dgalq2lnb0ll783hne89vjkbuli2q7pe49@4ax.com>
Source record: 46970
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy

On Sun, 14 Jan 2007 03:30:37 GMT, "Mike, who else?" <Mike@nowhere.net>
wrote:

>***X-Complaints-To: abuse@teranews.com***
>
>Anyone tried putting in a complaint, especially the REAL KB9RQZ? This guy
>is simply a troll.

yes I have

with teranews this has resulted in the server 20 or so accounts at 5
bucks each

Mark Morgan the REAL Kb9RQZ
>
>Mike
>
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

357. Re: Sensation: reduplication sexual penises. At present famous about 100 described at medical literature events.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-15 00:08:21 UTC
From: horace.morganstern@yahoo.com
Message-ID: <1168819701.304969.270500@51g2000cwl.googlegroups.com>
Source record: 46971
Cross-posted to: alt.fan.cock-sucking,rec.radio.amateur.antenna,alt.franco.sexe.rencontre,alt.news.boys,rec.radio.amateur.policy

telmyt wrote:
> 24-year man of the Indian, suffers extremely rare innate defect of the
> development: reduplication sexual penis.
> http://e-komisionka.narod.ru/2penis.html Extraordinary case in point
> is concluded in that both penises at patient function absolutely
> orderly though at all described in medical literature example second
> sexual organ always stayed the rudimentary.
> http://e-komisionka.narod.ru/2penis.html At present famous about 100
> described at medical literature events.
> http://e-komisionka.narod.ru/2penis.html

marqueer! is that you?

358. Re: mork on gay RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-15 00:12:29 UTC
From: horace.morganstern@yahoo.com
Message-ID: <1168819949.003485.102120@a75g2000cwd.googlegroups.com>
Source record: 46972
Cross-posted to: rec.radio.amateur.policy,alt.news.boys,alt.usenet.kooks,rec.radio.amateur.antenna,alt.autos.mini

Mark@kb9rqz.org wrote:
> On 14 Jan 2007 14:48:22 -0800, mork_markins@yahoo.com wrote:
>
> >t
> >stay far away from marqueer.....very,very far!
> stop you forgeyr
> http://kb9rqz.blogspot.com/
>
> --
> Posted via a free Usenet account from http://www.teranews.com

stop you forgeyr
http://kb9rqz.blogspot.com

359. Re: i punce in agin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-15 00:34:30 UTC
From: Andy the Perv Timberlake <andy_theperv_timberlake@yahoo.com>
Message-ID: <1168821270.522824.78480@l53g2000cwa.googlegroups.com>
Source record: 46973
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy

Not Lloyd wrote:
> "Mike, who else?" <Mike@nowhere.net> wrote in message
> news:xthqh.152091$hn.42399@edtnps82...
> > ***X-Complaints-To: abuse@teranews.com***
> >
> > Anyone tried putting in a complaint, especially the REAL KB9RQZ? This guy
> > is simply a troll.
> >
> > Mike
> >
> A troll? Not according to him, he's not. The poor, deluded dyslexic is
> actually convinced that he is defending what he calls his "honor" against a
> plethora of unseen attackers. Mark is not unlike Roger Wiseman. Like Roger
> who sees Lloyd behind every tree and around each corner, Mark sees Steve
> Robesin in every shadow and behind every post. Mark is quite obviously
> obsessed with Mr. Robesin, just as Roger is with Lloyd Davies.
> We've all watched when Robesin makes a handfull of posts every few weeks and
> Mark goes ballistic by replying to the posts hundreds of times and for weeks
> afterward.

Or you seeing Roger behind every tree and around every corner, Asshole,
er Ass_heil

360. woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-15 01:02:46 UTC
From: Mark@kb9rqz.org
Message-ID: <ckklq25skan1s86jc31b0sh1r4fg37ol64@4ax.com>
Source record: 46974
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy

On 14 Jan 2007 16:34:30 -0800, "Andy the Perv Timberlake"
<andy_theperv_timberlake@yahoo.com> wrote:

>
>Not Lloyd wrote:
>> "Mike, who else?" <Mike@nowhere.net> wrote in message
>> news:xthqh.152091$hn.42399@edtnps82...
>> > ***X-Complaints-To: abuse@teranews.com***
>> >
>> > Anyone tried putting in a complaint, especially the REAL KB9RQZ? This guy
>> > is simply a troll.
>> >
>> > Mike
>> >
>> A troll? Not according to him, he's not. The poor, deluded dyslexic is
>> actually convinced that he is defending what he calls his "honor" against a
>> plethora of unseen attackers. Mark is not unlike Roger Wiseman. Like Roger
>> who sees Lloyd behind every tree and around each corner, Mark sees Steve
>> Robesin in every shadow and behind every post. Mark is quite obviously
>> obsessed with Mr. Robesin, just as Roger is with Lloyd Davies.
>> We've all watched when Robesin makes a handfull of posts every few weeks and
>> Mark goes ballistic by replying to the posts hundreds of times and for weeks
>> afterward.
>
>Or you seeing Roger behind every tree and around every corner, Asshole,
>er Ass_heil

no he just knows you are woger wisemen

if nothing else you protest too badly and to much
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

361. woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-15 01:06:57 UTC
From: Mark@kb9rqz.org
Message-ID: <3sklq2tcvh1o3q77nquvod6en2i31lb6gb@4ax.com>
Source record: 46975
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.policy

```
On 14 Jan 2007 16:08:21 -0800, horace.morganstern@yahoo.com wrote:

>
>telmyt wrote:
>> 24-year man of the Indian, suffers extremely rare innate defect of the
>> development: reduplication sexual penis.
>> http://e-komisionka.narod.ru/2penis.html Extraordinary case in point
>> is concluded in that both penises at patient function absolutely
>> orderly though at all described in medical literature example second
>> sexual organ always stayed the rudimentary.
>> http://e-komisionka.narod.ru/2penis.html At present famous about 100
>> described at medical literature events.
>> http://e-komisionka.narod.ru/2penis.html
>
>marqueer! is that you?
no woger but you so your sexaul obession of course
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com
```

362. woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-15 01:07:35 UTC
From: Mark@kb9rqz.org
Message-ID: <ltklq29rb04hn0nlen4lbhgl6tt89emvuj@4ax.com>
Source record: 46876
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna

```
On 14 Jan 2007 16:12:29 -0800, horace.morganstern@yahoo.com wrote:

>
>Mark@kb9rqz.org wrote:
>> On 14 Jan 2007 14:48:22 -0800, mork_markins@yahoo.com wrote:
>>
>> >t
>> >stay far away from marqueer.........very,very far!
>> stop you forgeyr
>> http://kb9rqz.blogspot.com/
>>
>> --
>> Posted via a free Usenet account from http://www.teranews.com
>
>stop you forgeyr

you are just woger
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com
```

363. do I have my antenna fundamentals right?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-15 02:37:35 UTC
From: Nelson Blaha <nelson.blaha@gmail.com>
Message-ID: <1168828655.591173.73110@51g2000cwl.googlegroups.com>
Source record: 46877

Having gotten some help around here on how to power my 2m mobile
indoors cheaply, I need to figure out a way to get an antenna. There
are probably a million holes in this plan, please point them
all out to me!

I intend to get a piece of square sheet metal (ground plane?) about
half a meter each way, and build a bracket to hold it outside my window
horizontally. In the center of the sheet metal I'll install an NMO
mount for my mobile antenna. I'm actually planning to ground the sheet
metal using the electrical ground in the wall socket (surely
something's wrong with THAT!) I look forward to better alternatives!

364. Re: do I have my antenna fundamentals right?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-15 03:35:30 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <56tlq2hpn4ka8pru9q2vc4d70go88n66si@4ax.com>
Source record: 46878

On 14 Jan 2007 18:37:35 -0800, "Nelson Blaha" <nelson.blaha@gmail.com>
wrote:

>I intend to get a piece of square sheet metal (ground plane?) about
>half a meter each way, and build a bracket to hold it outside my window
>horizontally. In the center of the sheet metal I'll install an NMO
>mount for my mobile antenna.

Hi Nelson,

Sounds like a lot of work when two, three, or four radials would do
just as well. The sheet metal plan is usually reserved for folks who
believe in the magic of magnetic mounts.

>I'm actually planning to ground the sheet
>metal using the electrical ground in the wall socket (surely
>something's wrong with THAT!)

Why bother? Electrical ground, and RF ground, and a Ground plane each
have different requirments. An electrical ground is not always a
suitable RF ground (and much could be said with all the combinations
and permutations of these three terms).

>I look forward to better alternatives!

Do less, enjoy more.

73's
Richard Clark, KB7QHC

365. Re: GPA vs Vert dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-15 11:52:54 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12qmqoq8i7o2553@corp.supernews.com>
Source record: 46879

I believe that MMANA is a MININEC-based program. If that's correct, then there will be an error wherever wires connect at an angle, as they do in the ground plane antenna. The error can be minimized by making the segments of both wires very short near the connection point, either by greatly increasing the number of segments or by "tapering" the segment length. A capability to do the "tapering" automatically might be built into MMANA -- it was a feature of MININEC-based ELNEC 15 years ago. I don't know if that's the reason for your results, but that's where I'd start looking.

Roy Lewallen, W7EL

André wrote:
> Hello,
>
> (pse excuse my english)
>
> I have some questions about GPA and vertical dipole
> (vertical quarter wave with four horizontal radials and half wave center
> feed vertical)
>
> With a modelling software (MMANA) and antennas calculated in free space
> conditions, at resonance,I get 72 Ohms for the dipole (correct), but only 22
> Ohms for the GPA as I expected 36;
>
> does anybody know the reason ?
>
>
> Another question, The radiation patterns seem to be identical for both
> antennas, so I expected the same gain with GPA or dipole, but the soft give
> 2.13 dBi for the dipole (correct) but only 1.57 dBi for the GPA.
>
> Not due to the fact that the currents are greater in the GPA, as the soft
> was working in 'no loss' conditions for the wires.
>
> Tnx if you have solutions,
>
> 73
>
> André
> F5AD
> --------------------------
> http://f5ad.free.fr/
>
>

366. Re: do I have my antenna fundamentals right?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-15 16:33:59 UTC
From: markus <markus@markus.org>
Message-ID: <45ABACF7.E7064534@markus.org>
Source record: 46880

hi Nelson,

yes, it is a lot of work, you could just attach the magmount
to any metal object, patio table, metal railing or window a/c unit, etc.

or for a few dollars and less work build a great 2m antenna
using #12 thhn wire and a few feet of pvc pipe.

this is the half square, works great, it is directional.

http://cebik.com/vhf/hs.html

then you can try this one, the Moxon for 2m, little harder to make
but has similar gain to a 2 element yagi in less space and direct fed
with 50 ohm coax (like the half square is fed).

73 markus

367. Re: do I have my antenna fundamentals right?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-15 16:34:53 UTC
From: markus <markus@markus.org>
Message-ID: <45ABAD2D.3CE742B@markus.org>
Source record: 46881

here is the other link for the moxon

http://cebik.com/moxon/moxbld.html

368. i punce in agin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-15 16:34:55 UTC
From: "Mark@kb9rqz.aspr" <Mark@kp9rqz.asr>
Message-ID: <45aba083$0$4805$88260bb3@free.teranews.com>
Source record: 46882
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner

ok I back four anoter tuff day on the news grupes it my job tast is waht I
do so bringit on you loosers
show-na-to-va (that is the greeting for this time of year as JEW rendered
phonicticaly)
happy new years it means and it can be better one if Wismen Robson and SC a
few just decided to not to be as hateful with the punce gotcha he wonders
why I simple don't bother to ty impoving my spelling do u hav anyting
cognet two say?
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

369. woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-15 16:46:44 UTC
From: Mark@kb9rqz.org
Message-ID: <hubnq2hb9lvvvjv4hrcp6ss79bq37lkode@4ax.com>
Source record: 46883
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner

On Mon, 15 Jan 2007 11:34:55 -0500, "Mark@kb9rqz.aspr"
<Mark@kp9rqz.asr> wrote:

>
stil aint me woger
>
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

370. Re: GR-1606A Mantenance Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-15 19:36:18 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <jmlnq2tcvkah6tha7d0g8lolaeouivt8fl@4ax.com>
Source record: 46884

On Sun, 14 Jan 2007 10:40:25 -0600, "William Becks" <wbecks@centurytel.net>
wrote:

>Has anyone on this group had any experience in performing maintenance on a
>General Radio Type 1606A RF Bridge? The "Reactance" capacitor on my 1606A
>is a bit intermittent (noisy) when tuning the bridge after initial balance
>in order to make a measurement. The bridge is in nearly mint condition and
>probably suffers from lack of regular use more than anything. I am hesitant
>to jump in and apply standard electrical cleaning chemicals without
>obtaining some advice from those of you that have experience with this
>bridge and that may have had to clean a noisy variable cap in one of these
>units.
>
>Any recommendations would be appreciated including any suggestions on where
>to send such an instrument repair and calibration service. Sorry for asking
>these questions here, but I know that more than a few of you either have a
>1606A/B or may have had one at one time or another.
>
>Thank you,
>
>Bill
>
>William G. Becks, WA8WG
>
>Hi Bill,

I've used my 1606, both A and B for many years, the A since 1968. I've found
that when the unit has been unused for several weeks, all the controls become a
little scratchy. But what works for me is just a little back-and-forth twisting
cleans whatever surfaces were dirty, and scratchiness disappears without needing
to apply any lubricant.

Walt, W2DU

371. Re: do I have my antenna fundamentals right?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-15 19:37:04 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <nLQqh.1603$3t4.1019@bignews2.bellsouth.net>
Source record: 46885

"Nelson Blaha" <nelson.blaha@gmail.com> wrote in message
news:1168828655.591173.73110@51g2000cwl.googlegroups.com...
> Having gotten some help around here on how to power my 2m mobile
> indoors cheaply, I need to figure out a way to get an antenna. There
> are probably a million holes in this plan, please point them
> all out to me!
>
> I intend to get a piece of square sheet metal (ground plane?) about
> half a meter each way, and build a bracket to hold it outside my window
> horizontally. In the center of the sheet metal I'll install an NMO
> mount for my mobile antenna. I'm actually planning to ground the sheet
> metal using the electrical ground in the wall socket (surely
> something's wrong with THAT!) I look forward to better alternatives!
>
Way more metal than you need. I still have a cofee can lid with 4 1/4 lambda
raials soldered to it that I once used on a balcony. If you dnt already have
an antenna get one of those 1/2 lambda antennas that dont require a
groundplane.

372. What happens to a cage (fat) dipole with trap and extension

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-15 21:26:48 UTC
From: ferrymanr <richardferryman@btinternet.com>
Message-ID: <g8udnQ5T3eAHbDbYnZ2dnUVZ8saonZ2d@bt.com>
Source record: 46886

I have been looking at the properties of a cage or fat dipole. This is efficient and has a wide bandwidth. But what happens if a trap is added to then with an extension to cover an additional lower band. Will the high Q trap significantly reduce the efectiveness of the cage dipole in efficiency and bandwidth? I was thinking in terms of a cage dipole-trap-cage extension. Any thoughts?

73 de Dick G4BBH

373. Re: do I have my antenna fundamentals right?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-15 23:16:34 UTC
From: Nelson Blaha <nelson.blaha@gmail.com>
Message-ID: <1168902993.396088.206960@v45g2000cwv.googlegroups.com>
Source record: 46887

Thanks Jimmie, Markus, Richard for your advice. I'm working without tools... what I really need is a drill. For the moment I've put my mobile antenna out my window on a four-foot section of I-bar. It works pretty well for receiving, but I won't know how well it transmits with virtually no ground plane until I'm good and licensed. That coffee can bit gave me a good idea for an RF ground plane, though.

I have to confess, I expected a much kinder reaction from uk.amateur.radio, but some of them gave me some harsh words just because I wasn't licensed! It's good to know I can get friendly help somewhere.

Nelson Blaha

On Jan 14, 8:37 pm, "Nelson Blaha" <nelson.bl...@gmail.com> wrote:
> Having gotten some help around here on how to power my 2m mobile
> indoors cheaply, I need to figure out a way to get an antenna. There
> are probably a million holes in this plan, please point them
> all out to me!
>
> I intend to get a piece of square sheet metal (ground plane?) about
> half a meter each way, and build a bracket to hold it outside my window
> horizontally. In the center of the sheet metal I'll install an NMO
> mount for my mobile antenna. I'm actually planning to ground the sheet
> metal using the electrical ground in the wall socket (surely
> something's wrong with THAT!) I look forward to better alternatives!

374. Re: What happens to a cage (fat) dipole with trap and extension

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-16 00:43:33 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <go7oq25qr8lrc48sh3t2ckc1mf905mjfb2@4ax.com>
Source record: 46888

On Mon, 15 Jan 2007 21:26:48 -0000, "ferrymanr"
<richardferryman@btinternet.com> wrote:

>I have been looking at the properties of a cage or fat dipole. This is
>efficient and has a wide bandwidth. But what happens if a trap is added

Hi Dick,

It would seem to be a contradiction in sizes (the coil and cap have to
be much smaller), but then when I think of cage antennas, I see:
http://home.comcast.net/~kb7qhc/antennas/verticals/Cage/cage.htm

The point of the cage is to not need adornments.

73's
Richard Clark, KB7QHC

375. Re: do I have my antenna fundamentals right?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-16 01:28:18 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <FUVqh.3496$Ln.1350@bignews8.bellsouth.net>
Source record: 46889

Dont even think about transmitting before you get your ticket I know this can be a temptation once you have your equipment. The FCC is very serious about this. You can be very heavily fined and lose the chance to ever be a licensed ametuer radio operator. This is why I advise anyone who wants to be a ham to get their ticket before getting their TX equipment. THE TEMPTATION can be too great.

Jimmie

"Nelson Blaha" <nelson.blaha@gmail.com> wrote in message news:1168902993.396088.206960@v45g2000cwv.googlegroups.com...
> Thanks Jimmie, Markus, Richard for your advice. I'm working without
> tools... what I really need is a drill. For the moment I've put my
> mobile antenna out my window on a four-foot section of I-bar. It works
> pretty well for receiving, but I won't know how well it transmits with
> virtually no ground plane until I'm good and licensed. That coffee can
> bit gave me a good idea for an RF ground plane, though.
>
> I have to confess, I expected a much kinder reaction from
> uk.amateur.radio, but some of them gave me some harsh words just
> because I wasn't licensed! It's good to know I can get friendly help
> somewhere.
>
> Nelson Blaha
>
> On Jan 14, 8:37 pm, "Nelson Blaha" <nelson.bl...@gmail.com> wrote:
>> Having gotten some help around here on how to power my 2m mobile
>> indoors cheaply, I need to figure out a way to get an antenna. There
>> are probably a million holes in this plan, please point them
>> all out to me!
>>
>> I intend to get a piece of square sheet metal (ground plane?) about
>> half a meter each way, and build a bracket to hold it outside my window
>> horizontally. In the center of the sheet metal I'll install an NMO
>> mount for my mobile antenna. I'm actually planning to ground the sheet
>> metal using the electrical ground in the wall socket (surely
>> something's wrong with THAT!) I look forward to better alternatives!
>

376. Re: What happens to a cage (fat) dipole with trap and extension

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-16 08:38:05 UTC
From: Jeff <jeff@local.host>
Message-ID: <45ac8eec$0$1099$834e42db@reader.greatnowhere.com>
Source record: 46890

">
>>I have been looking at the properties of a cage or fat dipole. This is
>>efficient and has a wide bandwidth. But what happens if a trap is added
>
> Hi Dick,
>
> It would seem to be a contradiction in sizes (the coil and cap have to
> be much smaller), but then when I think of cage antennas, I see:
> http://home.comcast.net/~kb7qhc/antennas/verticals/Cage/cage.htm
>
> The point of the cage is to not need adornments.
>
> 73's
> Richard Clark, KB7QHC

Since the elements of a cage dipole usually come to a point at both ends (the feed and the far end for attachment of a support) I can see no problem in physically adding a trap.

Above the trap cut-off frequency the extensions will have little effect on the performance. At lower frequencies where you will effectively have a dipole element with a fat portion and then a thinner bit at the end , it should work ok but you may need some modelling to see exactly what happens to the bandwidth.

73
Jeff

377. Re: GPA vs Vert dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-16 11:27:38 UTC
From: Andr&#65533; <nospam@free.fr>
Message-ID: <45acb6a2$0$21129$426a74cc@news.free.fr>
Source record: 46891

Hello Roy,

Tnx for advices;
I Have tried automatic "tapering" With a good convergence, but with the same results.
I have no other modelling software, so I can not verify if it is due to MMANA;
if anybody has the possibility to test a GPA in free space with another soft, I should be interested by the results.
Vertical element 10.6m
radials 10.6m at 90&#65533;
radius 1.5mm
freq 7.06 MHz

73

Andr&#65533;

378. Re: GPA vs Vert dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-16 11:37:34 UTC
From: Andr&#65533; <nospam@free.fr>
Message-ID: <45acb8f6$0$294$426a74cc@news.free.fr>
Source record: 46892

Hi Roy,

I was sure to know you call sign, I was searching in my logs to see if wee already had a contact on decametrics when I saw your email...

I have the reason now!

73

Andr&#65533;

379. Re: What happens to a cage (fat) dipole with trap and extension

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-16 13:39:40 UTC
From: ferrymanr <richardferryman@btinternet.com>
Message-ID: <pOydnSFmApk_SDHYRVnyhAA@bt.com>
Source record: 46893

"Jeff" <jeff@local.host> wrote in message
news:45ac8eec$0$1099$834e42db@reader.greatnowhere.com...
>
> Since the elements of a cage dipole usually come to a point at both ends
> (the feed and the far end for attachment of a support) I can see no
> problem in physically adding a trap.
>
> Above the trap cut-off frequency the extensions will have little effect on
> the performance. At lower frequencies where you will effectively have a
> dipole element with a fat portion and then a thinner bit at the end , it
> should work ok but you may need some modelling to see exactly what happens
> to the bandwidth.
>
> 73
> Jeff
I have modelled it in MMANA (my cage is similar to 'fat dipole2.maa') and it
looks feasible. The cage resonant frequency drops a tad but the extension
after the trap, modelled with a 3mm wire, does resonant nicely. This allows
me to add an extra band somewhat below the normal low limit of the cage
dipole. My modelling still shows a reasonable bandwidth for the main cage
dipole but I suspect the trap will have some complex effects above and below
resonance. I will have to try it to see how much it affects it will have.
It will be easy to clip a trap to each end of the main dipole for the tests.

73 de Dick G4BBH

380. Re: do I have my antenna fundamentals right?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-16 14:16:30 UTC
From: Bud <buddy@buddy.net>
Message-ID: <45ACDE3E.AABF47D7@buddy.net>
Source record: 46894

hi nelson,

You've got to start somewhere, and listening in on qso
is one of the best ways to learn.

Not sure where you are, check to see if there are any
nets on the repeaters in the area, our club has tech net
weekly, great way to learn about what others are doing
(right or wrong ?) !

Try a search for other hams in your area using qrz or other search tool.

have you visited www.eham.net ?

73

Nelson Blaha wrote:

> I have to confess, I expected a much kinder reaction from
> uk.amateur.radio, but some of them gave me some harsh words just
> because I wasn't licensed! It's good to know I can get friendly help
> somewhere.

381. Re: GPA vs Vert dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-16 15:11:15 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <qW5rh.32215$QU1.693@newssvr22.news.prodigy.net>
Source record: 46895

Andrï¿½ wrote:
> if anybody has the possibility to test a GPA in free space with another
> soft, I should be interested by the results.
> Vertical element 10.6m
> radials 10.6m at 90ï¿½
> radius 1.5mm
> freq 7.06 MHz

EZNEC agrees closely with your previous values.
--
73, Cecil http://www.w5dxp.com

382. Re: i punce in agin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-16 15:18:01 UTC
From: sapper <billvet6@excite.com>
Message-ID: <1168960680.256347.294720@q2g2000cwa.googlegroups.com>
Source record: 46896
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner

Mark@kb9rqz.aspr wrote:
> ok I back four anoter tuff day on the news grupes it my job tast is waht I
> do so bringit on you loosers
> show-na-to-va (that is the greeting for this time of year as JEW rendered
> phonicticaly)
> happy new years it means and it can be better one if Wismen Robson and SC a
> few just decided to not to be as hateful with the punce gotcha he wonders
> why I simple don't bother to ty impoving my spelling do u hav anyting
> cognet two say?
> http://kb9rqz.blogspot.com/
>
> Posted via a free Usenet account from http://www.teranews.com

YAWWWWN!

383. Re: do I have my antenna fundamentals right?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-16 15:25:48 UTC
From: Nelson Blaha <nelson.blaha@gmail.com>
Message-ID: <1168961146.533443.142950@51g2000cwl.googlegroups.com>
Source record: 46897
Body handling: HTML body converted to readable text

Thanks for the advice Jimmie, it is indeed a strong temptation but I've resisted it so far.

Bud, I'm on that! I've got two pages of repeater frequencies for all over the Dallas/Ft Worth area (I'm conveniently in Arlington right between) and I've been listening off and on for weeks. I feel like as soon as I get my call sign, I could hop right in! That is, if my antenna transmits as well as it receives... no ground plane, as I've explained. Do you think the bottom of a peanut can would be enough?

Weirdly, I'm waiting on getting my call sign before I register on eham.net, since I'm gonna use my call as my username. I'm sort of a google fan anyway, I get to usenet through google groups-beta and that's good for me.

QRZ search tool is news to me, I'll try that out.

Nelson Blaha

On Jan 16, 8:16 am, Bud wrote:
> hi nelson,
>
> You've got to start somewhere, and listening in on qso
> is one of the best ways to learn.
>
> Not sure where you are, check to see if there are any
> nets on the repeaters in the area, our club has tech net
> weekly, great way to learn about what others are doing
> (right or wrong ?) !
>
> Try a search for other hams in your area using qrz or other search tool.
>
> have you visitedwww.eham.net?
>
> 73
>
> Nelson Blaha wrote:
> > I have to confess, I expected a much kinder reaction from
> > uk.amateur.radio, but some of them gave me some harsh words just
> > because I wasn't licensed! It's good to know I can get friendly help
> > somewhere.

384. Re: do I have my antenna fundamentals right?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-16 16:22:46 UTC
From: nm5k@wt.net
Message-ID: <1168964564.031528.299600@11g2000cwr.googlegroups.com>
Source record: 46898

markus wrote:
> hi Nelson,
>
> yes, it is a lot of work, you could just attach the magmount
> to any metal object, patio table, metal railing or window a/c unit, etc.

Yea, I suppose you could... Arf.... :/
>
> or for a few dollars and less work build a great 2m antenna
> using #12 thhn wire and a few feet of pvc pipe.

With even less work and $$$, he could just build a ground plane
using 5 wires and a so-239 or whatever..
>
> this is the half square, works great, it is directional.

Probably not what he wants for 2 meters, unless he can steer
the pattern.
>
> http://cebik.com/vhf/hs.html
>
> then you can try this one, the Moxon for 2m, little harder to make
> but has similar gain to a 2 element yagi in less space and direct fed
> with 50 ohm coax (like the half square is fed).

Antennas are small on 2m.. He could live a little and use 3 elements
and have a good bit more gain. But then he has to rotate the thing..
I recommend a easy 1/4 wave ground plane to start. It will work about
as well or better as any of the other "easy" vertical whips for 2
meters.
Attaching a 2 meter whip to a railing, table, AC unit , etc is going to
function in a fairly poor manner. The ground radials need to be
resonant to function properly. Would be much better to use 4 simple
quarter wave radials. You can slope them down at about 45 degrees
to get a better match, and maybe a tiny bit more gain.
MK

385. Re: do I have my antenna fundamentals right?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-16 17:26:19 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <1l2qq29freglf6sv4cdpsiv9d0e7tqahct@4ax.com>
Source record: 46899

On Tue, 16 Jan 2007 09:16:30 -0500, Bud <buddy@buddy.net> wrote:

>Not sure where you are, check to see if there are any
>nets on the repeaters in the area

Near Fort Worth.

73's
Richard Clark, KB7QHC

386. woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-16 17:28:50 UTC
From: Mark@kb9rqz.org
Message-ID: <kp2qq2l1lue792ilb51kai1u65afj8kfd2@4ax.com>
Source record: 46900
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner

```
On 16 Jan 2007 07:18:01 -0800, "sapper" <billvet6@excite.com> wrote:

>
>Mark@kb9rqz.aspr wrote:
>> ok I back four anoter tuff day on the news grupes it my job tast is waht I
>> do so bringit on you loosers
>> show-na-to-va (that is the greeting for this time of year as JEW rendered
>> phonicticaly)
>> happy new years it means and it can be better one if Wismen Robson and SC a
>> few just decided to not to be as hateful with the punce gotcha he wonders
>> why I simple don't bother to ty impoving my spelling do u hav anyting
>> cognet two say?
>> http://kb9rqz.blogspot.com/
>>
>> Posted via a free Usenet account from http://www.teranews.com
>
>
>
>YAWWWWN!
yea he is very boring
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com
```

387. Re: do I have my antenna fundamentals right?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-16 18:12:09 UTC
From: Nelson Blaha <nelson.blaha@gmail.com>
Message-ID: <1168971128.482239.85600@a75g2000cwd.googlegroups.com>
Source record: 46901

MK, this diagram is fantastic! I guess I should have explained to all
of you that as a college student I have more time than money, so it may
be a while before I can even afford the PVC and wire. I bet it will
outperform my mobile-dipole-on-a-stick, though!

Nelson

On Jan 16, 10:22 am, n...@wt.net wrote:
> markus wrote:
> > hi Nelson,
>
> > yes, it is a lot of work, you could just attach the magmount
> > to any metal object, patio table, metal railing or window a/c unit, etc.Yea, I suppose
you could... Arf.... :/
>
>
>
> > or for a few dollars and less work build a great 2m antenna
> > using #12 thhn wire and a few feet of pvc pipe.With even less work and $$$, he could
just build a ground plane
> using 5 wires and a so-239 or whatever..
>
>
>
> > this is the half square, works great, it is directional.Probably not what he wants for
2 meters, unless he can steer
> the pattern.
>
>
>
> >http://cebik.com/vhf/hs.html
>
> > then you can try this one, the Moxon for 2m, little harder to make
> > but has similar gain to a 2 element yagi in less space and direct fed
> > with 50 ohm coax (like the half square is fed).Antennas are small on 2m.. He could live
a little and use 3 elements
> and have a good bit more gain. But then he has to rotate the thing..
> I recommend a easy 1/4 wave ground plane to start. It will work about
> as well or better as any of the other "easy" vertical whips for 2
> meters.
> Attaching a 2 meter whip to a railing, table, AC unit , etc is going to
> function in a fairly poor manner. The ground radials need to be
> resonant to function properly. Would be much better to use 4 simple
> quarter wave radials. You can slope them down at about 45 degrees
> to get a better match, and maybe a tiny bit more gain.

> MK

388. Re: do I have my antenna fundamentals right?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-16 19:42:28 UTC
From: "David G. Nagel" <nagel.david@sbcglobal.net>
Message-ID: <12qqanfqmd9k56b@corp.supernews.com>
Source record: 46902

Richard Clark wrote:
> On Tue, 16 Jan 2007 09:16:30 -0500, Bud <buddy@buddy.net> wrote:
>
>> Not sure where you are, check to see if there are any
>> nets on the repeaters in the area
>
> Near Fort Worth.
>
> 73's
> Richard Clark, KB7QHC

Richard;

Go to the following URL: > http://www.artscipub.com/repeaters/

click on Texas and search for "Fort Worth". You should get two pages of
both VHF and UHF repeaters.

Dave WD9BDZ

389. Re: GPA vs Vert dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-16 23:14:23 UTC
From: Andr&#65533; <nospam@free.fr>
Message-ID: <45ad5c47$0$294$426a74cc@news.free.fr>
Source record: 46903

"Cecil Moore" <mycall@hotmail.com> a &#65533;crit dans le message de news:
qW5rh.32215

```
> EZNEC agrees closely with your previous values.
> --
> 73, Cecil http://www.w5dxp.com
```

```
OK Cecil, thank you for the test.
```

The question now, is, why a GPA in free space does not present a 36 Ohms
imp&#65533;dance ?

```
I use a full sized GPA on 40m, 6 meter high and a quasi 1/1 SWR with 50 Ohms
coax line;
with 36 Ohms in free space I had 14 Ohms for losses in the ground and 36
Ohms for my correspondant;
but now, it is 28 Ohms for the ground and 22 for the QSO...
```

```
To night, I can not open your page www.qsl.net/w5dxp/dipvsver.htm
```

```
I was interested to see if you get the same results,
I use also a half wave dipole 16m high and the GPA, with a slight advantage
for the GPA during the night and distant stations, and the opposite during
the day time and short distances;
the ground is very poor here.
```

73

Andr&#65533;
http://f5ad.free.fr/

390. Re: GPA vs Vert dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-17 01:57:58 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <Gofrh.60505$qO4.50083@newssvr13.news.prodigy.net>
Source record: 46904

Andrï¿½ wrote:
> The question now, is, why a GPA in free space does not present a 36 Ohms
> impï¿½dance ?

I'm sorry, I don't know. Maybe W7EL will jump in
and answer the question.

> Tonight, I can not open your page www.qsl.net/w5dxp/dipvsver.htm

Yes, I am converting over to a new web page at
http://www.w5dxp.com

www.qsl.net is free and unfortunately one gets
what one pays for.
--
73, Cecil http://www.w5dxp.com

391. Re: Rediscovering ether?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-17 02:26:30 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <45ad8956$0$7712$4c368faf@roadrunner.com>
Source record: 46905

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:n6uoh.60824$wP1.56591@newssvr14.news.prodigy.net...
> http://news.independent.co.uk/world/science_technology/article2134891.ece

If the theory is correct, exotic matter occupies space in such a way that sometimes enough of it gathers through gravitation attraction to create "mass" and form a particle that suddenly appears and then quickly disintegrates after perhaps a nanosecond of existence. Effectively, particles pop in and out of existence in space.

To describe what exotic matter "is" during the majority of its time when it does not exist as particular mass depends on what the definition of "is" is. (Hmmm, I heard that quotation somewhere ;-))

392. Re: do I have my antenna fundamentals right?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-17 04:39:28 UTC
From: nm5k@wt.net
Message-ID: <1169008768.556196.251640@l53g2000cwa.googlegroups.com>
Source record: 46906

Nelson Blaha wrote:
> MK, this diagram is fantastic! I guess I should have explained to all
> of you that as a college student I have more time than money, so it may
> be a while before I can even afford the PVC and wire. I bet it will
> outperform my mobile-dipole-on-a-stick, though!

Someone else posted that.. Myself, I wouldn't use one of those on 2m.
Sure, it would work, but for about the same or less amount of work
you could have a small 3 el yagi.
I would not use a directional antenna unless you had an easy way to
turn it.
A ground plane is super cheap, and will do just fine. You can place
them
on a mast, hang them from ceilings, etc. I've got a ground plane hung
in my
attic for emergency use. With 2m FM, gain is not really that important.
Decoupling from the feedline is though. The decoupling with the GP will
be fairly decent. If you use an off size "counterpoise" to mount a whip
on,
it's not resonant, and generally will do a poor job vs a complete
antenna.
You will find in most cases like that, the decoupling from the feedline
will be
poor too.
I'd start with a simple 1/4 wave ground plane, and go from there.
All you need is a SO-239 and 5 pieces of wire about 19-20 inches long.
Most bend the lower ground radials down at about 45 degrees to
get a better match to 50 ohms. You can set one on a table unless
the coax is thick... :/
Can't get much cheaper than that, and it will work well. To me, the
half square is too much work, too little gain for 2m.. Good for HF
tho..
A 3 el yagi would clobber that thing on 2m, and isn't too much bigger..
MK

393. Re: GPA vs Vert dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-17 05:43:43 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98BBAA26EA383nonenowhere@61.9.191.5>
Source record: 46907

"Andr&#65533;" <nospam@free.fr> wrote in
news:45ad5c47$0$294$426a74cc@news.free.fr:

>
> "Cecil Moore" <mycall@hotmail.com> a &#65533;crit dans le message de news:
> qW5rh.32215
>
>> EZNEC agrees closely with your previous values.
>> --
>> 73, Cecil http://www.w5dxp.com
>
>
> OK Cecil, thank you for the test.
>
> The question now, is, why a GPA in free space does not present a 36
> Ohms imp&#65533;dance ?

Where does the 36 ohms come from? Is it for a quarter wave monopole
mounted on a perfect ground plane?

Is the radiation pattern of a quarter wave monopole mounted over 4
quarter wave radials the same as a quarter wave monopole mounted on a
perfect ground plane?

Though you might use the term GPA to refer to a quarter wave monopole
mounted over 4 quarter wave radials, it is not the same as a quarter wave
monopole mounted on a perfect ground plane.

Owen

394. Re: do I have my antenna fundamentals right?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-17 05:55:46 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <oVirh.1755$3t4.914@bignews2.bellsouth.net>
Source record: 46908

"Nelson Blaha" <nelson.blaha@gmail.com> wrote in message
news:1168828655.591173.73110@51g2000cwl.googlegroups.com...
> Having gotten some help around here on how to power my 2m mobile
> indoors cheaply, I need to figure out a way to get an antenna. There
> are probably a million holes in this plan, please point them
> all out to me!
>
> I intend to get a piece of square sheet metal (ground plane?) about
> half a meter each way, and build a bracket to hold it outside my window
> horizontally. In the center of the sheet metal I'll install an NMO
> mount for my mobile antenna. I'm actually planning to ground the sheet
> metal using the electrical ground in the wall socket (surely
> something's wrong with THAT!) I look forward to better alternatives!
>

IF I were working off a balcony I would use a Yagi or maybe a quad sense the
building will be blocking the signal in at one direction any way. I used to
hace a two element quad I made on a broom. I would sit on the balcony and
hold the quad in one hand and my HT in the other. BAd thing is that now
there is now way to hold the beer.

395. Icom910H and Fsk modulation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-17 12:45:28 UTC
From: Marius <MariusTrusculescu@gmail.com>
Message-ID: <1169037928.183161.124250@v45g2000cwv.googlegroups.com>
Source record: 46909

Hello.

Is there a way of using the Icom 910H (supporting just AFSK) for
receving and transmiting FSK modulated signals with the help of the
KAM-XL TNC?

396. Re: GPA vs Vert dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-17 15:48:16 UTC
From: chuck <nospam@nospam.org>
Message-ID: <1169048968_6539@sp6iad.superfeed.net>
Source record: 46910

Andrï¿½ wrote:
> "Cecil Moore" <mycall@hotmail.com> a ï¿½crit dans le message de news:
> qW5rh.32215
>
>> EZNEC agrees closely with your previous values.
>> --
>> 73, Cecil http://www.w5dxp.com
>
>
> OK Cecil, thank you for the test.
>
> The question now, is, why a GPA in free space does not present a 36 Ohms
> impï¿½dance ?
>
>
> I use a full sized GPA on 40m, 6 meter high and a quasi 1/1 SWR with 50 Ohms
> coax line;
> with 36 Ohms in free space I had 14 Ohms for losses in the ground and 36
> Ohms for my correspondant;
> but now, it is 28 Ohms for the ground and 22 for the QSO...
>
>
> To night, I can not open your page www.qsl.net/w5dxp/dipvsver.htm
>
> I was interested to see if you get the same results,
> I use also a half wave dipole 16m high and the GPA, with a slight advantage
> for the GPA during the night and distant stations, and the opposite during
> the day time and short distances;
> the ground is very poor here.
>
>
> 73
>
> Andrï¿½
> http://f5ad.free.fr/
>
>

Andrï¿½, you might find this interesting:

http://www.cebik.com/gp/gp3.html
On Ground Planes

73,

Chuck
NT3G

----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

397. Re: GPA vs Vert dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-17 16:26:18 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <eolinrntl1@aioe.org>
Source record: 46911

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:Gofrh.60505$qO4.50083@newssvr13.news.prodigy.net...
> Andr&#65533; wrote:
>> The question now, is, why a GPA in free space does not present a 36 Ohms
>> imp&#65533;dance ?

The question is why is he modeling antenna in free space??
Planning to go there anytime soon???
Why would anyone model especially vertical antennas in free space (besides
trying to see how the donut looks)?
Verticals especially work with ground in forming the pattern and impedance.
I use and model my verticals on earth. JMO

73 Yuri, K3BU

398. FYI: Subscribers to this NG

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-17 16:48:18 UTC
From: Caveat Lector <CL@nowhere.com>
Message-ID: <krsrh.42315$uA2.30243@newsfe07.phx>
Source record: 46912

According to
http://groups.google.com/group/rec.radio.amateur.boatanchors/related?lnk=rgam

About 667 Antenna stringers

CL

399. Re: Subscribers to this NG

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-17 18:47:20 UTC
From: "R. Scott" <spamtrap@w7psk.net>
Message-ID: <JC106x.7zn@news.boeing.com>
Source record: 46913

"Caveat Lector" <CL@nowhere.com> wrote in message
news:krsrh.42315$uA2.30243@newsfe07.phx...
> According to
> http://groups.google.com/group/rec.radio.amateur.boatanchors/related?lnk=rgam
>
> About 667 Antenna stringers
>
> CL

That's Google Subscribers. Not the number that Read in via ALL USENET

Google Groups does not equal USENET Groups.

400. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-17 20:22:27 UTC
From: David <nospam@nospam>
Message-ID: <C8qdnTmG3L8cGDPYRVnytAA@bt.com>
Source record: 46914

With a vertical monopole antenna, the field emitted by the radials forms a near field and interacts with the wave radiated by the vertical element. Is it mainly in the vertical direction that the radial fields interact with the field from vertical element? I would expect the antenna feedpoint impedance to be formed from the length of antenna conductors and the interaction of the fields.

If a monopole is simulated in a NEC program above a perfect ground plane, is it possible to see the reflection? I would expect NEC program to show reflection of waves from metallic surfaces e.g reflection from perfect ground plane or parabolic dish. Can a NEC program allow the user to see whether the wave is reflected (as for perfect ground plane) or whether effect is due to wave interaction (as for radials)? Can the user then vary a finite size ground plane to see whether antenna impedance comes from reflection or wave interaction?

401. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-17 21:18:22 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eom3usopa1@news.service.uci.edu>
Source record: 46915

David wrote:

> With a vertical monopole antenna, the field emitted by the radials forms a
> near field and interacts with the wave radiated by the vertical element. Is
> it mainly in the vertical direction that the radial fields interact with the
> field from vertical element?

The fields "interact" wherever they exist.

> I would expect the antenna feedpoint impedance
> to be formed from the length of antenna conductors and the interaction of
> the fields.

You should also expect the feedpoint impedance to be formed by the
ratio of the voltage to the current at the feedpoint, among other things.

> If a monopole is simulated in a NEC program above a perfect ground plane, is
> it possible to see the reflection?

Only on Groundhog Day. :-)

> I would expect NEC program to show
> reflection of waves from metallic surfaces e.g reflection from perfect
> ground plane or parabolic dish. Can a NEC program allow the user to see
> whether the wave is reflected (as for perfect ground plane) or whether
> effect is due to wave interaction (as for radials)? Can the user then vary a
> finite size ground plane to see whether antenna impedance comes from
> reflection or wave interaction?

An interactive video game it's not. Perhaps if you were to become a
NEC user, you would come to know these things and more, first hand.

Jim, AC6XG

402. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-17 22:56:19 UTC
From: Brian Anthony Farrelly <afarrell@online.no>
Message-ID: <Cv-dnSZobIgJNDPYRVnzvQ@telenor.com>
Source record: 46916

Isn't the whole question of whether it's a reflection as from a conducting plate, or radiation from the radials based on misunderstanding what a reflection is?

The reflection from a conducting plane is the sum effect of the radiation from the currents induced in the plane by the incident field, say from a quarter wave vertical. The reflection forms an image 'behind the mirror' of the source of the incident field, for example a quarter wave vertical 'under the plane'. If these currents are radial then the plane is well approximated by a large number of long radial wires. The high resistance at right angles to the radials doesn't matter because no current is flowing in that direction. The plane is not so well approximated by a small number, say 3 or 4, radials, especially if they are short, say a quarter wavelength.

However the approximation may be good enough to allow us to regard the short radials as reflecting the incident field from the quarter wave vertical especially if we just need a rough picture of the situation and a rough estimate of the input impedance.We may need to keep in mind that the reflection is due to radiation from the currents in the radials or we may be able to forget it. If we want the antenna pattern in detail and the input impedance accurately we have to do the maths properly. That's not simple even for a half-wave dipole!

Brian LA0DG

403. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-17 22:59:31 UTC
From: Tom Donaly <dtdonaly@sbcglobal.net>
Message-ID: <QTxrh.16961$ZT3.10562@newssvr19.news.prodigy.com>
Source record: 46917

David wrote:
> With a vertical monopole antenna, the field emitted by the radials forms a
> near field and interacts with the wave radiated by the vertical element. Is
> it mainly in the vertical direction that the radial fields interact with the
> field from vertical element? I would expect the antenna feedpoint impedance
> to be formed from the length of antenna conductors and the interaction of
> the fields.
>
> If a monopole is simulated in a NEC program above a perfect ground plane, is
> it possible to see the reflection? I would expect NEC program to show
> reflection of waves from metallic surfaces e.g reflection from perfect
> ground plane or parabolic dish. Can a NEC program allow the user to see
> whether the wave is reflected (as for perfect ground plane) or whether
> effect is due to wave interaction (as for radials)? Can the user then vary a
> finite size ground plane to see whether antenna impedance comes from
> reflection or wave interaction?
>
>

What do you mean when you say that waves interact with each other?
Explain what you mean by the word "reflection."
73,
Tom Donaly, KA6RUH

404. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-18 01:01:14 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <uFzrh.60672$qO4.38112@newssvr13.news.prodigy.net>
Source record: 46918

Brian Anthony Farrelly wrote:
> Isn't the whole question of whether it's a reflection as from a conducting
> plate, or radiation from the radials based on misunderstanding what a
> reflection is?

There is no contradiction in quantum electrodynamics.
A photon encounters an electron in a radial and is
absorbed. Later, that same electron emits a photon.
The original photon energy could have come from
anywhere. If it came from the vertical element in
the first place, it is a "reflection" but that is
irrelevant. If it came from that same radial in the
first place, it is not a "reflection" but that is also
irrelevant. If it bounced off a flagpole before it
was absorbed by the electron, it is a "reflection" but
no rational person cares. The photon cloud surrounding
a radial contains photons that came from that radial
and from everywhere else. That some photons must be
put in a basket labeled "reflected" and some put in
a basket labeled "not reflected" is simply nonsense.
--
73, Cecil http://www.w5dxp.com

405. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-18 01:21:33 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <xYzrh.60678$qO4.12503@newssvr13.news.prodigy.net>
Source record: 46919

Cecil Moore wrote:
> That some photons must be
> put in a basket labeled "reflected" and some put in
> a basket labeled "not reflected" is simply nonsense.

The very concept of arguing whether a photon was
reflected or not seems to violate the uncertainty
principle. There is only a probability that it was
reflected.
--
73, Cecil http://www.w5dxp.com

406. Re: Ping Metro, Can you ride my rail ? No carfare is required :-)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-18 02:47:49 UTC
From: Uncle Zed <zed.morgan@yahoo.com>
Message-ID: <1169088469.016150.32390@m58g2000cwm.googlegroups.com>
Source record: 46920
Cross-posted to: rec.radio.amateur.policy,rec.radio.cb,alt.usenet.kooks,rec.radio.amateur.antenna,rec.radio.amateur.misc

I WOULD LET MORK BLOW ME.
The God of Odd Statements wrote:
> On Wed, 17 Jan 2007 23:13:23 +0000, metro-golden-meower did most oddly
> state:
> > On Wed, 17 Jan 2007 22:49:00 GMT, SameAsB4 wrote:
> >>metro-golden-meower wrote:
> >>> On Wed, 17 Jan 2007 21:26:58 GMT, SameAsB4 wrote:
> >>>> metro-golden-meower wrote:
> >>>>> On Tue, 16 Jan 2007 21:50:06 -0800, Uncle Zed wrote:
> >>>>>> metro-golden-meower wrote:
> >>>>>>> On Sun, 14 Jan 2007 03:09:25 GMT, madmax wrote:
> >>>>>>>> metro-golden-meower wrote:
> >>>>>>>>> On Wed, 10 Jan 2007 19:40:28 GMT, toughturd wrote:
> >>>>>>>>>> madmax wrote:
> >>>>>>>>>>> SwampMidget wrote:
> >>>>>>>>>>>
> >>>>>>>>>>> i am the owner of 101click.com i did not post this.
> >>>>>>>>>>> abuse@prodigy.net has been contacted and i will take further
> >>>>>>>>>>> action if this is not stopped.
> >>>>>>>>>>>
> >>>>>>>>>>> You may own it...but I'm the boss of you.
> >>>>>>>>>> A midget fagot in a swamp.....how tempting.
> >>>>>>>>> can you please explain what you mean as in english, a faggot is a
> >>>>>>>>> big nasty meatball or wood for burning? oh i see. you are an
> >>>>>>>>> american. bad luck, old chap.
> >>>>>>>>>
> >>>>>>>>>
> >>>>>>>>> No you were right the first time.....a nice spicy meatball. By the
> >>>>>>>> of course i am. i'm english. i know things like that.
> >>>>>>>>
> >>>>>>>>
> >>>>>>>> way...a chap is something one wears on a horse or a motorcycle.
> >>>>>>> actualy, chap is informal english for a person, generaly a male.
> >>>>>>> thanks for playing all the same.
> >>>>>>>
> >>>>>>>
> >>>>>> I was talking about formal English, and you are welcome.
> >>>>> why didn't you say so originaly?
> >>>>>
> >>>> Hi Metro. I am a profoundly retarded gay male and I am very attracted
> >>>> to you. Nowadays it
> >>>> is so hard to meet attractive well endowed men that a decent, such as
> >>>> yourself. In gay or bicurious relationships I also function as the

> >>>> bottom-boy. This means that I am the one penetrated. In Bondage type
> >>>> scenarios, I am always the submissive.
> >>>>
> >>>> I am a pre-op transexual. I am still trying to raise the funds to have
> >>>> my penis cut off and reshaped into a vagina.
> >>>>
> >>>> I hope I haven't repulse you or even alarmed you. I am being a little
> >>>> bet forward because decent "real" men are hard to find. I can
> >>>> accommodate up to 14 inches of penis in my rectum with feeling pain.
> >>>>
> >>>> If this is something that might interest you, please send me e-mail at
> >>>> <exebuyola@yanospamhoo.com>.
> >>>>
> >>>> I have plenty of sex toys that could be used on me.
> >>>>
> >>>> If you were repulsed, I apologize. I read some of your posts and you
> >>>> seem like a diamond in the rough. Thanks again, for your attention.
> >>>>
> >>>> If you're not gay, I have to tell you that receiving blowjobs is not
> >>>> gay. A mouth is a mouth is a mouth is a mouth. Whether it's hairy or
> >>>> not. Whether it has lip stick or not.
> >>>>
> >>>> If you are not a male, would you be opposed to putting a strap-on on
> >>>> and still work me over. Again if you are repulsed, I apologize.
> >>>>
> >>>>
> >>>> Lustfully Yours,
> >>>>
> >>>> ++SameAsB4
> >>>
> >>> if i'm not being hit on by russians on icq its on usenet. i'm going to
> >>> have to start loading my handbag with bricks to beat off all the hunky
> >>> male attention i'm getting. its hard, you know the kind of hard i meen,
> >>> sallor, being the absolute stud muffin all men and woman all want.
> >>> there just isn't enough of lil' ol' me to go around. what's a girl to
> >>> do?
> >>
> >>Metro when a person is a fine as you all genders WANT ya! ;-)
> >
> > like it didn't know that already.
> >
> >>P.S.: I love getting hit by bricks!!
> >
> > are you david hodo? you know, the ymca hunk?
>
> I call him "yingsock-frogger", "Monkey-man", and "Joxer The Gullible".
> <points at top two sig-quotes>
>
> --
> ____

> Hail Eris! mhm 29x21; TM#5; Chung Convict #39
> Demon Lord of Confusion
> COOSN-029-06-71069
> Supreme High Overlord of rec.radio.*
> Chuck Lysaght: Tarred & Feathered!
>
> "Fredbot == SameAsB4 == TGOOS
>
> "You are stalking me, even after I thrashed ya." -- PorchMonkey4Life,
> a veritable combination of Sherlock Holmes and Doc Savage for the 21st
> Century. No, really. Would I lie? MID: <zaUqh.2972$E35.415@trnddc02>
>
> "He unleashes a fecal explosion he time he posts. He uses so many nyms
> because he gets beaten so easily and so convincingly in flame wars and
> tries to hide behind nyms in the hopes of getting a fresh start. To bad
> for him that his lameness keep shining through like a beacon for all
> tards (e.g., SameAs$B4, Demon Spawn, Barbara's Pus$y, FredBot,
> TGOOS, ..., etc)" -- Monkey-man identifies <jitter> as me, among
> others, in broken English, in MID: <Z_Xqh.3167$E35.215@trnddc02>
>
> "Q: What do you call someone in the White House who is honest, caring,
> and well-read?
> A: A tourist." -- Anonymous
>
> "It would be offly hard for any of you to abuse me on usenet. Really. I
> have the advantage. I could easily turn alt.usenet.kooks into a cesspool
> of encoded posts. Bringing the noise ratio up so high as to make the
> group worthless. Anybody who can code could do this, why nobody has
> bothered before now is beyond me. The ultimate spamming engine..
> 'BAWAHAHA'" -- Dustbin "Outer Filth" K00k's delusions of grandeur
> reached new heights, in Message-ID:
> <Xns98355D29419B9HHI2948AJD832@69.28.186.121>
> "Immorality: The morality of those who are having a better time." -- H.
> L. Mencken
>
> "Consider that language a moment. 'Purposefully and materially
> supported hostilities against the United States' is in the eye of the
> beholder, and this administration has proven itself to be astonishingly
> impatient with criticism of any kind. The broad powers given to Bush by
> this legislation allow him to capture, indefinitely detain, and refuse a
> hearing to any American citizen who speaks out against Iraq or any other
> part of the so-called 'War on Terror.'
>
> "If you write a letter to the editor attacking Bush, you could be
> deemed as purposefully and materially supporting hostilities against the
> United States. If you organize or join a public demonstration against
> Iraq, or against the administration, the same designation could befall
> you. One dark-comedy aspect of the legislation is that senators or House
> members who publicly disagree with Bush, criticize him, or organize
> investigations into his dealings could be placed under the same

> designation. In effect, Congress just gave Bush the power to lock them
> up." -- William Rivers Pitt
>
> "It has become clear in recent months that a critical mass of the American
> people have seen through the lies of the Bush administration; with the
> president's polls at an historic low, growing resistance to the war Iraq,
> and the Democrats likely to take back the Congress in mid-term elections,
> the Bush administration is on the ropes. And so it is particularly
> worrying that President Bush has seen fit, at this juncture to, in effect,
> declare himself dictator." -- Frank Morales
> http://www.uruknet.biz/?p=m27769&hd=0&size=1&l=e&fark
>
> "No man in History, including JESUS CHRIST, has directly revealed to
> the World the SATANIC WEAPON used to enslave mankind -- INTELLECTUAL
> THOUGHT!!" -- Ray Karczewski repeatedly proves his words in every post
> he makes

407. Re: Ping Metro, Can you ride my rail ? No carfare is required :-)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-18 04:27:33 UTC
From: The God of Odd Statements <godofodd@statements.likeyours>
Message-ID: <pan.2007.01.18.04.27.30.422814@statements.likeyours>
Source record: 46921
Cross-posted to: rec.radio.amateur.policy,rec.radio.cb,alt.usenet.kooks,rec.radio.amateur.antenna,rec.radio.amateur.misc

On Wed, 17 Jan 2007 18:47:49 -0800, Uncle Zed did most oddly state:

> I WOULD LET MORK BLOW ME.

That's...nice, Wabbit. Was it necessary to scream?

--

Hail Eris! mhm 29x21; TM#5; Chung Convict #39
Demon Lord of Confusion
COOSN-029-06-71069
Supreme High Overlord of rec.radio.*
Chuck Lysaght: Tarred & Feathered!

"Fredbot == SameAsB4 == TGOOS

"You are stalking me, even after I thrashed ya." -- PorchMonkey4Life,
a veritable combination of Sherlock Holmes and Doc Savage for the 21st
Century. No, really. Would I lie? MID: <zaUqh.2972$E35.415@trnddc02>

"He unleashes a fecal explosion he time he posts. He uses so many nyms
because he gets beaten so easily and so convincingly in flame wars and
tries to hide behind nyms in the hopes of getting a fresh start. To bad
for him that his lameness keep shining through like a beacon for all
tards (e.g., SameAs$B4, Demon Spawn, Barbara's Pus$y, FredBot,
TGOOS, ..., etc)" -- Monkey-man identifies <jitter> as me, among
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group worthless. Anybody who can code could do this, why nobody has
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'BAWAHAHA'" -- Dustbin "Outer Filth" K00k's delusions of grandeur
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"Immorality: The morality of those who are having a better time." -- H.
L. Mencken

"Consider that language a moment. 'Purposefully and materially
supported hostilities against the United States' is in the eye of the
beholder, and this administration has proven itself to be astonishingly

impatient with criticism of any kind. The broad powers given to Bush by this legislation allow him to capture, indefinitely detain, and refuse a hearing to any American citizen who speaks out against Iraq or any other part of the so-called 'War on Terror.'

"If you write a letter to the editor attacking Bush, you could be deemed as purposefully and materially supporting hostilities against the United States. If you organize or join a public demonstration against Iraq, or against the administration, the same designation could befall you. One dark-comedy aspect of the legislation is that senators or House members who publicly disagree with Bush, criticize him, or organize investigations into his dealings could be placed under the same designation. In effect, Congress just gave Bush the power to lock them up." -- William Rivers Pitt

"It has become clear in recent months that a critical mass of the American people have seen through the lies of the Bush administration; with the president's polls at an historic low, growing resistance to the war Iraq, and the Democrats likely to take back the Congress in mid-term elections, the Bush administration is on the ropes. And so it is particularly worrying that President Bush has seen fit, at this juncture to, in effect, declare himself dictator." -- Frank Morales
http://www.uruknet.biz/?p=m27769&hd=0&size=1&l=e&fark

"No man in History, including JESUS CHRIST, has directly revealed to the World the SATANIC WEAPON used to enslave mankind -- INTELLECTUAL THOUGHT!!" -- Ray Karczewski repeatedly proves his words in every post he makes

408. Reflection xfmr for two wire beverage?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-18 14:11:39 UTC
From: Kenneth Grimm <kgrimm@adelphia.net>
Message-ID: <ctuuq2tjqvfcqrpmj1bs4ni6ga1j1moaa9@4ax.com>
Source record: 46922

I have successfully installed traditional one wire beverages, both terminated and unterminated. I've managed to wind 9:1 transformers that work well using both normal toroids and binocular cores. However, I'm flummoxed when it comes to two-wire beverages using a reflection transformer. The two "head-end" transformers seem to be fairly straight forward and I suppose can be checked using my MFJ-259B for a good match. However, look as I might, I can't find anything specific on 1) how many turns, etc. for the reflection transformer and 2) how to measure it to make sure it is working properly. There is nothing helpful in either ON4UN's book or the ARRL Antenna Handbook. W8JI's web site includes just enough information to make me want to buy the units that he designed that are being sold for big money by DX Engineering. As usual, not having big money at hand, I prefer to home brew and have the 73-mix FairRite Products 2873000202 cores to hand and plenty of wire. What I need is some Elmering.

I would sincerely appreciate hearing from anyone who has practical experience with the two-wire reflection transformer equipped beverage antenna and can offer me any help with the transformer windings.

73,

Ken K4XL
k4xl@arrl.net

*** BoatAnchor Manual Archive ***
On the web at http://bama.sbc.edu and http://bama.edebris.com
FTP site info: bama.sbc.edu login: anonymous p/w: youremailadr

409. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-18 16:50:45 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <368vq2thj1dc06l9nmfi02p5dpcsuturhd@4ax.com>
Source record: 46923

On Wed, 17 Jan 2007 20:22:27 -0000, "David" <nospam@nospam> wrote:

>With a vertical monopole antenna, the field emitted by the radials forms a
>near field and interacts with the wave radiated by the vertical element. Is
>it mainly in the vertical direction that the radial fields interact with the
>field from vertical element?

Hi David,

No.

>I would expect the antenna feedpoint impedance
>to be formed from the length of antenna conductors and the interaction of
>the fields.

Sure. There is nothing you've offered to suggest otherwise.

>If a monopole is simulated in a NEC program above a perfect ground plane, is
>it possible to see the reflection?

Yes. Even above an imperfect ground. Plane has nothing to do with it
except for the matter of geometry - radials even less so.

>I would expect NEC program to show
>reflection of waves from metallic surfaces e.g reflection from perfect
>ground plane or parabolic dish.

You should then expect an NEC program to show that reflection in
relation to wavelength. They do this to as near to what is observed
as to show no difference, naturally.

>Can a NEC program allow the user to see
>whether the wave is reflected (as for perfect ground plane) or whether
>effect is due to wave interaction (as for radials)?

NEC is not responsible for insight or interpretation. That only comes
with experience.

>Can the user then vary a
>finite size ground plane to see whether antenna impedance comes from
>reflection or wave interaction?

The user might, but the proof of an argument is through a chain of
evidence.

A simple test of "reflection from radials" in a real implementation
(with ground):

1. Change the angle of the radials by 45ï¿½,
does the lobe angle change by 45ï¿½?
Explain why reflection does not follow convention.

2. As suggested by Roy, add a top hat with a structure that identical
to the radials,
does the lobe angle point into the ground?
Explain why reflection does not exist in this case.

3. Alternative: invert the radials/vertical, it is now upside down,
does the lobe angle invert with it?
Explain why radials are special only in the conventional case.

You might want to repeat these in real space, but then you have
removed the reflector, ground. Without it, what would you offer as a
proof of reflection that can be verified through any of the three
simple tests above?
Explain why those tests demonstrate reflection in free space when
those tests above do not.

73's
Richard Clark, KB7QHC

410. Re: GPA vs Vert dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-18 19:59:03 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <5ujvq2dfg3q66kr3p610ek3gp55r70ncpj@4ax.com>
Source record: 46924

On Wed, 17 Jan 2007 11:26:18 -0500, "Yuri Blanarovich"
<K3BU@optonline.net> wrote:

>
>The question is why is he modeling antenna in free space??
>Planning to go there anytime soon???
>Why would anyone model especially vertical antennas in free space (besides
>trying to see how the donut looks)?
>Verticals especially work with ground in forming the pattern and impedance.
>I use and model my verticals on earth. JMO
>
>73 Yuri, K3BU
>
On my "Things to do List" I plan to spend some time with EzNec and a
ground plane in free space.

What I hope to better understand is the effect of the the quality of
the ground plan in the are between a modeled "real ground" and a
modeled "perfect ground".

I don't know the free space model will be valid, but I hope to learn
from the exercise.

I could just ask another series of "dumb questions" here but I fear
some of those who are so generous will tire of my noise!

When I modeled the vertical with a perfect ground I was expecting half
a vertical dipole and that is not what I got!

John Ferrell W8CCW

411. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-18 20:51:40 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eoon83$sa0$1@news.service.uci.edu>
Source record: 46925

Cecil Moore wrote:

> There is no contradiction in quantum electrodynamics.

There's certainly a paradox.

> A photon encounters an electron in a radial and is
> absorbed.

We know that electrons are inspired to move in a particular fashion
when they are irradiated. But how does a photon tell the electron
which way it should move? Kinematics would seem to have little to do
with this phenomenon.

> Later, that same electron emits a photon.

A photon which, if the direction in which it is emitted is unknown,
can be made to create a diffraction pattern - implying that a wave was
emitted rather than a particle. Putting us right back where we started.

> The photon cloud surrounding
> a radial contains photons that came from that radial
> and from everywhere else.

But what is it about this "cloud" that is actually cloud-like? Isn't
it really more like a wave of photons? :-)

> That some photons must be
> put in a basket labeled "reflected" and some put in
> a basket labeled "not reflected" is simply nonsense.

I think Feynman uses almost that exact analogy, with probabilities
assigned to each, in the first few pages of QED.

73, ac6xg

412. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-18 21:27:33 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <2GRrh.16616$Gw4.16098@newssvr23.news.prodigy.net>
Source record: 46826

Jim Kelley wrote:
> But how does a photon tell the electron which way
> it should move?

Energy and momentum must be conserved.

> A photon which, if the direction in which it is emitted is unknown, can
> be made to create a diffraction pattern - implying that a wave was
> emitted rather than a particle. Putting us right back where we started.

Allow me to paraphrase Feynman: Only particles exist.

> But what is it about this "cloud" that is actually cloud-like? Isn't it
> really more like a wave of photons? :-)

If you prefer liquid analogies to gaseous analogies, feel
free.

> I think Feynman uses almost that exact analogy, with probabilities
> assigned to each, in the first few pages of QED.

You missed the point. That an individual photon must be
put in a basket labeled "reflected" and some other individual
photon must be put in a basket labeled "not reflected" is simply
nonsense. Talking about exactly where an individual photon
goes is nonsense.
--
73, Cecil, http://www.qsl.net/w5dxp

413. Re: PING: Max Grrl

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-18 22:04:47 UTC
From: Max Grrl <maxtheangel@gmail.com>
Message-ID: <3aSrh.1401$Hc5.1360@trnddc03>
Source record: 46827
Cross-posted to: alt.usenet.kooks,rec.radio.cb,alt.fan.howard-stern,rec.radio.shortwave,rec.radio.amateur.antenna

Meat Plow wrote:
> On Thu, 18 Jan 2007 13:40:58 -0800, henry_vonkook Has Frothed:
>
>> PLEASE NOTE AND WITNESS BELOW:
>>
>> ""Well that's interesting because the moderators will either have to
>> block me
>> or block everyone else since I've disagreed with most people at one
>> time or
>> another on something. The cross postings from outside the amateur
>> radio
>> groups the last few days have really been annoying.""
>>
>> Dee, N8UZE
>>
>> ms dee is the grand dame of the rec radio groups. she is an extra
>> class, code tested amateur radio operator. this alone proves her
>> knowledge is above and beyond everyone elses.
>>
>> as you can see she does not like you and your ilk posting in the radio
>> groups. as you can see she states it's "annoying".
>>
>> WE MUST DEMAND AND ORDER THAT MS DEE'S WISHES BE RESPECTED!
>>
>> we therefore order the following:
>>
>> you and your perverted pals will not post (or read) the following
>> groups:
>>
>> rec.radio.amateur.policy
>>
>> rec.radio.amateur.misc
>>
>> rec.radio.amateur.antenna
>>
>> rec.radio.shortwave
>>
>> rec.radio.cb
>>
>> alt.ham-radio.vhf-uhf
>>
>> alt.military.cap
>>

>> should you disobey you will see the raw power of hams that can copy
>> morse code!
>
> SVBSCRIEB!!!
>

I am a filthy c*nt named madMaxWhore. I am the type of girl that only gets taken to White Castles because guys give me a $2 or $3 dollor limit. If I want something more expensive, I have to go by the dumpster behind White Castles and open my legs for 5 cent deposit cans and then after I get sodomized and f8cked by the homeless population, I have to redeemed the bottles and cans to get the extra money. The homeless men love sticking the cans up my filthy vagina and watching them melt from the toxcitiy.

Sometimes the stores won't take my cans and bottle because of the thick discharge on them and the foul stench of the cans and bottle (because of my diseased discharge)

By the time I get back to the fast food joint my date is gone. I guess they met someone that will douche and won;t settle for a skanky whore like me.

I lose every flamewar I enter because the toxic fumes from my diseased undouched vagina impair my already damaged brain. I want to be owned by the best flamer I ever encountered in life refuses to own me because my vagina is so filthy and toxic. I get beat down by everyone on usenet. Even my provider Usenetserver.com beats me down.

I want to get married but I am a known whore whose only good for pumping and dumping. I am so embarrassed at being thoroughly thrashed by all of my Usenet enemies. For those that aren't so picky about douching, I am owned by 70% of the alt.usenet.kook population.

My daddy initiated me into the world of sex and I have been getting buttsexed by him regularly ever since I was five years old. I drip toxic discharge from my filthy vagina. I have vaginal hair longer than the hair on Crystal Gayle's head. Guys just pump me and then dump me. I'm the kind of girl that gets sexed in alley and behind dumpsters

414. Re: woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-18 22:21:47 UTC
From: Not Cocksucker Lloyd <not_time_turd_lloyd@yahoo.com>
Message-ID: <1169158907.271981.223450@s34g2000cwa.googlegroups.com>
Source record: 46828
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner

Mark@kb9rqz.org wrote:
> On 16 Jan 2007 07:18:01 -0800, "sapper" <billvet6@excite.com> wrote:
>
> >
> >Mark@kb9rqz.aspr wrote:
> >> ok I back four anoter tuff day on the news grupes it my job tast is waht I
> >> do so bringit on you loosers
> >> show-na-to-va (that is the greeting for this time of year as JEW rendered
> >> phonicticaly)
> >> happy new years it means and it can be better one if Wismen Robson and SC a
> >> few just decided to not to be as hateful with the punce gotcha he wonders
> >> why I simple don't bother to ty impoving my spelling do u hav anyting
> >> cognet two say?
> >> http://kb9rqz.blogspot.com/
> >>
> >> Posted via a free Usenet account from http://www.teranews.com
> >
> >
> >
> >YAWWWWN!
> yea he is very boring

Not half as boring as You, Marqueer!

415. MI5 Persecution: Dirk Gently on the Toronto Case (376)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-18 22:22:42 UTC
From: MI5Victim@mi5.gov.uk
Message-ID: <m07001823170275@4ax.com>
Source record: 46831
Cross-posted to:
it.discussioni.geometri,it.comp.giochi,rec.radio.amateur.antenna,hr.rec.glazba.snimanje,alt.consciousness.4th-way

Dirk was on the West Coast when he got the call. An old friend at the Toronto police department thought he would like to fly up and take a look at a homicide which had occurred the previous evening. He decided to skip the last day at the World Holistics conference and take the next plane out of San Francisco.

The flight was bad; Dirk had been hit on the back of the head by the Newspaper trolley, the drinks trolley, the dinner trolley and now the gift trolley. When the hostesses weren't trying to tear his arm off they pestered him to stop leaning into the aisle - ignoring the fact that the guy next to him was taking up one and a half seats. Air Canada used to be the flight which was so good you just didn't wanna get off - on this occasion Dirk would be glad to see the back of the plane and the over sized alternative comedian wedged into the window seat.

After breathing in a couple of lungfulls of crisp Canadian air Dirk took a taxi into town. There was a small group of demonstrators outside the MacDonalds and the taxi driver insisted on stopping on the opposite side of the street. "Don't Eat Meat" the placards read and the demonstrators chanted. A couple of policemen where stopping the crowd entering the restaurant itself - one held up his arm and challenged Dirk. A wave of the fax he had been sent and the policeman pushed open the door.

There were few customers in the restaurant. Not surprising really with a demonstration going on outside, half the dining area roped off with tape and a dead body seated at one of the tables. "Mr Gently sir" the officer in charge called out as he peeled one end of the tape off a column "We were told not to touch anything til" you got here".

The body of the man slumped awkwardly in a chair. Then even a dead body would start getting uncomfortable in a MacDonalds chair after twenty minutes - and this one had been there for at least eighteen hours. Two back legs and the tail of a cat hung out of the man's gaping mouth. Dirk turned to the officer, "I suppose you are going to tell me this is the darndest thing you ever saw?"

�Ain�t this the darnd...�. The officer seemed annoyed that Dirk had second guessed him. �We�re removing the body in a few minutes, so if you can get through as quick as possible�

�Many people eat cats in fast food restaurants?� Dirk asked and without waiting for an answer leant over the table to pick up an untouched burger. �And what�s this?� he asked waving it in front of the officers face.

�It�s a Vedgie Burger� The waitress, who was cleaning one of the adjacent tables, shouted across. She walked over to Dirk. �We started doing them because of that lot out there� she nodded towards the protesters who were pressing there faces against the windows �They�re called Linda McCartney Vedgie burgers - ever heard of them?�

Dirk suddenly felt faint, perhaps a combination of hunger and jet lag. �This is deja vu all over again� he thought to himself. He glanced at policemen - at the badge on his shoulder �OPD� but this wasn�t Ontario this was Toronto. OPD - Officially Pronounced Dead. It dawned on Dirk what was happening, he knew what he would see if he looked out of the window. Sure enough, there it was, the Volkswagen Beetle parked across the road - number plate 28IF - 28 IF Paul McCartney had lived. And amongst the lyrics of the song blaring out into the restaurant he could pick out the words �I buried Paul�. Now it was though Dirk was viewing the whole scene though a TV screen. This was conspiracy. Not -a- conspiracy, or -the- conspiracy, but just plain conspiracy.

�You look faint - are you OK mister? The waitress asked.

Dirk shook his head �Probably a bit hungry� Then to economise on dialogue took out a pack of cigarettes and held it out towards the girl. She was about to take one but Dirk snatched the pack away, held it up to his mouth and drew out two cigarettes. He lit both then passed one of them to the girl. It was the closest he had come to a sexual encounter in three months.

�Want a Burger?� the waitress asked.

Dirk looked down at the Vedgie Burger on the table. �No thanks - just a plate of fries�

The waitress walked away and Dirk looked around the room. Apart from a family seated in the far corner there was only one other person in the restaurant - and he wasn�t eating. The guy was about mid twenties and had straggling, shoulder length hair. On the table in front of him were lots of pieces of paper cut into squares. Every so often he would pick up a camcorder and pan it around the room and then, when he was finished, speak into a microphone which was attached to a

tape recorder. Dirk walked over to where the man was sitting.

The small pieces of paper had paragraphs of text written on them and were stuck to the top of table with blobs of mustard. Lines had been drawn, some solid some dotted, on the table top with a marker pen. The lines ran from one piece of paper to another.

“What are the lines for?” Dirk asked, realising straight away that “What the hell are you doing?” would be more appropriate.

“You see” The man replied nervously “The dotted lines are weak links and the solid lines are strong links. The dotted lines are things which are happening in the rest of the world and the solid lines are things which are happening to me. Now you see I draw over a dotted line, replacing it with a solid line, when I can link something back to me. Like this” The pen squeaked over the Formica and before Dirk could interrupt the man added. “You see I lost my short term memory and, as a consequence have a very short attention span. I write down, record and film everything then put it all together later”

“So” Dirk interrupted. “You filmed what happened here?”

“Yes, yes, it’s here on this tape” The man pushed the cassette across the table. On the label the words “Grassy Knoll” had been crossed through and replaced with “MacDonalds”.

Suddenly the man sprung from his seat. Dirk turned and saw that the body was being removed on a stretcher. As it passed the man picked a small object off the edge of the stretcher itself. “This is important” he said, laying a blood stained bullet on one of the small pieces of paper on the table.

Suddenly the room was filled with a deafening throbbing sound as a Black Helicopter landed in the street outside. Two men in United Nations uniforms got out and collected the stretcher. Back at the table the long haired man was replacing all the dotted lines with solid ones. Dirk panicked and began to walk backwards at some speed. Barging through the swing doors he stumbled into the kitchen, tripped and felt himself sink slowly into a large vat.

“The guys fallen into the batter” Dick heard someone shout before he sunk below the surface. He came to sitting in a chair with the batter solidifying all over his body. He surveyed the room through two eye-holes someone had cut. Suddenly the chair on which he was sitting was picked up carried through the restaurant and out of the building. As the chair was being lifted and put into the back of a van, Dirk caught a glimpse of the waitress following him. “Your fries mister, your

plate o...�.

The doors of the van shut and Dirk tried desperately to steady himself as it sped across town. Eventually the doors flew open and Dirk was flung into the road at which point the solidified batter shattered and set him free. Standing up he found himself outside the international departures terminal of Toronto airport.

In the departure lounge Dirk had time to reflect on the day�s events. He had got caught up in the conspiracy theories and the haphazard welding together of pieces of irrelevant information. It was time to catch the person who was operating the bizarre cognitive engine which appeared in front of him like a fairground mirror, distorting any flaw it could find in his own, fragile, map of the real world.

Dirk leant into the aisle of the plane as it took off for London. The oversized person next to him swung his arms violently as he complained about every thing from the supper in a plastic tray to the state of British politics. With a shaven head and a badly fitting suit the man looked as though he could have worked behind the reception desk of the Kremlin. However when he spoke he did so in a Liverpudlian accent. �Me I blame the Con-serv-a-tive government, me. The Tour-rees. That-cher. Me. They need a good kicking� He jerked his feet forward and struck the seat in front with his Doc Martins. �With these. Me Doc Martins. Doctor Martin�s, Doctor Martin�s, Doctor Martin�s Booots!� The phrase was now being sung over and over again as the man writhed in his seat and clicked his fingers.

Dirk looked down at the boots and thought of the reaction most people used to deal with the paranoids at the end of the wire. A nice quick kick. �Oi nutter - get some therapy�. This is the easy way out and perhaps the safest. After all there you are sat, alone, in front of the screen. No body language between you some paranoid. No way of telling if he really is some gibbering psycho. Look at it too long and you be drawn in. Fall into the tangled database of weird links with him. Who knows he may be watching you, reassembling and linking your experiences with his. How sure are you of you own cognitive threads. After all cognition is only a bug fix for a neurological system which was designed in a hurry - it�s abused by everyone from politicians to advertisers. If people really can convince each other that a bottle of washing up liquid is as exciting as an orgasm using just television God knows what they can do with a computer. Better to avoid the risk. A swift kick. After all if you�re Homophobic you put the boot in because you are scared of any ambiguity in your own sexuality

- why not be Nutterphobic as well.

```
Although Dirk would have liked to devoted time to tracking
the culprit down he decided to let it rest. The Internet
changed over the next twenty odd years. A lot of the people
who used it went out and got lives. And those who already
had lives burnt them away. The number of users had dwindled
after someone had invented a C++ program, with truth as a
variable, to deal handle politics and government. Dirk had
already retired from finding old ladies cats with the help of
obscure science when he got another call from Toronto.
```

It was 4th March 2025 when he booked onto the Air Canada flight from Heathrow. The silver haired woman in the seat next to him painted bright red lipstick around her mouth. ‘Of course it was no surprise to be offered the job after Claire Raynor retired’ she sneered’ After all I used to be a psychiatric nurse... Now if Blokes had periods they would understand...’

By chance the taxi ride to Toronto mental hospital took him past the MacDonalds - where the whole thing had started. Of course it was barely recognisable having become a Church Of Scientology Vedgie Bar. Police in riot gear kept the two sets of demonstrators apart. Dirk didn’t really know what to expect when he got to the hospital. The girl at the reception desk directed him to a row of chairs in a wide well lit corridor. There was a strong smell of disinfectant, the furniture and the carpets were immaculately clean and behind the rows of teak veneer doors the ‘nutters’ were all safely locked away. For some reason Dirk started thinking about CompuServe forums.

A tall blond woman in a white coat approached. ‘Mr Gentle, I assume’

‘Yes’ Dirk replied shaking her by the hand. ‘You’re the nurse who...’

‘Doctor’ She interrupted, ‘Doctor Killfile’ She led Dirk across the corridor towards one of the doors then stopped with her hand resting on the handle. ‘Now you know about this person don’t you?’ and after Dirk nodded she continued ‘Don’t tell him anything about yourself - don’t let him get into you head. If he does he’ll screw it up’

The door opened to reveal a frail man sitting in from of a TV screen. He had a keyboard on his lap and next to the television was a computer screen. Dirk glanced at the walls of the room and remembered that his settee at home need upholstering. The nurse left the room and the man looked up ‘So you come to my daughters wedding and ask me to kill a man’ he said in

a dry cackling voice. &#65533;Look&#65533; he continued, pointing at the screen, &#65533;I know that man. They&#65533;re talking about me now - listen&#65533;. The man stared at Dirk. &#65533;What&#65533;s your name? Are you one of my friends from the Internet? - Are the lambs still screaming Dirk?&#65533;

Dirk, at first recoiled in horror, then felt a sense of anti climax. So this is what they hyped up to superstar status on the back of their own fears of madness. Dirk was reminded of the film &#65533;A day on The Beach&#65533; where a submarine had set off to search a post nuclear World to track down a signal coming from a remote military base - only to find it was being sent by a Coke bottle half balanced on a Morse tapper. Outside the room the nurse waited for him. Because his nicotine craving had returned - and to avoid an awkward piece of dialogue - Dirk turned to her and asked . &#65533;Patch?&#65533;

Dirk took two nicotine patches from his wallet the first of which he stuck onto the inside of his arm. Stepping closer to Doctor Killfile he opened her white coat and slid his hand into the opening at the front of her dress. He pressed the patch onto her leg as close to the top of her inner thigh as he dare. She took a deep breath and then slowly breathed out. &#65533;What Bogart could have done with these things&#65533; Dirk thought to himself.

&#65533;Is he crazy?&#65533; Dirk asked tilting his head back to towards the door.

&#65533;Who knows&#65533; Doctor Killfile replied &#65533;We let him type away. He sees something on the TV in the morning and it keeps him busy all day. What he types doesn&#65533;t go anywhere it just stays on a mainframe in the basement. It can be read by anyone else in the building but that&#65533;s it. We got them all in here conspiracy theorists, racists, nationalists. They&#65533;ve created a world within a world really...&#65533; Her voice trailed away and she stared down the corridor for a while then added &#65533;So long are two things are different neither will come to be in the other and so become at once both one and two.&#65533;

Dirk gave her a puzzled look &#65533;You mean their brains are fried?&#65533;

&#65533;Fried?&#65533; Killfile smiled at Dirk &#65533;No that was Plato&#65533;. Then the smile fell from her face. &#65533;You must remember, mister, plate o...&#65533;

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Posted via a free Usenet account from http://www.teranews.com

416. Re: PING: Max Grrl

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-18 22:57:05 UTC
From: Max Grrl <maxtheangel@gmail.com>
Message-ID: <180120071657055539%maxtheangel@gmail.com>
Source record: 46829
Cross-posted to: alt.usenet.kooks,rec.radio.cb,alt.fan.howard-stern,rec.radio.shortwave,rec.radio.amateur.antenna

In article <3aSrh.1401$Hc5.1360@trnddc03>, Max Grrl
<maxtheangel@gmail.com> wrote:

> Meat Plow wrote:
> > On Thu, 18 Jan 2007 13:40:58 -0800, henry_vonkook Has Frothed:
> >
> >> PLEASE NOTE AND WITNESS BELOW:
> >>
> >> ""Well that's interesting because the moderators will either have to
> >> block me
> >> or block everyone else since I've disagreed with most people at one
> >> time or
> >> another on something. The cross postings from outside the amateur
> >> radio
> >> groups the last few days have really been annoying.""
> >>
> >> Dee, N8UZE
> >>
> >> ms dee is the grand dame of the rec radio groups. she is an extra
> >> class, code tested amateur radio operator. this alone proves her
> >> knowledge is above and beyond everyone elses.
> >>
> >> as you can see she does not like you and your ilk posting in the radio
> >> groups. as you can see she states it's "annoying".
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> >> WE MUST DEMAND AND ORDER THAT MS DEE'S WISHES BE RESPECTED!
> >>
> >> we therefore order the following:
> >>
> >> you and your perverted pals will not post (or read) the following
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> >> rec.radio.amateur.misc
> >>
> >> rec.radio.amateur.antenna
> >>
> >> rec.radio.shortwave
> >>
> >> rec.radio.cb
> >>
> >> alt.ham-radio.vhf-uhf

> >>
> >> alt.military.cap
> >>
> >> should you disobey you will see the raw power of hams that can copy
> >> morse code!
> >
> > SVBSCRIEB!!!
> >
>
> I am a filthy[Pedo-k00k babble snipped]

Yes, Porchy . . . we know you're filthy. :) Thanks for sharing.

Now, please DO continue posting as me . . . it's so lovely seeing how
you jump and twitch at my every whim. It's nice to see how you so
desperately hump my leg for diversion from your pathetic, abusive life.
:)

Now POST, Bitch!! POST!!!

--
Max Grrl

417. MI5 Persecution: Hotchkies FAQ (1276)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-18 23:08:40 UTC
From: MI5Victim@mi5.gov.uk
Message-ID: <m07001900030262@4ax.com>
Source record: 46835
Cross-posted to:
it.discussioni.geometri,it.comp.giochi,rec.radio.amateur.antenna,hr.rec.glazba.snimanje,alt.consciousness.4th-way

From: iain@XXXXX.demon.co.uk (Iain L M Hotchkies)
Newsgroups: uk.misc,uk.legal,uk.politics,uk.media,soc.culture.british
Subject: Corley FAQ (v0.1)
Reply-To: iain@XXXXX.demon.co.uk
Date: Sat May 4 19:30:34 1996

Mike Corley FAQ
version 0.1
first edition 5th May 1996
last updated 5th May 1996
Iain L M Hotchkies iain@XXXXX.demon.co.uk

Mike Corley is a 'net personality' who has been active on the following
newsgroups (uk.misc,uk.legal,uk.politics,uk.media,soc.culture.british)
since....? Well, at least as far back as the summer of 1995.

He posts long tracts, the tone of which approximates that which one
might expect from a reasonably intelligent paranoid schizophrenic.

No details are known of Mike's 'real' personal life or background.
Once would presume that he came from a reasonable family and was
reasonably well educated before the first symptoms of schizophrenia
began.

Schizophrenia: Clinical features
(from the Oxford Textbook of Psychiatry, 2nd Edition)

The acute syndrome

Some of the main clinical features are illustrated by a short
description of a patient. A previously healthy 20-year-old male
student had been behaving in an increasingly odd way. At times he
appeared angry and told his friends that he was being persecuted; at
other times he was seen to be laughing to himself for no apparent
reason. For several months he had seemed increasingly preoccupied
with his own thoughts. His academic work had deteriorated. When
interviewed, he was restless and awkward. He described hearing
voices commenting on his actions and abusing him. He said he
believed that the police had conspired with his university teachers
to harm his brain with poisonous gases and take away his thoughts.
He also believed that other people could read his thoughts.

This case history illustrates the following common features of acute
schizophrenia: prominent persecutory ideas with accompanying
hallucinations; gradual social withdrawal and impaired performance

at work; and the odd idea that other people can read one's thoughts.

In appearance and behaviour some patients with acute schizophrenia are entirely normal. Others seem awkward in their social behaviour, preoccupied and withdrawn, or otherwise odd. Some patients smile or laugh without obvious reason. Some appear to be constantly perplexed. Some are restless and noisy, or show sudden and unexpected changes of behaviour. Others retire from company, spending a long time in their rooms, perhaps lying immobile on the bed apparently preoccupied in thought.

The speech often reflects an underlying thought disorder. In the early stages, there is vagueness in the patient's talk that makes it difficult to grasp his meaning. Some patients have difficulty in dealing with abstract ideas (a phenomenon called concrete thinking). Other patients become preoccupied with vague pseudoscientific or mystical ideas.

When the disturbance is more severe two characteristic kinds of abnormality may occur. Disorders of the stream of thought include pressure of thought, poverty of thought, and thought blocking. Thought withdrawal (the conviction that one's thoughts have been taken away) is sometimes classified as a disorder of the stream of thought, but it is more usefully considered as a form of delusion.

Loosening of association denotes a lack of connection between ideas. This may be detected in illogical thinking (knight's move) or talking past the point (Vorbeireden). In the severest form of loosening the structure and coherence of thinking is lost, so that utterances are jumbled (word salad or verbigeration). Some patients use ordinary words in unusual ways (paraphrasias or metonyms), and a few coin new words (neologisms).

Abnormalities of mood are common, and of three main kinds. First, there may be sustained abnormalities of mood such as anxiety, depression, irritability, or euphoria. Secondly, there may be blunting of affect, sometimes known as flattening of affect. Essentially this is sustained emotional indifference or diminution of emotional response. Thirdly, there is incongruity of affect. Here the emotion is not necessarily diminished, but it is not in keeping with the mood that would ordinarily be expected. For example, a patient may laugh when told about a bereavement. This third abnormality is often said to be highly characteristic of schizophrenia, but different interviewers often disagree about its presence.

Auditory hallucinations are among the most frequent symptoms. They may take the form of noises, music, single words, brief phrases, or whole conversations. They may be unobtrusive or so severe as to cause great distress. Some voices seem to give commands to the patient. Some patients hear their own thoughts apparently spoken out loud either as they think them (Gedankenlautwerden) or immediately

afterwards (echo de la pensee). Some voices seem to discuss the patient in the third person. Others comment on his actions. As described later, these last three symptoms have particular diagnostic value.

Visual hallucinations are less frequent and usually occur with other kinds of hallucination. Tactile, olfactory, gustatory, and somatic hallucinations are reported by some patients; they are often interpreted in a delusional way, for example hallucinatory sensations in the lower abdomen are attributed to unwanted sexual interference by a persecutor.

Delusions are characteristic. Primary delusions are infrequent, and difficult to identify with certainty. Delusions may originate against a background of so-called primary delusional mood - Wahnstimmung. Persecutory delusions are common, but not specific to schizophrenia. Less common but of greater diagnostic value are delusions of reference and of control, and delusions about the possession of thought. The latter are delusions that thoughts are being inserted into or withdrawn from one's mind, or broadcast to other people.

In acute schizophrenia orientation is normal. Impairment of attention and concentration is common, and may produce apparent difficulties in remembering, though memory is not impaired. So-called experiences result from illness, but usually ascribe them to the malevolent actions of other people. This lack of insight is often accompanied by unwillingness to accept treatment.

Schizophrenic patients do not necessarily experience all these symptoms. The clinical picture is variable, as described later in this chapter. The table below lists the most frequent symptoms found in one large survey.

The most frequent symptoms of acute schizophrenia (World Health Organization 1973)

Symptom Frequency (%)

Lack of insight 97
Auditory hallucinations 74
Ideas of reference 70
Suspiciousness 66
Flatness of affect 66
Voices speaking to the patient 65
Delusional mood 64
Delusions of persecution 64
Thought alienation 52
Thoughts spoken aloud 50

Various theories exist about Mike Corley:

1) he exists and is disturbed and has net access and for reasons uncertain spams a selected number of newsgroups on a regular basis - if you are reading this FAQ then you will almost certainly have seen one of his posts.

2) Mike Corley is a 'virtual schizophrenic'. Mike displays the relevant features so well that some people think he may be a construction of one or more people with intimate knowledge of mental illness and the mentally ill. Perhaps they wish to monitor the effects on the internet of the posts of a schizophrenic. Moving into X-Files territory a bit, ourselves, here.

Mike's posts attract different responses:

1) cruel, humourous, dismissive posts from those who've seen his posts many times and have become generally irritated by his behaviour while accepting that he probably has a mental illness.

2) posts from Corley-newbies - those who have come across relateviely few of Mike's posts. These may be humorouous or disbelieving.

3) posts from people who have been sucked in (for one reason or another) into Mike's Wild & Wacky World (TM)

That's enough for now.

comments, suggestions, additions, corrections to iain@XXXXX.demon.co.uk

1276

--
Posted via a free Usenet account from http://www.teranews.com

418. Re: PING: Max Grrl

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-18 23:12:45 UTC
From: Max Grrl <maxtheangel@gmail.com>
Message-ID: <N9Trh.1439$Hc5.1102@trnddc03>
Source record: 46830
Cross-posted to: alt.usenet.kooks,rec.radio.cb,alt.fan.howard-stern,rec.radio.shortwave,rec.radio.amateur.antenna

```
Max Grrl wrote:
> In article <3aSrh.1401$Hc5.1360@trnddc03>, Max Grrl
> <maxtheangel@gmail.com> wrote:
>
>> Meat Plow wrote:
>>> On Thu, 18 Jan 2007 13:40:58 -0800, henry_vonkook Has Frothed:
>>>
>>>> PLEASE NOTE AND WITNESS BELOW:
>>>>
>>>> ""Well that's interesting because the moderators will either have to
>>>> block me
>>>> or block everyone else since I've disagreed with most people at one
>>>> time or
>>>> another on something. The cross postings from outside the amateur
>>>> radio
>>>> groups the last few days have really been annoying.""
>>>>
>>>> Dee, N8UZE
>>>>
>>>> ms dee is the grand dame of the rec radio groups. she is an extra
>>>> class, code tested amateur radio operator. this alone proves her
>>>> knowledge is above and beyond everyone elses.
>>>>
>>>> as you can see she does not like you and your ilk posting in the radio
>>>> groups. as you can see she states it's "annoying".
>>>>
>>>> WE MUST DEMAND AND ORDER THAT MS DEE'S WISHES BE RESPECTED!
>>>>
>>>> we therefore order the following:
>>>>
>>>> you and your perverted pals will not post (or read) the following
>>>> groups:
>>>>
>>>> rec.radio.amateur.policy
>>>>
>>>> rec.radio.amateur.misc
>>>>
>>>> rec.radio.amateur.antenna
>>>>
>>>> rec.radio.shortwave
>>>>
>>>> rec.radio.cb
>>>>
```

>>>> alt.ham-radio.vhf-uhf
>>>>
>>>> alt.military.cap
>>>>
>>>> should you disobey you will see the raw power of hams that can copy
>>>> morse code!
>>> SVBSCRIEB!!!
>>>
>> I am a filthy[Pedo-k00k babble snipped]
>
> [MaxWhore realizes that everyone knows that she's a filthy whore and wants to kill herself. Let's encourage her to do so]
>

MaxSlut, McDonald's won;t let you in the restaurant anymore. they've be
getting complaints from other customers about you and your toxicity
levels. Now Douche, b1tch, douche!!

419. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-18 23:18:09 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <0kvvq2hiqr7f39mg19akhrq41m24jq0kb2@4ax.com>
Source record: 46832

On Thu, 18 Jan 2007 12:51:40 -0800, Jim Kelley <jwkelley@uci.edu>
wrote:

>> A photon encounters an electron in a radial and is
>> absorbed.
>
>We know that electrons are inspired to move in a particular fashion
>when they are irradiated. But how does a photon tell the electron
>which way it should move? Kinematics would seem to have little to do
>with this phenomenon.

And photon/electron interaction is not so indiscriminate (it doesn't
always interact in the first place).

>> Later, that same electron emits a photon.
>
>A photon which, if the direction in which it is emitted is unknown,
>can be made to create a diffraction pattern - implying that a wave was
>emitted rather than a particle. Putting us right back where we started.

An electron does not always give rise to just one photon, or any
photon, or a photon of the same energy.

>> The photon cloud surrounding
>> a radial contains photons that came from that radial
>> and from everywhere else.
>
>But what is it about this "cloud" that is actually cloud-like? Isn't
>it really more like a wave of photons? :-)

Cloud indeed. This is like a sack of magic beans in exchange for a
cow.

Is this ill-discussion of photons the legacy of image theory? It is
like preening in front of a conjugate mirror.

73's
Richard Clark, KB7QHC

420. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-18 23:41:37 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <RATrh.68384$wP1.26465@newssvr14.news.prodigy.net>
Source record: 46833

Richard Clark wrote:
> An electron does not always give rise to just one photon, or any
> photon, or a photon of the same energy.

This is true. But in an amateur transmitter driven
antenna system, the great majority of radiated photons
are coherent with the transmitting frequency. Coherent
photons are required to have the same energy level. The
photons coherent with the transmitting frequency are
first order effects. Assuming one is not close to
another transmitter, the photons not coherent with
the transmitting signal are Nth order effects.
--
73, Cecil http://www.w5dxp.com

421. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-18 23:45:45 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eop1gc$5tg$1@news.service.uci.edu>
Source record: 46834

Cecil Moore wrote:

> Jim Kelley wrote:
>
>> But how does a photon tell the electron which way it should move?
>
>
> Energy and momentum must be conserved.

Do you really want to go there? :-) According to QED, you first need
to find some negative energy photons. Then you need to get them to
propagate backward in time and subsequently interact with electrons.
Then, the electrons can then move forward in time and emit positive
energy photons while conserving momentum.

>> A photon which, if the direction in which it is emitted is unknown,
>> can be made to create a diffraction pattern - implying that a wave was
>> emitted rather than a particle. Putting us right back where we started.
>
>
> Allow me to paraphrase Feynman: Only particles exist.

Dear Merrium Webster,

On behalf of a friend of mine, please consider adding this definition
to your dictionary:

paraphrase - to restate text in different form such that it conveys
unintended meaning

>> But what is it about this "cloud" that is actually cloud-like? Isn't
>> it really more like a wave of photons? :-)
>
>
> If you prefer liquid analogies to gaseous analogies, feel
> free.

A wave of photons. It's a physics joke, Cecil. Laugh already.

73, ac6xg

422. MI5 Persecution: Website Index (2177)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-18 23:54:52 UTC
From: MI5Victim@mi5.gov.uk
Message-ID: <m07001900491514@4ax.com>
Source record: 46837
Cross-posted to:
it.discussioni.geometri,it.comp.giochi,rec.radio.amateur.antenna,hr.rec.glazba.snimanje,alt.consciousness.4th-way

Persecuted by the Security Service

Since June 1990 the British security service MI5 has waged a campaign of harassment against a UK citizen,
through the broadcast and print media, verbal abuse at work, and molestation in public and during travel.

Despite widespread knowledge of the campaign in the UK and discussion of its characteristics on Usenet for
over three years, it continues today both in Britain and North America. Its cause and basis is xenophobia
on the basis of the genetic accident of mental illness, coupled with discrimination against an inferior
"foreigner" whom they condemn as "not up to British Standards".

If this is your first visit to this site, please read the FAQ first. Feel free to contact the author with
any questions.

Frequently Asked Questions article outlines the parameters of the persecution. Who is involved, and why?
What technical and social means do they employ? What response have I made, and why has their campaign yet
to be exposed?

The UK Security Services which are believed to be behind it all. Domestic security is the province of MI5
while the secret intelligence service MI6 combats foes (and its former employees) on foreign shores.

Usenet archive chronicling the (sometimes very enthusiastic) exchanges which have taken place on UK-local
newsgroups since May 1995. Make your mark on the continuing discussion!

Believe it or not, a few items of evidence have been recorded. Although none of them is particularly
conclusive, by presenting them I hope to explain what I understand from some television and radio programmes.
Most of the "clinching" material was aired in 1990-92, and no recordings exist now, which is quite unfortunate.

My complaints to the BBC and MI5 (via the Security Service Tribunal and Interception of Communications Tribunal),
and their response to my challenges, are recorded here. Basically they deny everything, they have put their

denials (mostly - Buerk and Lewis refused) in writing, and I don't believe them. Part of the website also
documents media coverage of my campaign to expose the persecution.

Faxed articles to, and responses from British organisations including Parliament and UK media. Over 24,259 faxes
in all were sent from 1998 to 2000. Their aim was to boot discussion of the persecution into the public domain,
and that aim was not accomplished.

2177

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Posted via a free Usenet account from http://www.teranews.com

423. Re: woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-19 00:09:05 UTC
From: Mark@kb9rqz.org
Message-ID: <b030r2969eljektc86tnam46bq443l3uog@4ax.com>
Source record: 46836
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner

On 18 Jan 2007 14:21:47 -0800, "Not Cocksucker Lloyd"
<not_time_turd_lloyd@yahoo.com> wrote:

>
>Mark@kb9rqz.org wrote:
>> On 16 Jan 2007 07:18:01 -0800, "sapper" <billvet6@excite.com> wrote:
>>
>> >
>> >Mark@kb9rqz.aspr wrote:
>> >> ok I back four anoter tuff day on the news grupes it my job tast is waht I
>> >> do so bringit on you loosers
>> >> show-na-to-va (that is the greeting for this time of year as JEW rendered
>> >> phonicticaly)
>> >> happy new years it means and it can be better one if Wismen Robson and SC a
>> >> few just decided to not to be as hateful with the punce gotcha he wonders
>> >> why I simple don't bother to ty impoving my spelling do u hav anyting
>> >> cognet two say?
>> >> http://kb9rqz.blogspot.com/
>> >>
>> >> Posted via a free Usenet account from http://www.teranews.com
>> >
>> >
>> >
>> >YAWWWWN!
>> yea he is very boring
>
>Not half as boring as You, Marqueer!

well you obviously find me obessly interrting woger
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

424. MI5 Persecution: ?20,000 Reward (3076)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-19 00:39:24 UTC
From: MI5Victim@mi5.gov.uk
Message-ID: <m07001901334744@4ax.com>
Source record: 46838
Cross-posted to:
it.discussioni.geometri,it.comp.giochi,rec.radio.amateur.antenna,hr.rec.glazba.snimanje,alt.consciousness.4th-way

20,000 Reward Offered to Expose the Conspiracy

I am making a pledge for information directly leading to the exposing of the "BBC Newscaster
Conspiracy". The exposing would specifically need to lead to a legally binding admission from Martyn Lewis
or Michael Buerk of the BBC they they were watching me through the TV set.

I would be happy (delighted, in fact) to pay GBP 20,000 sterling in reward for the above admission.

3076

--
Posted via a free Usenet account from http://www.teranews.com

425. MI5 Persecution: what people said (3946)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-19 01:28:40 UTC
From: MI5Victim@mi5.gov.uk
Message-ID: <m07001902225945@4ax.com>
Source record: 46839
Cross-posted to:
it.discussioni.geometri,it.comp.giochi,rec.radio.amateur.antenna,hr.rec.glazba.snimanje,alt.consciousness.4th-way

From: aa1gha@zen.sunderland.ac.uk (gillian.hardy)
Newsgroups: uk.misc,uk.legal,uk.politics,uk.politics.misc,uk.media
Subject: Re: Read About "MI5 Persecution" on the Web!
Date: Mon May 13 21:27:26 1996

: In article <Dr5sDI.50x.0.bloor@torfree.net>, bu765@torfree.net wrote:

: |> This site is now running brilliantly. It will be updated with new
: |> information regarding this case and is well worth including in your
: |> bookmark file.

For my sins I had a look and it's quite good actually. Nicely set out and
presented. Didn't read it though, having read the rants a million times
before. By the way, anyone noticed Chris Tarrant looking at you funny
during Man O Man yet? Thought not...

Gillian

From: franco@elea.demon.co.uk (Francis Devonshire)
Newsgroups: uk.misc,uk.legal,uk.politics,uk.politics.misc,uk.media
Subject: Re: Read About "MI5 Persecution" on the Web!
Reply-To: franco@elea.demon.co.uk
Date: Tue May 14 19:17:26 1996

In message <4na2d0$dho@leofric.coventry.ac.uk> Stephen Hopkins wrote:

:Yes, I have to be honest: that page is one of the best examples of how to
:present a long document on the Web that I've seen. Hopefully, frames will
:become more and more prevalent and this style of presentation will become
:the norm for long documents such as that.

My html thingy doesnt seem to do frames so all I got was a blank page. Then
again, maybe someone, somewhere doesn't want me to read it.

BTW does 'troll' bring to mind a fishing lure (ie you are American), or an
ogre type thing (ie you are European). I much prefer the image of the latter.

+---+
| Francis Devonshire Titchfield, Hampshire, United Kingdom |
+---+

Newsgroups: uk.misc,uk.legal,uk.politics.misc,soc.culture.british
From: duncan@yc.estec.esa.nl (Duncan Gibson)
Subject: Re: MI5 Persecution: Bugging
Date: Wed Jun 12 06:46:41 1996

Mike Corley <bu765@torfree.net> wrote:
> Read about the MI5 Persecution on the Web

Now, whatever you might think about the content, this is a very well designed and presented web page (if you use Netscape to look at it anyway - Mosaic couldn't handle it).

This is my article, not my employer's, with my opinions and my disclaimer!
--
Duncan Gibson, ESTEC/YCV, Postbus 299, 2200AG Noordwijk, The Netherlands
Tel: +31 71 5654013 Fax: +31 71 5656142 Email: duncan@yc.estec.esa.nl

3946

--
Posted via a free Usenet account from http://www.teranews.com

426. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-19 03:45:33 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <y9Xrh.33931$QU1.12854@newssvr22.news.prodigy.net>
Source record: 46840

Jim Kelley wrote:
> Do you really want to go there? :-) According to QED, you first need to
> find some negative energy photons. Then you need to get them to
> propagate backward in time and subsequently interact with electrons.
> Then, the electrons can then move forward in time and emit positive
> energy photons while conserving momentum.

No prediction made by QED has ever been wrong. How's that
for a track record?

> A wave of photons. It's a physics joke, Cecil. Laugh already.

I already did, many hours ago.
--
73, Cecil http://www.w5dxp.com

427. Re: Carol Fucks A Pig

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-19 04:52:10 UTC
From: maxxx_grrrl@yahoo.com
Message-ID: <1169182330.423777.255760@l53g2000cwa.googlegroups.com>
Source record: 46841
Cross-posted to: alt.religion.jehovahs-witn,rec.ponds,rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.cb

Carol Gulley wrote:
> Carol Gulley<none available>wrote:
>
> > http://farm_sex.com/carol_fucking_pig.wmv.
>
>
Thats how gavie fucks morky!

428. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-19 04:54:53 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <j9j0r21srj2tc6847qlul5o6js2dcutnbr@4ax.com>
Source record: 46842

On Thu, 18 Jan 2007 21:45:33 -0600, Cecil Moore <mycall@hotmail.com>
wrote:

>No prediction made by QED has ever been wrong. How's that
>for a track record?

No prediction made by QED has ever been right. Every experiment
destroys some of the knowledge of the system which was obtained by
previous experiments.

73's (ï¿½3dB)
Werner Heisenberg

p.s. For the purpose of the original posting of "image theory:" There
is a fundamental error in separating the parts from the whole, the
mistake of atomizing what should not be atomized.

429. Re: MI5 Persecution: Hotchkies FAQ (1276)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-19 07:42:42 UTC
From: il grande fardello <nontelodico@virgilio.it.invalid>
Message-ID: <eopsodjib1@megan.servidellagleba.it>
Source record: 46843
Cross-posted to:
it.discussioni.geometri,it.comp.giochi,rec.radio.amateur.antenna,hr.rec.glazba.snimanje,alt.consciousness.4th-way,uk.misc

Ma che "vole" questo?!

--
Ciao

430. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-19 09:41:12 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <Ym0sh.50444$wc5.31257@newssvr25.news.prodigy.net>
Source record: 46844

Richard Clark wrote:
> p.s. For the purpose of the original posting of "image theory:" There
> is a fundamental error in separating the parts from the whole, the
> mistake of atomizing what should not be atomized.

That's the point I was trying to make. One cannot correctly
say "the radials are a reflector" or "the radials are non-
radiating". The radials are partially reflecting,
partially absorbing, partially radiating, and partially
non-radiating based on a level of probability for each
of the possible events which are not necessarily limited
to those four events. It's not a 100% either/or situation.

The original mirror Vs radiation "argument" between the
authors is like arguing whether gray is black or white.
--
73, Cecil http://www.w5dxp.com

431. Re: GPA vs Vert dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-19 10:21:10 UTC
From: Andr&#65533; <nospam@free.fr>
Message-ID: <45b09b94$0$16508$426a34cc@news.free.fr>
Source record: 46845

"Owen Duffy" <none@no.where> a &#65533;crit dans le message de news:

> Where does the 36 ohms come from? Is it for a quarter wave monopole
> mounted on a perfect ground plane?

yes

> Is the radiation pattern of a quarter wave monopole mounted over 4
> quarter wave radials the same as a quarter wave monopole mounted on a
> perfect ground plane?

at first, it seems it is the same, but in fact there are some slight
differences, and it explains the difference in gain and radiation
resistance.

> Though you might use the term GPA to refer to a quarter wave monopole
> mounted over 4 quarter wave radials, it is not the same as a quarter wave
> monopole mounted on a perfect ground plane.

right!
and it was the reason.

73 Owen and thank you

Andr&#65533;
http://f5ad.free.fr/

432. Re: GPA vs Vert dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-19 10:29:39 UTC
From: Andr&#65533; <nospam@free.fr>
Message-ID: <45b09d91$0$18983$426a34cc@news.free.fr>
Source record: 46846

"chuck" <nospam@nospam.org> a &#65533;crit dans le message de news:
1169048968_6539@sp6iad.superfeed.net...

> Andr&#65533;, you might find this interesting:
>
> http://www.cebik.com/gp/gp3.html
> On Ground Planes

fine this page on ground planes Chuck

I thank you and everybody who tried to help me in understanding the
phenomenons with ground plane antennas.

with GPA = a vertical pole and four radials, it appears that:

-the vertical patern of a vertical dipole is not quite identical; it is
difficult to see on the graphs, but it is different, so the gains are
slightly different
-four radials are not a perfect plane (not a surprise!)
-the radiation resistance is low, 22 Ohms in free space, consequently the
losses with a real ground are greater than with 36 or 72 Ohms
-with my 40m GPA, the efficiency falls to 56% at the ground level (half the
power to warm the ground...);
to reach 90% the antenna must be ten meter above the ground, or use a
multitude of radials.

very pleased with this newsgroup, despite the difficulty, for me, with
english.

73

Andr&#65533; F5AD
http://www.youtube.com/watch?v=Do11t0Btrpw

433. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-19 18:36:20 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eor44j$j5a$1@news.service.uci.edu>
Source record: 46847

Cecil Moore wrote:
> Jim Kelley wrote:
>
>> Do you really want to go there? :-) According to QED, you first need
>> to find some negative energy photons. Then you need to get them to
>> propagate backward in time and subsequently interact with electrons.
>> Then, the electrons can then move forward in time and emit positive
>> energy photons while conserving momentum.
>
>
> No prediction made by QED has ever been wrong. How's that
> for a track record?

I think QED is a very clever idea and I applaud your effort toward
finding a good use for it. :-)

73, Jim AC6XG

434. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-19 19:30:29 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <p%8sh.36163$Gr2.9294@newssvr21.news.prodigy.net>
Source record: 46848

Jim Kelley wrote:
> I think QED is a very clever idea and I applaud your effort toward
> finding a good use for it. :-)

It is very useful in settling the arguments about
whether gray is black or white. :-)
--
73, Cecil http://www.w5dxp.com

435. W9INN 40/80 Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-19 20:08:37 UTC
From: "Dick, AA5VU" <aa5vuNOSPAM@arrl.net>
Message-ID: <aa5vuNOSPAM-9011E8.14083619012007@newsclstr03.news.prodigy.net>
Source record: 46849

I am sorry to hear about W9INN becoming SK last year and wonder if
someone is now selling his line of antennas?

I have used one of Bill's antennas for years and it may need to be
replaced. I added extra wires for 10 MHz and 18 MHz and it loads all
WARC bands as well as six meters. Since Bill did not believe in balans
his antennas would accept all the power you had with no problem.

Bill and his W9INN antennas are missed

Dick AA5VU

436. SG-235 Antenna Tuner WANTED

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-19 20:25:17 UTC
From: erfurth@gmail.com
Message-ID: <1169238317.359121.24830@a75g2000cwd.googlegroups.com>
Source record: 46850

Hi Gang,

I am looking for an SGC model SG-235 500 watt antenna tuner/coupler.
If I can't locate an SG-235, I would be interested in an SG-230.

If you have one you are interested in selling, please let me know

Thanks,

Bill
k0owo
Colorado
erfurth@gmail.com
phone: 303 674 0510

437. Re: SG-235 Antenna Tuner WANTED

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-19 22:25:37 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <Bzbsh.68623$wP1.12835@newssvr14.news.prodigy.net>
Source record: 46851

erfurth@gmail.com wrote:
> I am looking for an SGC model SG-235 500 watt antenna tuner/coupler.
> If I can't locate an SG-235, I would be interested in an SG-230.
> If you have one you are interested in selling, please let me know

You might get a better response on rec.radio.swap
--
73, Cecil http://www.w5dxp.com

438. Re: GPA vs Vert dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-19 22:41:46 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12r2i9d8de32962@corp.supernews.com>
Source record: 46852

John Ferrell wrote:

> On my "Things to do List" I plan to spend some time with EzNec and a
> ground plane in free space.
>
> What I hope to better understand is the effect of the the quality of
> the ground plan in the are between a modeled "real ground" and a
> modeled "perfect ground".
>
> I don't know the free space model will be valid, but I hope to learn
> from the exercise.
>
> I could just ask another series of "dumb questions" here but I fear
> some of those who are so generous will tire of my noise!
>
> When I modeled the vertical with a perfect ground I was expecting half
> a vertical dipole and that is not what I got!
>
> John Ferrell W8CCW

If you model a vertical connected to perfect ground, you should get almost exactly half the impedance of a dipole of twice the length in free space, with the same radiation pattern except 3 dB greater in amplitude and of course with the lower half missing. If you use an odd number of segments and a single source for the dipole, there will be a small difference because of the difference in source placement between the dipole and vertical. This difference will become less as the number of segments is increased in both models.

However, you can make the models virtually identical by using a "split source". Here's an example you can even do with the demo program:

Open the EZNEC example file Vert1.ez or d_Vert1.ez. Click Src Dat to see that the source Z is 36.65 + j2.971. (It's using MININEC type ground, so the source Z is the same as for perfect ground.) Then change the Ground Type to Free Space. Add a second wire with end coordinates 0, 0, 0 and 0, 0, -10.3 meters, 40 mm diameter, 10 segments, to be an exact mirror image of the vertical. Then open the Sources Window and change the source type to SV (split voltage) or SI (split current) and click Src Dat. The reported Z is now 73.3 + j5.942, exactly twice the Z of the vertical. To compare patterns, you'll need to use Perfect ground for the vertical rather than MININEC type ground.

Roy Lewallen, W7EL

439. Re: woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-19 22:50:59 UTC
From: Not Cocksucker Lloyd <not_time_turd_lloyd@yahoo.com>
Message-ID: <1169247059.693258.72230@l53g2000cwa.googlegroups.com>
Source record: 46853
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner

Mark@kb9rqz.org wrote:
> On 18 Jan 2007 14:21:47 -0800, "Not Cocksucker Lloyd"
> <not_time_turd_lloyd@yahoo.com> wrote:
>
> >
> >Mark@kb9rqz.org wrote:
> >> On 16 Jan 2007 07:18:01 -0800, "sapper" <billvet6@excite.com> wrote:
> >>
> >> >
> >> >Mark@kb9rqz.aspr wrote:
> >> >> ok I back four anoter tuff day on the news grupes it my job tast is waht I
> >> >> do so bringit on you loosers
> >> >> show-na-to-va (that is the greeting for this time of year as JEW rendered
> >> >> phonicticaly)
> >> >> happy new years it means and it can be better one if Wismen Robson and SC a
> >> >> few just decided to not to be as hateful with the punce gotcha he wonders
> >> >> why I simple don't bother to ty impoving my spelling do u hav anyting
> >> >> cognet two say?
> >> >> http://kb9rqz.blogspot.com/
> >> >>
> >> >> Posted via a free Usenet account from http://www.teranews.com
> >> >
> >> >
> >> >
> >> >YAWWWWN!
> >> yea he is very boring
> >
> >Not half as boring as You, Marqueer!
>
> well you obviously find me obessly interrting woger

Everybody would like to see you "interred", Marqueer, especialy in a
grave.

440. Re: woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-19 23:40:22 UTC
From: an old friend <kb9rqz@hotmail.com>
Message-ID: <1169250022.445799.273180@11g2000cwr.googlegroups.com>
Source record: 46854
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.scanner

Not Cocksucker Lloyd wrote:
> Mark@kb9rqz.org wrote:
> Everybody would like to see you "interred", Marqueer, especialy in a
> grave.
wrong again woger

anything about radio for the NG perhaps

441. Re: W9INN 40/80 Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-20 00:41:23 UTC
From: w9gb <spam_protect@arrl.net>
Message-ID: <OPWdnaDAmcGg-CzYnZ2dnUVZ_tCtnZ2d@comcast.com>
Source record: 46855

"Dick, AA5VU" <aa5vuNOSPAM@arrl.net> wrote in message
news:aa5vuNOSPAM-9011E8.14083619012007@newsclstr03.news.prodigy.net...
>I am sorry to hear about W9INN becoming SK last year and wonder if
> someone is now selling his line of antennas?
>
> I have used one of Bill's antennas for years and it may need to be
> replaced. I added extra wires for 10 MHz and 18 MHz and it loads all
> WARC bands as well as six meters. Since Bill did not believe in balans
> his antennas would accept all the power you had with no problem.
>
> Bill and his W9INN antennas are missed
>
> Dick AA5VU

Dick -

You should measure and document the W9INN antenna that you have!

AB7SL did sponsor and host the W9INN web pages and documentation,
BUT I have not seen this on the Internet -- since Bill passed away in 2004

w9gb
==========

William Fanckboner, W9INN, SK: William E. "Bill" Fanckboner, W9INN, of Mt Prospect, Illinois--the proprietor of W9INN Antennas -- died July 30, 2004. He was 80.

W9INN Antennas will die with him. "He did all of the work by himself, so it is effectively out of business," said his daughter, Robin Randall. "He was the business."

Refunds were mailed by the family to those with existing orders when Bill passed away.
An ARRL member and supporter, Fanckboner turned his talents for radio and electronics into W9INN Antennas some three decades ago after working for Motorola, and he was a regular QST advertiser.

Fanckboner designed and hand-built custom antennas, including the MPD-5C-78, MPD-2 and MDX-8C "hideaway" dipoles, and, his daughter says, he was working full time until a week prior to his death. Fanckboner enjoyed a reputation within the amateur community for skilled workmanship and a friendly, helpful manner. A memorial service was held August 9.

The family invites memorial donations to the American Cancer Society.

==========
Katrina damage at Ralph Hartwell, W5JGV QTH

Bill would have been proud how well his antenna held up
(only one broken wire!)
http://w5jgv.com/HF_Antennas_after_Katrina/index.htm

442. Re: GPA vs Vert dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-20 01:32:32 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <b0s2r25b467ggniingll90qf9lpseoe741@4ax.com>
Source record: 46856

On Fri, 19 Jan 2007 14:41:46 -0800, Roy Lewallen <w7el@eznec.com>
wrote:

>
>If you model a vertical connected to perfect ground, you should get
>almost exactly half the impedance of a dipole of twice the length in
>free space, with the same radiation pattern except 3 dB greater in
>amplitude and of course with the lower half missing. If you use an odd
>number of segments and a single source for the dipole, there will be a
>small difference because of the difference in source placement between
>the dipole and vertical. This difference will become less as the number
>of segments is increased in both models.
>
>However, you can make the models virtually identical by using a "split
>source". Here's an example you can even do with the demo program:
>
>Open the EZNEC example file Vert1.ez or d_Vert1.ez. Click Src Dat to see
>that the source Z is 36.65 + j2.971. (It's using MININEC type ground, so
>the source Z is the same as for perfect ground.) Then change the Ground
>Type to Free Space. Add a second wire with end coordinates 0, 0, 0 and
>0, 0, -10.3 meters, 40 mm diameter, 10 segments, to be an exact mirror
>image of the vertical. Then open the Sources Window and change the
>source type to SV (split voltage) or SI (split current) and click Src
>Dat. The reported Z is now 73.3 + j5.942, exactly twice the Z of the
>vertical. To compare patterns, you'll need to use Perfect ground for the
>vertical rather than MININEC type ground.
>
>Roy Lewallen, W7EL

I will spend more time here. The last model I worked out with a
perfect ground appeared to produce a 0 degree take off angle.

Mornings are best for me to push my gray matter!
John Ferrell W8CCW

443. Re: GPA vs Vert dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-20 06:29:44 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12r3dmq16r1bi64@corp.supernews.com>
Source record: 46857

John Ferrell wrote:
>
> I will spend more time here. The last model I worked out with a
> perfect ground appeared to produce a 0 degree take off angle.
> . . .

That is the correct result. The pattern is exactly the same as half the pattern of a vertical dipole, which has a maximum at zero degree elevation angle, except that the gain of the vertical is 3 dB greater because the same power is concentrated in only one hemisphere.

Roy Lewallen, W7EL

444. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-20 13:32:51 UTC
From: David <nospam@nospam>
Message-ID: <4uqdnQ3NbuhhhC_YRVnyvgA@bt.com>
Source record: 46858

It is said that the elevated radials are an artificial ground plane, simulate a ground plane, form a virtual ground plane, or approximate a ground plane. It may be that the radials perform the same function as a ground plane, but do not form a real ground plane.

For example, the Butternut antenna manual at following web address says that elevated radials are an artificaial ground plane.

http://www.bencher.com/pdfs/00361ZZV.pdf

What functions do the radials perform that are the same as a real ground plane? What similarities are there between radials and a real ground plane?

445. Re: Carol Fucks A Pig

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-20 14:26:23 UTC
From: Gavrielah Hojnacki <TransV@kornstains.com>
Message-ID: <45b219ec$0$24329$88260bb3@free.teranews.com>
Source record: 46859
Cross-posted to: alt.religion.jehovahs-witn,rec.ponds,rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.cb

<maxxx_grrrl@yahoo.com> wrote in message
news:1169182330.423777.255760@l53g2000cwa.googlegroups.com...
>
> Carol Gulley wrote:
>> Carol Gulley<none available>wrote:
>>
>> > http://farm_sex.com/carol_fucking_pig.wmv.
>>
>>
> Thats how gavie fucks morky!
>
We swing with a better class of transvestite!

--
Posted via a free Usenet account from http://www.teranews.com

446. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-20 16:13:07 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <ncrsh.11983$ji1.8692@newssvr12.news.prodigy.net>
Source record: 46860

David wrote:
> What functions do the radials perform that are the same as a real ground
> plane? What similarities are there between radials and a real ground plane?

How is the monopole antenna system connected to the
real ground plane - as opposed to an ideal infinite
conducting plane? What about radials buried inside
the real ground plane?
--
73, Cecil http://www.w5dxp.com

447. Re: Carol Fucks A Pig

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-20 18:49:48 UTC
From: Ips-Switch <Ips794@spamnot.com>
Message-ID: <45b2644b$0$1102$834e42db@reader.greatnowhere.com>
Source record: 46861
Cross-posted to: alt.religion.jehovahs-witn,rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.cb

"Gavrielah Hojnacki" <TransV@kornstains.com> wrote in message
news:45b219ec$0$24329$88260bb3@free.teranews.com...
>
> <maxxx_grrrl@yahoo.com> wrote in message
> news:1169182330.423777.255760@l53g2000cwa.googlegroups.com...
>>
>> Carol Gulley wrote:
>>> Carol Gulley<none available>wrote:
>>>
>>> > http://farm_sex.com/carol_fucking_pig.wmv.
>>>
>>>
>> Thats how gavie fucks morky!
>>
> We swing with a better class of transvestite!

In which Kingdom Hall? The one in Camden NJ where Carol aka Norma Santana
lives?

>
>
>
> --
> Posted via a free Usenet account from http://www.teranews.com
>

448. Dummy load power rating

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-20 22:00:41 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <Ujwsh.298$ch1.65@bigfe9>
Source record: 46862

I was cleaning up today and came across an old dummy load I had that looks like it is made from 2 watt resistors. ITs mounted on a quart size paint can lid and looks to be a 50 watts worth of resistors. This looks like it may have been a commercially built unit and I was wondering what the power handling capability would be if the resistors were submerged in mineral oil.

Jimmie

449. Re: Dummy load power rating

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-20 22:45:58 UTC
From: jgboyles@aol.com
Message-ID: <1169333158.214097.174540@51g2000cwl.googlegroups.com>
Source record: 46863

Jimmie D wrote:
> I was cleaning up today and came across an old dummy load I had that looks
> like it is made from 2 watt resistors. ITs mounted on a quart size paint can
> lid and looks to be a 50 watts worth of resistors. This looks like it may
> have been a commercially built unit and I was wondering what the power
> handling capability would be if the resistors were submerged in mineral oil.
>
> Jimmie

Hi Jimmie, It would probably take a kilowatt, the question is for how long? I was looking at my old Heath "Cantenna" manual and it says it will take 1000 watts for about 1 minute in mineral oil. The resistor element appears to be ~50-100 watts. The Cantenna is in a gallon paint can. If none of the 25 resistors "fuse" out due to current, your load should take a kilowatt for at least 15 seconds, and take 100 watts ~forever.

Gary N4AST

450. Re: Dummy load power rating

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-20 23:17:34 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <Zrxsh.1002$pg2.980@bignews2.bellsouth.net>
Source record: 46864

<jgboyles@aol.com> wrote in message
news:1169333158.214097.174540@51g2000cwl.googlegroups.com...
>
> Jimmie D wrote:
>> I was cleaning up today and came across an old dummy load I had that
>> looks
>> like it is made from 2 watt resistors. ITs mounted on a quart size paint
>> can
>> lid and looks to be a 50 watts worth of resistors. This looks like it may
>> have been a commercially built unit and I was wondering what the power
>> handling capability would be if the resistors were submerged in mineral
>> oil.
>>
>> Jimmie
>
> Hi Jimmie, It would probably take a kilowatt, the question is for how
> long? I was looking at my old Heath "Cantenna" manual and it says it
> will take 1000 watts for about 1 minute in mineral oil. The resistor
> element appears to be ~50-100 watts. The Cantenna is in a gallon paint
> can. If none of the 25 resistors "fuse" out due to current, your load
> should take a kilowatt for at least 15 seconds, and take 100 watts
> ~forever.
>
> Gary N4AST
>
Thanks Gary
Would it be worth my while to remount it for a gallon container. I was
thinking of doing this anyway because the local paint store sells gallon
paint cans, Im not sure about he avaiability of the quart size cans. I have
access to lots of mineral oil. At work we use about 100 gal a year and I can
have all the used oil I want

451. Re: Followon to image theory

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-21 02:01:51 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <5oh5r2tevm37v3824opl0rgueq10o9ehvq@4ax.com>
Source record: 46865

On Sat, 20 Jan 2007 13:32:51 -0000, "David" <nospam@nospam> wrote:

>It is said that the elevated radials are an artificial ground plane,
>simulate a ground plane, form a virtual ground plane, or approximate a
>ground plane. It may be that the radials perform the same function as a
>ground plane, but do not form a real ground plane.

Hi David,

You've recited this more than once. Repetition does nothing to reveal
these as anything more than disconnected statements.

>For example, the Butternut antenna manual at following web address says that
>elevated radials are an artificaial ground plane.
>
>http://www.bencher.com/pdfs/00361ZZV.pdf

Simple observation of the wandering usage through that document would
inform most that "ground plane" is a term of convenience.

>What functions do the radials perform that are the same as a real ground
>plane?

There is no such thing as a "real ground plane."

>What similarities are there between radials and a real ground plane?

None.

73's
Richard Clark, KB7QHC

452. Re: Dummy load power rating

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-21 02:15:01 UTC
From: Bob Miller <NOSPAM@neosoft.com>
Message-ID: <nvi5r21q7ja0s5492q6b3kpe6lqkqfgqjq@4ax.com>
Source record: 46866

On Sat, 20 Jan 2007 18:17:34 -0500, "Jimmie D"
<jimmiedee@bellsouth.net> wrote:

>
><jgboyles@aol.com> wrote in message
>news:1169333158.214097.174540@51g2000cwl.googlegroups.com...
>>
>> Jimmie D wrote:
>>> I was cleaning up today and came across an old dummy load I had that
>>> looks
>>> like it is made from 2 watt resistors. ITs mounted on a quart size paint
>>> can
>>> lid and looks to be a 50 watts worth of resistors. This looks like it may
>>> have been a commercially built unit and I was wondering what the power
>>> handling capability would be if the resistors were submerged in mineral
>>> oil.
>>>
>>> Jimmie
>>
>> Hi Jimmie, It would probably take a kilowatt, the question is for how
>> long? I was looking at my old Heath "Cantenna" manual and it says it
>> will take 1000 watts for about 1 minute in mineral oil. The resistor
>> element appears to be ~50-100 watts. The Cantenna is in a gallon paint
>> can. If none of the 25 resistors "fuse" out due to current, your load
>> should take a kilowatt for at least 15 seconds, and take 100 watts
>> ~forever.
>>
>> Gary N4AST
>>
>Thanks Gary
>Would it be worth my while to remount it for a gallon container. I was
>thinking of doing this anyway because the local paint store sells gallon
>paint cans, Im not sure about he avaiability of the quart size cans. I have
>access to lots of mineral oil. At work we use about 100 gal a year and I can
>have all the used oil I want
>

That certainly beats going into a drug store and buying the 8 or 10
bottles of mineral oil I needed to fill up my Cantenna back in olden
days :-) Strange looks at the check out counter...

bob
k5qwg

453. Re: Dummy load power rating

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-21 02:51:39 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98BF8CF54EDA5nonenowhere@61.9.191.5>
Source record: 46867

"Jimmie D" <jimmiedee@bellsouth.net> wrote in
news:Zrxsh.1002$pg2.980@bignews2.bellsouth.net:

>
> <jgboyles@aol.com> wrote in message
> news:1169333158.214097.174540@51g2000cwl.googlegroups.com...
>>
>> Jimmie D wrote:
>>> I was cleaning up today and came across an old dummy load I had that
>>> looks
>>> like it is made from 2 watt resistors. ITs mounted on a quart size
>>> paint can
>>> lid and looks to be a 50 watts worth of resistors. This looks like
>>> it may have been a commercially built unit and I was wondering what
>>> the power handling capability would be if the resistors were
>>> submerged in mineral oil.
>>>
>>> Jimmie
>>
>> Hi Jimmie, It would probably take a kilowatt, the question is for
>> how long? I was looking at my old Heath "Cantenna" manual and it
>> says it will take 1000 watts for about 1 minute in mineral oil. The
>> resistor element appears to be ~50-100 watts. The Cantenna is in a
>> gallon paint can. If none of the 25 resistors "fuse" out due to
>> current, your load should take a kilowatt for at least 15 seconds,
>> and take 100 watts ~forever.
>>
>> Gary N4AST
>>
> Thanks Gary
> Would it be worth my while to remount it for a gallon container. I was
> thinking of doing this anyway because the local paint store sells
> gallon paint cans, Im not sure about he avaiability of the quart size
> cans. I have access to lots of mineral oil. At work we use about 100
> gal a year and I can have all the used oil I want
>

Hmmm, what is used oil? Used engine oil is regarded as carcinogenic in
these parts, hypoid gear oils similarly whether used or unused. Further,
it is full of conductive particles that may affect the load's its
performance, water and metals that may form corrosive products, and
possibly volatiles that will "boil off" when heated.

I don't know what automatic transmission fluid costs in your part of the
world, but here it is not an unreasonable cost to fill a load with new

ATF. Air tool oil is a source of light grade mineral oil that does not contain detergent agents.

Long time ago, I favoured refrigeration (compressor) oil for filling loads, but it is expensive, and the low moisture quality is soon lost if the load is not as good as hermetically sealed. It is possible to do that, I still have a load that I made using a hermetically sealed BNC connecter (yes, a true glass seal) and the whole enclosure was brazed / soldered up, closed like a 'fridge. I also experimented with refrigerant in the loads, a lot more fuss and they didn't work any better than compressor oil. Today, you would not be allowed to do that with R12!

Anyway, to your original question of how much increase in power rating with oil immersion. In the long term, it is determined by the ability of the load to dissipate heat from the outside for a tolerable rise in temperature of the oil and the resistor element. In the short term, it comes down to the resistor element, and different constructions will behave differently (eg metal film vs composition).

Owen

454. Yagi question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-21 02:57:00 UTC
From: Nelson Blaha <nelson.blaha@gmail.com>
Message-ID: <1169348220.250163.308630@q2g2000cwa.googlegroups.com>
Source record: 46868

I'm looking to build a 2m yagi, but I haven't got any money. Can I
make one out of aluminum coat hangers? I also have a 4-foot section of
1" PVC pipe laying around, and glue, tools etc.

Nelson Blaha
Call-sign in the mail

455. Re: Yagi question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-21 03:23:15 UTC
From: Caveat Lector <CL@nowhere.com>
Message-ID: <D0Bsh.597$4D2.393@newsfe13.phx>
Source record: 46869

How about a 7dB 2M Yagi for $7 -- less if you have some PVC and Welding Rods

See ARRL Article at URL:
http://www.arrl.org/tis/info/pdf/9304054.pdf

You may need to be an ARRL member to read it -- if so get a buddy who is an
ARRL Member to get it for you.

73 - CL

"Nelson Blaha" <nelson.blaha@gmail.com> wrote in message
news:1169348220.250163.308630@q2g2000cwa.googlegroups.com...
> I'm looking to build a 2m yagi, but I haven't got any money. Can I
> make one out of aluminum coat hangers? I also have a 4-foot section of
> 1" PVC pipe laying around, and glue, tools etc.
>
> Nelson Blaha
> Call-sign in the mail
>

456. Re: Yagi question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-21 03:36:20 UTC
From: Nelson Blaha <nelson.blaha@gmail.com>
Message-ID: <1169350580.455867.124460@a75g2000cwd.googlegroups.com>
Source record: 46870

Had no problem viewing it, thanks! I'm still looking for ideas, though-
I think I'm turning out to be one of the "homebrew" hams. Would
clotheshangers even be able to handle the 50W of my radio? 5W?

On Jan 20, 9:23 pm, "Caveat Lector" <C...@nowhere.com> wrote:
> How about a 7dB 2M Yagi for $7 -- less if you have some PVC and Welding Rods
>
> See ARRL Article at URL:http://www.arrl.org/tis/info/pdf/9304054.pdf
>
> You may need to be an ARRL member to read it -- if so get a buddy who is an
> ARRL Member to get it for you.
>
> 73 - CL
>
> "Nelson Blaha" <nelson.bl...@gmail.com> wrote in
messagenews:1169348220.250163.308630@q2g2000cwa.googlegroups.com...
>
> > I'm looking to build a 2m yagi, but I haven't got any money. Can I
> > make one out of aluminum coat hangers? I also have a 4-foot section of
> > 1" PVC pipe laying around, and glue, tools etc.
>
> > Nelson Blaha
> > Call-sign in the mail

457. Re: Yagi question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-21 04:28:59 UTC
From: nm5k@wt.net
Message-ID: <1169353738.990581.219790@q2g2000cwa.googlegroups.com>
Source record: 46871

Nelson Blaha wrote:

> >
> > > I'm looking to build a 2m yagi, but I haven't got any money. Can I
> > > make one out of aluminum coat hangers? I also have a 4-foot section of
> > > 1" PVC pipe laying around, and glue, tools etc.

You can make one out of anything nearly. Coathangers will work fine,
but most
I see are steel, not aluminum. Aluminum would be better. Steel
coathangers
will work ok, but they rust real fast. Power is no problem. Unless
there is a
weak link with the matching device, a coathanger yagi should handle
several
hundred watts. The matching device will be the trickiest part to
construct
using hangar wire and PVC. Would almost be easiest to design the yagi
to have a 50 ohm feedpoint with spacing adjustments, and feed with a
normal split
driven element. I'd add a coax choke for decoupling the feedline.
MK

458. Re: Dummy load power rating

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-21 04:47:55 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <RfCsh.889$Cg1.369@bignews8.bellsouth.net>
Source record: 46872

"Owen Duffy" <none@no.where> wrote in message
news:Xns98BF8CF54EDA5nonenowhere@61.9.191.5...
> "Jimmie D" <jimmiedee@bellsouth.net> wrote in
> news:Zrxsh.1002$pg2.980@bignews2.bellsouth.net:
>
>>
>> <jgboyles@aol.com> wrote in message
>> news:1169333158.214097.174540@51g2000cwl.googlegroups.com...
>>>
>>> Jimmie D wrote:
>>>> I was cleaning up today and came across an old dummy load I had that
>>>> looks
>>>> like it is made from 2 watt resistors. ITs mounted on a quart size
>>>> paint can
>>>> lid and looks to be a 50 watts worth of resistors. This looks like
>>>> it may have been a commercially built unit and I was wondering what
>>>> the power handling capability would be if the resistors were
>>>> submerged in mineral oil.
>>>>
>>>> Jimmie
>>>
>>> Hi Jimmie, It would probably take a kilowatt, the question is for
>>> how long? I was looking at my old Heath "Cantenna" manual and it
>>> says it will take 1000 watts for about 1 minute in mineral oil. The
>>> resistor element appears to be ~50-100 watts. The Cantenna is in a
>>> gallon paint can. If none of the 25 resistors "fuse" out due to
>>> current, your load should take a kilowatt for at least 15 seconds,
>>> and take 100 watts ~forever.
>>>
>>> Gary N4AST
>>>
>> Thanks Gary
>> Would it be worth my while to remount it for a gallon container. I was
>> thinking of doing this anyway because the local paint store sells
>> gallon paint cans, Im not sure about he avaiability of the quart size
>> cans. I have access to lots of mineral oil. At work we use about 100
>> gal a year and I can have all the used oil I want
>>
>
> Hmmm, what is used oil? Used engine oil is regarded as carcinogenic in
> these parts, hypoid gear oils similarly whether used or unused. Further,
> it is full of conductive particles that may affect the load's its
> performance, water and metals that may form corrosive products, and
> possibly volatiles that will "boil off" when heated.

>
> I don't know what automatic transmission fluid costs in your part of the
> world, but here it is not an unreasonable cost to fill a load with new
> ATF. Air tool oil is a source of light grade mineral oil that does not
> contain detergent agents.
>
> Long time ago, I favoured refrigeration (compressor) oil for filling
> loads, but it is expensive, and the low moisture quality is soon lost if
> the load is not as good as hermetically sealed. It is possible to do
> that, I still have a load that I made using a hermetically sealed BNC
> connecter (yes, a true glass seal) and the whole enclosure was brazed /
> soldered up, closed like a 'fridge. I also experimented with refrigerant
> in the loads, a lot more fuss and they didn't work any better than
> compressor oil. Today, you would not be allowed to do that with R12!

I used to work on some fron cooled equipment. When the equipment got hot the freon boiled and the vapor went up pipes into a radiator where it was cooled by fans then driped back down the pipes. I guess you could do a dummy load like this too.

I have a couple of the glass BNC connectors, I think they are like the ones you are talking about. They are bulkhead connectors female on both sides. I keep them around because I have never seen any others like them. They are isolated. the shield doesnt connect to the mounting flange.

>
> Anyway, to your original question of how much increase in power rating
> with oil immersion. In the long term, it is determined by the ability of
> the load to dissipate heat from the outside for a tolerable rise in
> temperature of the oil and the resistor element. In the short term, it
> comes down to the resistor element, and different constructions will
> behave differently (eg metal film vs composition).
>
> Owen

459. Re: GPA vs Vert dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-21 16:19:57 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <pc37r25sgqrg5livbb7s3oghdmpbshapln@4ax.com>
Source record: 46873

On Fri, 19 Jan 2007 14:41:46 -0800, Roy Lewallen <w7el@eznec.com>
wrote:

>
>If you model a vertical connected to perfect ground, you should get
>almost exactly half the impedance of a dipole of twice the length in
>free space, with the same radiation pattern except 3 dB greater in
>amplitude and of course with the lower half missing. If you use an odd
>number of segments and a single source for the dipole, there will be a
>small difference because of the difference in source placement between
>the dipole and vertical. This difference will become less as the number
>of segments is increased in both models.
>
>However, you can make the models virtually identical by using a "split
>source". Here's an example you can even do with the demo program:
>
>Open the EZNEC example file Vert1.ez or d_Vert1.ez. Click Src Dat to see
>that the source Z is 36.65 + j2.971. (It's using MININEC type ground, so
>the source Z is the same as for perfect ground.) Then change the Ground
>Type to Free Space. Add a second wire with end coordinates 0, 0, 0 and
>0, 0, -10.3 meters, 40 mm diameter, 10 segments, to be an exact mirror
>image of the vertical. Then open the Sources Window and change the
>source type to SV (split voltage) or SI (split current) and click Src
>Dat. The reported Z is now 73.3 + j5.942, exactly twice the Z of the
>vertical. To compare patterns, you'll need to use Perfect ground for the
>vertical rather than MININEC type ground.
>
>Roy Lewallen, W7EL

Varying the parameters of the free space vertical, reading the EZNEC
help file and computing various scenarios with the G4FGQ program
RADIAL_3 has satisfied my curiosity for the moment.

I will next look at the physical problems of erecting a vertical for
use on 40/80/160.

Initially I will start with my 28 foot radiator over a radial field of
16 seventy foot radials fed with the SG-237 tuner. If I can work out
the matter of keeping that up with acceptable guys I can step up to a
48 foot radiator out of my existing aluminum supply. Based on that
experience, I will consider buying a little more aluminum to get to
the 66 foot height. That is the reason for the 70 foot radial length.

Most of the problems will be mechanical for a while.
John Ferrell W8CCW

460. Re: Yagi question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-21 19:12:59 UTC
From: "Fred Ferely"
Message-ID: <aee7r2h9hjbjs12vuj0ba9hiejv7u1l4n0@4ax.com>
Source record: 46874

There is a set of plans on the `net for one made of an old, broken tape measure. The pieces of the tape measure are glued / screwed to a length of PVC, and the Coax was soldered / screwed to the drive elements.
If you have this stuff laying around, and you sound as you do, then this would be a free-bee for you. My friend made a three element version, and it worked surprisingly well with about 7 dB gain. With the flat, razor thin but wide, flat elements, the pattern was very direct. It looked a bit funny, but hey, the darn thing works like a champ!

On 20 Jan 2007 18:57:00 -0800, "Nelson Blaha" <nelson.blaha@gmail.com> wrote:

>I'm looking to build a 2m yagi, but I haven't got any money. Can I
>make one out of aluminum coat hangers? I also have a 4-foot section of
>1" PVC pipe laying around, and glue, tools etc.
>
>Nelson Blaha
>Call-sign in the mail

461. Re: do I have my antenna fundamentals right?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-21 22:19:31 UTC
From: merlin-7 <merlin-7@sc.rr.com>
Message-ID: <45b3e731$0$28172$4c368faf@roadrunner.com>
Source record: 46875

You could go to your local Radio Shack and look for a scanner antenna. They
have a small vertical with 3 eleament ground radials.
I bought one for $11 in the bargin bin for a new ham in my area..
You can even use it to transmit on 2meter band (after your legal)

Joe KI4ILB

> > I intend to get a piece of square sheet metal (ground plane?) about
> > half a meter each way, and build a bracket to hold it outside my window
> > horizontally. In the center of the sheet metal I'll install an NMO
> > mount for my mobile antenna. I'm actually planning to ground the sheet
> > metal using the electrical ground in the wall socket (surely
> > something's wrong with THAT!) I look forward to better alternatives!
> >
>
> IF I were working off a balcony I would use a Yagi or maybe a quad sense
the
> building will be blocking the signal in at one direction any way. I used
to
> hace a two element quad I made on a broom. I would sit on the balcony and
> hold the quad in one hand and my HT in the other. BAd thing is that now
> there is now way to hold the beer.
>
>

462. FA EICO 710 Grid Dip Meter circa 1959

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-21 22:22:56 UTC
From: kamatu <sonicidebass@gmail.com>
Message-ID: <1169418176.770404.230880@38g2000cwa.googlegroups.com>
Source record: 46726

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=110082347881

463. HT 2 meter antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 01:31:28 UTC
From: merlin-7 <merlin-7@sc.rr.com>
Message-ID: <45b4142e$0$28126$4c368faf@roadrunner.com>
Source record: 46727

I think that most here know that even the best (rubber duck type antenna) is still only 1/2 of a real antenna (no real ground plane) and adding a wire, hanging off the ht and connected to the outside of the antenna connector improves performance.

What I was wondering is.

Has any one tried doing the same thing with something like foil tape going around the outside of a HT? Or possibly a spring or a couple of springs connected to the antenna connector?

Btw it's a 5w Icom T2h so its pretty big for an HT, I commonly get in areas where I can key up the repeater of choice but skip in and out sometimes. My only other choice would be a small yagi (kind of hard to fit in a suitcase)

Thanks
Ki4ILB

464. Re: HT 2 meter antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 01:40:20 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12r85g780nojk8b@corp.supernews.com>
Source record: 46728

Haven't tried the tape or spring ideas. But a half wavelength antenna is
a good solution for an HT because it doesn't depend on the HT and your
body to be the other antenna half.

Roy Lewallen, W7EL

merlin-7 wrote:
> I think that most here know that even the best (rubber duck type antenna)
> is still only 1/2 of a real antenna (no real ground plane) and adding a
> wire, hanging off the ht and connected to the outside of the antenna
> connector improves performance.
>
> What I was wondering is.
>
> Has any one tried doing the same thing with something like foil tape going
> around the outside of a HT? Or possibly a spring or a couple of springs
> connected to the antenna connector?
>
> Btw it's a 5w Icom T2h so its pretty big for an HT, I commonly get in areas
> where I can key up the repeater of choice but skip in and out sometimes.
> My only other choice would be a small yagi (kind of hard to fit in a
> suitcase)
>
> Thanks
> Ki4ILB
>
>

465. Re: HT 2 meter antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 01:41:54 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <6DUsh.3881$jA.1535@bignews1.bellsouth.net>
Source record: 46729

"merlin-7" <merlin-7@sc.rr.com> wrote in message
news:45b4142e$0$28126$4c368faf@roadrunner.com...
> I think that most here know that even the best (rubber duck type antenna)
> is still only 1/2 of a real antenna (no real ground plane) and adding a
> wire, hanging off the ht and connected to the outside of the antenna
> connector improves performance.
>
> What I was wondering is.
>
> Has any one tried doing the same thing with something like foil tape going
> around the outside of a HT? Or possibly a spring or a couple of springs
> connected to the antenna connector?
>
> Btw it's a 5w Icom T2h so its pretty big for an HT, I commonly get in
> areas
> where I can key up the repeater of choice but skip in and out sometimes.
> My only other choice would be a small yagi (kind of hard to fit in a
> suitcase)
>
> Thanks
> Ki4ILB
>
>

There are a lot of alternatives betwenn the rubber duck and yagi antenna.

466. Re: HT 2 meter antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 02:15:56 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <w7Vsh.21966$yC5.14252@newssvr27.news.prodigy.net>
Source record: 46730

merlin-7 wrote:
> I think that most here know that even the best (rubber duck type antenna)
> is still only 1/2 of a real antenna (no real ground plane) and adding a
> wire, hanging off the ht and connected to the outside of the antenna
> connector improves performance.

So what is wrong with a 19" monopole sticking up and
a 19" tiger tail hanging down for 2m operation?
--
73, Cecil http://www.w5dxp.com

467. Re: HT 2 meter antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 02:28:57 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <JjVsh.747$JB.26@trnddc05>
Source record: 46731

"merlin-7" <merlin-7@sc.rr.com> wrote in message
news:45b4142e$0$28126$4c368faf@roadrunner.com...
> I think that most here know that even the best (rubber duck type antenna)
> is still only 1/2 of a real antenna (no real ground plane) and adding a
> wire, hanging off the ht and connected to the outside of the antenna
> connector improves performance.
>
> What I was wondering is.
>
> Has any one tried doing the same thing with something like foil tape going
> around the outside of a HT? Or possibly a spring or a couple of springs
> connected to the antenna connector?
>
> Btw it's a 5w Icom T2h so its pretty big for an HT, I commonly get in
> areas
> where I can key up the repeater of choice but skip in and out sometimes.
> My only other choice would be a small yagi (kind of hard to fit in a
> suitcase)
>
> Thanks
> Ki4ILB
>
You might try taking a telescoping whip, and adjust it to about 1/2
wavelength at 2 m. Then use a rubber band at the center of the whip to
fasten it to the talkie just below the rubber duck. In effect this gives a
"ground plane" antenna, but with only 2 radials. For 4 radials, use two
telescoping whips.

468. Re: HT 2 meter antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 04:26:48 UTC
From: Bryan <bryan.swadenerNOSPAM@comcast.net>
Message-ID: <ZsOdnYoF47huoSnYnZ2dnUVZ_vipnZ2d@giganews.com>
Source record: 46732

merlin-7 wrote:
> I think that most here know that even the best (rubber duck type antenna)
> is still only 1/2 of a real antenna (no real ground plane) and adding a
> wire, hanging off the ht and connected to the outside of the antenna
> connector improves performance.
>
> What I was wondering is.
>
> Has any one tried doing the same thing with something like foil tape
going
> around the outside of a HT? Or possibly a spring or a couple of springs
> connected to the antenna connector?
>
> Btw it's a 5w Icom T2h so its pretty big for an HT, I commonly get in
areas
> where I can key up the repeater of choice but skip in and out sometimes.
> My only other choice would be a small yagi (kind of hard to fit in a
> suitcase)
>
> Thanks
> Ki4ILB

You may not need the gain of a yagi but could still easily do a collapsible dipole that would fit your briefcase. TV rabbit (aka "bunny") ears come to mind as a donor antenna -- replace the twinlead with 50 ohm coax (and a choke balun). And for a portable antenna with a short feedline, RG-174/U is mighty convenient (buy a BNC-to-whatever patch cable & snip off the uneeded end). If you buy a longer BNC/BNC patch cable, you can cut it in half and make two (different) antennas.

Bryan WA7PRC

469. Re: Yagi question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 04:40:03 UTC
From: Bryan <bryan.swadenerNOSPAM@comcast.net>
Message-ID: <_6OdnbUTcpKM3SnYnZ2dnUVZ_rGinZ2d@giganews.com>
Source record: 46733

Nelson Blaha wrote:
> I'm looking to build a 2m yagi, but I haven't got any money. Can I
> make one out of aluminum coat hangers? I also have a 4-foot section of
> 1" PVC pipe laying around, and glue, tools etc.
>
> Nelson Blaha
> Call-sign in the mail

Others presented good ideas. Ya know, an old TV antenna would make a decent yagi for 2m, and with people going to cable/satellite TV, you could probably find one for nothing or only a few dollars. Remove the elements you don't need, cut the remaining elements down to length, do a little rewiring as needed, connect your feedline, and you're good to go. If you want vertical polarization, redrill the boom-to-mast mounting holes 90° from original.

I once did something similar with a 3 element 11m yagi... in about an hour or so including tuneup time, I turned it into a gamma-matched 6 element 2m yagi. I used my VSWR-protected 2m rig's output indicator to indicate proper tuning by adjusting for maximum relative forward power.

Bryan WA7PRC

470. Re: HT 2 meter antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 04:41:52 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <jbXsh.1696$fC2.1140@bignews4.bellsouth.net>
Source record: 46734

"Bryan" <bryan.swadenerNOSPAM@comcast.net> wrote in message
news:ZsOdnYoF47huoSnYnZ2dnUVZ_vipnZ2d@giganews.com...
> merlin-7 wrote:
>> I think that most here know that even the best (rubber duck type antenna)
>> is still only 1/2 of a real antenna (no real ground plane) and adding a
>> wire, hanging off the ht and connected to the outside of the antenna
>> connector improves performance.
>>
>> What I was wondering is.
>>
>> Has any one tried doing the same thing with something like foil tape
> going
>> around the outside of a HT? Or possibly a spring or a couple of springs
>> connected to the antenna connector?
>>
>> Btw it's a 5w Icom T2h so its pretty big for an HT, I commonly get in
> areas
>> where I can key up the repeater of choice but skip in and out sometimes.
>> My only other choice would be a small yagi (kind of hard to fit in a
>> suitcase)
>>
>> Thanks
>> Ki4ILB
>
> You may not need the gain of a yagi but could still easily do a
> collapsible
> dipole that would fit your briefcase. TV rabbit (aka "bunny") ears come
> to
> mind as a donor antenna -- replace the twinlead with 50 ohm coax (and a
> choke balun). And for a portable antenna with a short feedline, RG-174/U
> is
> mighty convenient (buy a BNC-to-whatever patch cable & snip off the
> uneeded
> end). If you buy a longer BNC/BNC patch cable, you can cut it in half and
> make two (different) antennas.
>
> Bryan WA7PRC
>
>
Forgot I had used TV rabbit ears during a month long stay up in Syracuse.
The TV was on cable but still had the rabbit ears that cme with the TV.
These were made for use with coax so they are just a cable connected to the
telscoping antenna. Bought an F to BNC adapter at Radio Shack and was in
business. Ive used pieces of wire pinned to curtains.

Jimmie

471. Re: Yagi question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 04:50:04 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <%iXsh.1697$fC2.19@bignews4.bellsouth.net>
Source record: 46735

"Bryan" <bryan.swadenerNOSPAM@comcast.net> wrote in message
news:_6OdnbUTcpKM3SnYnZ2dnUVZ_rGinZ2d@giganews.com...
> Nelson Blaha wrote:
>> I'm looking to build a 2m yagi, but I haven't got any money. Can I
>> make one out of aluminum coat hangers? I also have a 4-foot section of
>> 1" PVC pipe laying around, and glue, tools etc.
>>
>> Nelson Blaha
>> Call-sign in the mail
>
> Others presented good ideas. Ya know, an old TV antenna would make a
> decent
> yagi for 2m, and with people going to cable/satellite TV, you could
> probably
> find one for nothing or only a few dollars. Remove the elements you don't
> need, cut the remaining elements down to length, do a little rewiring as
> needed, connect your feedline, and you're good to go. If you want
> vertical
> polarization, redrill the boom-to-mast mounting holes 90° from original.
>
> I once did something similar with a 3 element 11m yagi... in about an hour
> or so including tuneup time, I turned it into a gamma-matched 6 element 2m
> yagi. I used my VSWR-protected 2m rig's output indicator to indicate
> proper
> tuning by adjusting for maximum relative forward power.
>
> Bryan WA7PRC
>
>

When we got cable in the neighborhood my wife was threateing divorce over
all the TV antennas I would pick up off the curb during trash day.

Jimmie

472. Re: HT 2 meter antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 04:52:10 UTC
From: Bryan <bryan.swadenerNOSPAM@comcast.net>
Message-ID: <hvidnZhKGqp43ynYnZ2dnUVZ_sudnZ2d@giganews.com>
Source record: 46736

```
Jimmie D wrote:
>
> Bryan wrote:
> > merlin-7 wrote:
> >> I think that most here know that even the best (rubber duck type
antenna)
> >> is still only 1/2 of a real antenna (no real ground plane) and adding a
> >> wire, hanging off the ht and connected to the outside of the antenna
> >> connector improves performance.
> >>
> >> What I was wondering is.
> >>
> >> Has any one tried doing the same thing with something like foil tape
> > going
> >> around the outside of a HT? Or possibly a spring or a couple of springs
> >> connected to the antenna connector?
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> >> Btw it's a 5w Icom T2h so its pretty big for an HT, I commonly get in
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> >> where I can key up the repeater of choice but skip in and out
sometimes.
> >> My only other choice would be a small yagi (kind of hard to fit in a
> >> suitcase)
> >>
> >> Thanks
> >> Ki4ILB
> >
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> > collapsible
> > dipole that would fit your briefcase. TV rabbit (aka "bunny") ears come
> > to
> > mind as a donor antenna -- replace the twinlead with 50 ohm coax (and a
> > choke balun). And for a portable antenna with a short feedline,
RG-174/U
> > is
> > mighty convenient (buy a BNC-to-whatever patch cable & snip off the
> > uneeded
> > end). If you buy a longer BNC/BNC patch cable, you can cut it in half
and
> > make two (different) antennas.
> >
> > Bryan WA7PRC
> >
> >
```

> Forgot I had used TV rabbit ears during a month long stay up in Syracuse.
> The TV was on cable but still had the rabbit ears that cme with the TV.
> These were made for use with coax so they are just a cable connected to
the
> telscoping antenna. Bought an F to BNC adapter at Radio Shack and was in
> business. Ive used pieces of wire pinned to curtains.
>
> Jimmie

The coaxial cable was likely a 75 ohm variety... but would be close enough
to 50 ohms so the rig would drive it. Apparently, it did for you! ^5

Bryan

473. Re: Yagi question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 04:54:25 UTC
From: Bryan <bryan.swadenerNOSPAM@comcast.net>
Message-ID: <ItednTY6IOjx3inYnZ2dnUVZ_hmtnZ2d@giganews.com>
Source record: 46737

Jimmie D wrote:
>
> Bryan wrote:
> > Nelson Blaha wrote:
> >> I'm looking to build a 2m yagi, but I haven't got any money. Can I
> >> make one out of aluminum coat hangers? I also have a 4-foot section of
> >> 1" PVC pipe laying around, and glue, tools etc.
> >>
> >> Nelson Blaha
> >> Call-sign in the mail
> >
> > Others presented good ideas. Ya know, an old TV antenna would make a
> > decent
> > yagi for 2m, and with people going to cable/satellite TV, you could
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> > find one for nothing or only a few dollars. Remove the elements you
don't
> > need, cut the remaining elements down to length, do a little rewiring as
> > needed, connect your feedline, and you're good to go. If you want
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> > polarization, redrill the boom-to-mast mounting holes 90° from original.
> >
> > I once did something similar with a 3 element 11m yagi... in about an
hour
> > or so including tuneup time, I turned it into a gamma-matched 6 element
2m
> > yagi. I used my VSWR-protected 2m rig's output indicator to indicate
> > proper
> > tuning by adjusting for maximum relative forward power.
> >
> > Bryan WA7PRC
> >
> >
>
> When we got cable in the neighborhood my wife was threateing divorce over
> all the TV antennas I would pick up off the curb during trash day.
>
> Jimmie
>
Hmm... I envision stacked arrays! ;^)
Bryan

474. Re: Yagi question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 05:06:26 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <lyXsh.1698$fC2.901@bignews4.bellsouth.net>
Source record: 46738

"Bryan" <bryan.swadenerNOSPAM@comcast.net> wrote in message
news:ItednTY6IOjx3inYnZ2dnUVZ_hmtnZ2d@giganews.com...
> Jimmie D wrote:
>>
>> Bryan wrote:
>> > Nelson Blaha wrote:
>> >> I'm looking to build a 2m yagi, but I haven't got any money. Can I
>> >> make one out of aluminum coat hangers? I also have a 4-foot section
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>> >> 1" PVC pipe laying around, and glue, tools etc.
>> >>
>> >> Nelson Blaha
>> >> Call-sign in the mail
>> >
>> > Others presented good ideas. Ya know, an old TV antenna would make a
>> > decent
>> > yagi for 2m, and with people going to cable/satellite TV, you could
>> > probably
>> > find one for nothing or only a few dollars. Remove the elements you
> don't
>> > need, cut the remaining elements down to length, do a little rewiring
>> > as
>> > needed, connect your feedline, and you're good to go. If you want
>> > vertical
>> > polarization, redrill the boom-to-mast mounting holes 90° from
>> > original.
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>> > I once did something similar with a 3 element 11m yagi... in about an
> hour
>> > or so including tuneup time, I turned it into a gamma-matched 6 element
> 2m
>> > yagi. I used my VSWR-protected 2m rig's output indicator to indicate
>> > proper
>> > tuning by adjusting for maximum relative forward power.
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>> > Bryan WA7PRC
>> >
>> >
>>
>> When we got cable in the neighborhood my wife was threateing divorce over
>> all the TV antennas I would pick up off the curb during trash day.
>>
>> Jimmie

>>
> Hmm... I envision stacked arrays! ;^)
> Bryan
>
>

I actually did very little with them. I didnt have my ticket yet. I put a couple up in the attic for local TV that wasnt on cable. Still use them when a storm takes the cable out.

475. Re: HT 2 meter antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 05:12:09 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <IDXsh.1700$fC2.1519@bignews4.bellsouth.net>
Source record: 46739

"Bryan" <bryan.swadenerNOSPAM@comcast.net> wrote in message
news:hvidnZhKGqp43ynYnZ2dnUVZ_sudnZ2d@giganews.com...
> Jimmie D wrote:
>>
>> Bryan wrote:
>> > merlin-7 wrote:
>> >> I think that most here know that even the best (rubber duck type
> antenna)
>> >> is still only 1/2 of a real antenna (no real ground plane) and adding
>> >> a
>> >> wire, hanging off the ht and connected to the outside of the antenna
>> >> connector improves performance.
>> >>
>> >> What I was wondering is.
>> >>
>> >> Has any one tried doing the same thing with something like foil tape
>> > going
>> >> around the outside of a HT? Or possibly a spring or a couple of
>> >> springs
>> >> connected to the antenna connector?
>> >>
>> >> Btw it's a 5w Icom T2h so its pretty big for an HT, I commonly get in
>> > areas
>> >> where I can key up the repeater of choice but skip in and out
> sometimes.
>> >> My only other choice would be a small yagi (kind of hard to fit in a
>> >> suitcase)
>> >>
>> >> Thanks
>> >> Ki4ILB
>> >
>> > You may not need the gain of a yagi but could still easily do a
>> > collapsible
>> > dipole that would fit your briefcase. TV rabbit (aka "bunny") ears
>> > come
>> > to
>> > mind as a donor antenna -- replace the twinlead with 50 ohm coax (and a
>> > choke balun). And for a portable antenna with a short feedline,
> RG-174/U
>> > is
>> > mighty convenient (buy a BNC-to-whatever patch cable & snip off the
>> > uneeded
>> > end). If you buy a longer BNC/BNC patch cable, you can cut it in half
> and

>> > make two (different) antennas.
>> >
>> > Bryan WA7PRC
>> >
>> >
>> Forgot I had used TV rabbit ears during a month long stay up in Syracuse.
>> The TV was on cable but still had the rabbit ears that cme with the TV.
>> These were made for use with coax so they are just a cable connected to
> the
>> telscoping antenna. Bought an F to BNC adapter at Radio Shack and was in
>> business. Ive used pieces of wire pinned to curtains.
>>
>> Jimmie
>
> The coaxial cable was likely a 75 ohm variety... but would be close enough
> to 50 ohms so the rig would drive it. Apparently, it did for you! ^5
>
> Bryan
>
>

YEah, the cable on the antenna was pretty short, not more than a foot.
Fortunately I had a 6ft piece of rg58 with BNC connectors.

476. Re: Yagi question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 05:37:42 UTC
From: Nelson Blaha <nelson.blaha@gmail.com>
Message-ID: <1169444262.060566.300260@a75g2000cwd.googlegroups.com>
Source record: 46740

Ok, here's what I tried. I cut notches in that 4' piece of PVC and cut clotheshanger wire to the lengths found at this calculator:

http://www.csgnetwork.com/antennae3ycalc.html

This I stuck out my window on an aluminum pole (cinderblock walls are bad). I'm suspicious of my wiring- I used very thin speaker cable to connect a ground to the screws on my light switch plate, and to the coax going into my radio. It doesn't perform half as well as my current antenna- a mobile 5/8 dipole on the end of some eye-bar with clothes-hanger groundplane radials. Guess I just need to wait until I have some real coax, the speaker wire is probably the weak link here? Maybe I was just pointing this yagi away from the station I was listening to, I suppose it would be doing its job then!

Checking almost hourly for that license on the internet!

Nelson Blaha

On Jan 21, 11:06 pm, "Jimmie D" <jimmie...@bellsouth.net> wrote:
> "Bryan" <bryan.swadenerNOS...@comcast.net> wrote in
messagenews:ItednTY6IOjx3inYnZ2dnUVZ_hmtnZ2d@giganews.com...
>
>
>
> > Jimmie D wrote:
>
> >> Bryan wrote:
> >> > Nelson Blaha wrote:
> >> >> I'm looking to build a 2m yagi, but I haven't got any money. Can I
> >> >> make one out of aluminum coat hangers? I also have a 4-foot section
> >> >> of
> >> >> 1" PVC pipe laying around, and glue, tools etc.
>
> >> >> Nelson Blaha
> >> >> Call-sign in the mail
>
> >> > Others presented good ideas. Ya know, an old TV antenna would make a
> >> > decent
> >> > yagi for 2m, and with people going to cable/satellite TV, you could
> >> > probably
> >> > find one for nothing or only a few dollars. Remove the elements you
> > don't
> >> > need, cut the remaining elements down to length, do a little rewiring
> >> > as
> >> > needed, connect your feedline, and you're good to go. If you want

> >> > vertical
> >> > polarization, redrill the boom-to-mast mounting holes 90° from
> >> > original.
>
> >> > I once did something similar with a 3 element 11m yagi... in about an
> > hour
> >> > or so including tuneup time, I turned it into a gamma-matched 6 element
> > 2m
> >> > yagi. I used my VSWR-protected 2m rig's output indicator to indicate
> >> > proper
> >> > tuning by adjusting for maximum relative forward power.
>
> >> > Bryan WA7PRC
>
> >> When we got cable in the neighborhood my wife was threateing divorce over
> >> all the TV antennas I would pick up off the curb during trash day.
>
> >> Jimmie
>
> > Hmm... I envision stacked arrays! ;^)
> > BryanI actually did very little with them. I didnt have my ticket yet. I put a
> couple up in the attic for local TV that wasnt on cable. Still use them when
> a storm takes the cable out.

477. Re: Antenna Simulation Parameters and Folded Dipole Antenna Question...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 11:52:45 UTC
From: RHF <rhf-newsgroups@pacbell.net>
Message-ID: <1169466765.131332.320590@11g2000cwr.googlegroups.com>
Source record: 46741
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna

Camelot - The Google Group : Rec.Radio.Amateur.Antenna
http://groups-beta.google.com/group/rec.radio.amateur.antenna/
Has many Antenna Experts that may have the Answers
to your Antenna Simulation Questions.

hope this helps ~ RHF

= On Jan 21, 10:45 pm, "camelot" <sco...@tiscalinet.it> wrote:
- Any suggestion?
-
- camelot ha scritto:
-
- Hello,
- I'm new in antenna simulation world and I would like to ask
- you some questions on some topics.
-
- I hope someone could help me.
-
- The first question is if it is true that Directivity, Gain and
- Efficency of an antenna are simply tied to the her topology
- and not to the goodness of the matching network or the
- source impedance, i.e, if I have to measure these values,
- should I necessary verify that the antenna is correctly matched
- with source?
-
- Second (and last!) question,
- I have to simulate a folded dipole with a ground connection in
- the center (necessary to the supplying chip as ground reference).
- The structure had hence 3 ports. My question is if a inductive
- or capacitive load connected to the middle virtual ground port
- (and the chip) can significantly affect the matching and other
- parameter (D,G) of the port.
- In few words, that third branch connected to a virtual ground,
- how influence the antenna behavior?
-
- Sorry for my trivial questions
- but I'm continuing studying in order to fill my gaps.
- Regards,
-
- Camelot
-
-
- -

On Jan 22, 3:50 am, "RHF" <rhf-newsgro...@pacbell.net> wrote:
> Camelot - The Google Group :
Rec.Radio.Amateur.Antennahttp://groups-beta.google.com/group/rec.radio.amateur.antenna/
> Has many Antenna Experts that may have the Answers
> to your Antenna Simulation Questions.
>
> hope this helps ~ RHF
>
> = On Jan 21, 10:45 pm, "camelot" <sco...@tiscalinet.it> wrote:
> - Any suggestion?
> -
> - camelot ha scritto:
> -
> - Hello,
> - I'm new in antenna simulation world and I would like to ask
> - you some questions on some topics.
> -
> - I hope someone could help me.
> -
> - The first question is if it is true that Directivity, Gain and
> - Efficency of an antenna are simply tied to the her topology
> - and not to the goodness of the matching network or the
> - source impedance, i.e, if I have to measure these values,
> - should I necessary verify that the antenna is correctly matched
> - with source?
> -
> - Second (and last!) question,
> - I have to simulate a folded dipole with a ground connection in
> - the center (necessary to the supplying chip as ground reference).
> - The structure had hence 3 ports. My question is if a inductive
> - or capacitive load connected to the middle virtual ground port
> - (and the chip) can significantly affect the matching and other
> - parameter (D,G) of the port.
> - In few words, that third branch connected to a virtual ground,
> - how influence the antenna behavior?
> -
> - Sorry for my trivial questions
> - but I'm continuing studying in order to fill my gaps.
> - Regards,
> -
> - Camelot
> -
> -
> - -

478. Re: Antenna Simulation Parameters and Folded Dipole Antenna Question...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 13:41:11 UTC
From: camelot <scosmo@tiscalinet.it>
Message-ID: <1169473271.370093.57050@m58g2000cwm.googlegroups.com>
Source record: 46742
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna

Thank you very much! :-)

479. Re: Yagi question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 14:23:27 UTC
From: gerryk <gerryk@gmail.com>
Message-ID: <1169475807.800674.99710@a75g2000cwd.googlegroups.com>
Source record: 46743

I'm sure it's not much of a performer, nelson. If you're using speaker wire as your feeder, it's going to be horribly mismatched. Your trx expects to see 50 ohm on the antenna, and (though I'm not certain) I'd be willing to bet that your speaker wire is either much higher or much lower. At best, this will give terrible performance. At worst, potentially blow up the output stage of your rig.
RG58 is the coax you need. It's cheap, sometimes free. It's the same stuff old 10base2 networks used to be wired with, so a visit to a dump will probably turn up loads.

480. Re: Yagi question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 15:05:00 UTC
From: Jeff <jeff@local.host>
Message-ID: <45b4d299$0$1102$834e42db@reader.greatnowhere.com>
Source record: 46744

"> I'm sure it's not much of a performer, nelson. If you're using speaker
> wire as your feeder, it's going to be horribly mismatched. Your trx
> expects to see 50 ohm on the antenna, and (though I'm not certain) I'd
> be willing to bet that your speaker wire is either much higher or much
> lower. At best, this will give terrible performance. At worst,
> potentially blow up the output stage of your rig.
> RG58 is the coax you need. It's cheap, sometimes free. It's the same
> stuff old 10base2 networks used to be wired with, so a visit to a dump
> will probably turn up loads.
>

He did say he was using coax, the speaker wire was just a ground, which
won't really be doing very much at vhf, so that is not the problem.

73
Jeff

481. Re: Yagi question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 18:30:39 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <Oo7th.3968$jA.1432@bignews1.bellsouth.net>
Source record: 46745

"Nelson Blaha" <nelson.blaha@gmail.com> wrote in message
news:1169348220.250163.308630@q2g2000cwa.googlegroups.com...
> I'm looking to build a 2m yagi, but I haven't got any money. Can I
> make one out of aluminum coat hangers? I also have a 4-foot section of
> 1" PVC pipe laying around, and glue, tools etc.
>
> Nelson Blaha
> Call-sign in the mail
>

Nelson, not about what you were asking but I have only know one other person
that had the Blaha name and he was Swiss. Are you?
Just Curious

Jimmie

482. FS TMC GPR-90

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 18:32:00 UTC
From: brm@netcabo.pt
Message-ID: <1169490719.068166.173990@51g2000cwl.googlegroups.com>
Source record: 46746

I have for sale the receiver TMC GPR-90
Photos at:http://brm.planetaclix.pt/T.htm
Location :Portugal (Lisboa)
Price: 385 Euros +shipping
Thanks, JM
CT1BRM

483. Re: Reflection xfmr for two wire beverage?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 18:44:44 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <ep30mtodu1@news.ncku.edu.tw>
Source record: 46750

Kenneth Grimm wrote:

> ...
> I would sincerely appreciate hearing from anyone who has practical
> experience with the two-wire reflection transformer equipped beverage
> antenna and can offer me any help with the transformer windings.
>
> 73,
>
> Ken K4XL
> k4xl@arrl.net
>
> *** BoatAnchor Manual Archive ***
> On the web at http://bama.sbc.edu and http://bama.edebris.com
> FTP site info: bama.sbc.edu login: anonymous p/w: youremailadr

Ken:

This page has a bit of data, you will have to scan it through to find
the permanent data on the xfmr:

http://personal.inet.fi/koti/oh4mfa/beverage.htm

Warmest regards,
JS

484. Re: Yagi question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 19:06:12 UTC
From: Allodoxaphobia <bit-bucket@config.com>
Message-ID: <slrnera2p4.2hmq.bit-bucket@shell.config.com>
Source record: 46747

On Sun, 21 Jan 2007 11:12:59 -0800, Fred Ferely wrote:
> There is a set of plans on the `net for one made of an old, broken
> tape measure.

Mylar?
I guess it would work best with the plastic, shack-on-the-hip 'radios'.
HI!HI!

Jonesy
--
Marvin L Jones | jonz | W3DHJ | linux
38.24N 104.55W | @ config.com | Jonesy | OS/2
*** Killfiling google posts: <http://jonz.net/ng.htm>

485. Slim Jim vs. EZNEC

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 19:09:28 UTC
From: RST Engineering <jim@rstengineering.com>
Message-ID: <PZ7th.8$qI.153751@news.sisna.com>
Source record: 46748

I tried simulating a Slim Jim in EZNEC and did NOT get the expected "aim at the horizon" low-angle radiation simulated pattern. I got instead the standard "hole in the donut" that you would expect from a vertical dipole and a rather fat true donut shape rather than the expected pancake pattern.

I'm not at all sure how to connect a "voltage source" driver at the tap point without being able to simulate the ground of that voltage source tapped up from the bottom end as well.

Thoughts?

Jim

486. Re: Dummy load power rating

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 19:13:48 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12ra37gd568bg7e@corp.supernews.com>
Source record: 46749

Owen Duffy wrote:
> . . .
> Anyway, to your original question of how much increase in power rating
> with oil immersion. In the long term, it is determined by the ability of
> the load to dissipate heat from the outside for a tolerable rise in
> temperature of the oil and the resistor element. In the short term, it
> comes down to the resistor element, and different constructions will
> behave differently (eg metal film vs composition).

Yes, I'd worry a little about grossly overdriving carbon composition resistors because of the thermal resistance between the heat-dissipating composition material and the oil. There's going to be a temperature gradient across the phenolic case that might be considerable -- in other words, the resistance part could be much hotter than the oil. Resistors which have the actual dissipating portion very close to the outside, like film or (noninductive) wire wound resistors would be much better in this regard. If you overstress carbon comp resistors you'll typically get a permanent change in resistance. If the overstress is extreme, they'll crack, explode, or catch fire. Make sure your oil and container won't present a hazard if this happens.

Roy Lewallen, W7EL

487. LQQKing For Some Info

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 19:29:20 UTC
From: John Doe <hgorden@adelphia.net>
Message-ID: <gPedneUOLvoTjSjYnZ2dnUVZ_rSjnZ2d@adelphia.com>
Source record: 46751

I have the following Microwave components and I am
LQQKing for pin-outs, schematics, pictorials, frequency ranges:

Wavecom/LORAL - RF Coaxial Switch
9130-B237-A1D-7B0, 28vdc

DowKey Microwave - RF Coaxial Switch
401-151, 28vdc

Chesapeake Microwave Technologies - 4/1 combiner?
86-0142, 4-8 GHz

Triangle Microwave Inc. - Bi-Directional Coupler?
CA-1568, Blue in color, 3 ports marked (IN -OUT-CPL)

488. Re: Slim Jim vs. EZNEC

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 19:37:47 UTC
From: Brian Howie <brian@nospam.demon.co.uk>
Message-ID: <HGN02qBLKRtFFwW1@b-howie.demon.co.uk>
Source record: 46752

In message <PZ7th.8$qI.153751@news.sisna.com>, RST Engineering
<jim@rstengineering.com> writes
>I tried simulating a Slim Jim in EZNEC and did NOT get the expected "aim at
>the horizon" low-angle radiation simulated pattern. I got instead the
>standard "hole in the donut" that you would expect from a vertical dipole
>and a rather fat true donut shape rather than the expected pancake pattern.
>
>I'm not at all sure how to connect a "voltage source" driver at the tap
>point without being able to simulate the ground of that voltage source
>tapped up from the bottom end as well.

You should have a wire across the bottom of the antenna at the tap
point. The voltage source is in the centre of this wire. A real Slim Jim
would be fed with a balun so both halves of the matching section are fed
symmetrically.

This however won't change the radiation pattern. There's nothing magic
about a slim jim, it's just a voltage fed folded dipole so the radiation
pattern will look like a dipole.

73 Brian GM4DIJ
--
Brian Howie

489. Re: Dummy load power rating

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 19:52:54 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <VB8th.3974$jA.2260@bignews1.bellsouth.net>
Source record: 46753

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:12ra37gd568bg7e@corp.supernews.com...
> Owen Duffy wrote:
>> . . .
>> Anyway, to your original question of how much increase in power rating
>> with oil immersion. In the long term, it is determined by the ability of
>> the load to dissipate heat from the outside for a tolerable rise in
>> temperature of the oil and the resistor element. In the short term, it
>> comes down to the resistor element, and different constructions will
>> behave differently (eg metal film vs composition).
>
> Yes, I'd worry a little about grossly overdriving carbon composition
> resistors because of the thermal resistance between the heat-dissipating
> composition material and the oil. There's going to be a temperature
> gradient across the phenolic case that might be considerable -- in other
> words, the resistance part could be much hotter than the oil. Resistors
> which have the actual dissipating portion very close to the outside, like
> film or (noninductive) wire wound resistors would be much better in this
> regard. If you overstress carbon comp resistors you'll typically get a
> permanent change in resistance. If the overstress is extreme, they'll
> crack, explode, or catch fire. Make sure your oil and container won't
> present a hazard if this happens.
>
> Roy Lewallen, W7EL

Thanks Roy, I too have given this some consideration and am thinking of rebuiding the dummy load with metal film resistors heeping the brass buss bars that came with the load. The actual measure DC resistance is near 60 ohms so I suspect some damage has already occured. The resistors have no markings but I figure 220 ohms each. Its difficult to count the resistors the way they are arranged. You dont pay 3 bucks for something like this at a hamfest and expect it to 100%.

490. Re: Slim Jim vs. EZNEC

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 20:08:09 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <q84ar2hio6649mv5fvp00ahb4ase3a85n6@4ax.com>
Source record: 46754

On Mon, 22 Jan 2007 11:09:28 -0800, "RST Engineering"
<jim@rstengineering.com> wrote:

>I tried simulating a Slim Jim in EZNEC and did NOT get the expected "aim at
>the horizon" low-angle radiation simulated pattern.

Hi Jim,

This is the problem of the variability of matched, halfwave antenna
results in life too. Most antennas are connected to coax drives, and
are not excited by point sources. However, you are not asking about
the complexities of uncoupled lines even though we get their
complaints here all the time.

>I got instead the
>standard "hole in the donut" that you would expect from a vertical dipole
>and a rather fat true donut shape rather than the expected pancake pattern.

I would argue that your expectation would defy both experience and
analysis. Of course, just what a pancake pattern means leaves open a
lot of interpretation. Myself, that would mean to me to be an
especially high gain.

One of the wild cards of analysis which can really skew the numbers is
how you choose the height above ground. The patterns tend to exhibit
a mud puddle splash achieved when you jump in with both feet.

>I'm not at all sure how to connect a "voltage source" driver at the tap
>point without being able to simulate the ground of that voltage source
>tapped up from the bottom end as well.

I presume this tap is across the match section. Just make it a short
wire connecting to both the short element and the long element, with
the source in the middle segment of the short wire. Voltage, current,
or power source driven is not going to matter at all to the results.

73's
Richard Clark, KB7QHC

491. Re: HT 2 meter antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 22:06:47 UTC
From: merlin-7 <merlin-7@sc.rr.com>
Message-ID: <45b535b6$0$28160$4c368faf@roadrunner.com>
Source record: 46755

> >>
> >> Bryan wrote:
> >> > merlin-7 wrote:
> >> >> I think that most here know that even the best (rubber duck type
> > antenna)
> >> >> is still only 1/2 of a real antenna (no real ground plane) and
adding
> >> >> a
> >> >> wire, hanging off the ht and connected to the outside of the antenna
> >> >> connector improves performance.
> >> >>
> >> >> What I was wondering is.
> >> >>
> >> >> Has any one tried doing the same thing with something like foil
tape
> >> > going
> >> >> around the outside of a HT? Or possibly a spring or a couple of
> >> >> springs
> >> >> connected to the antenna connector?
> >> >>
> >> >> Btw it's a 5w Icom T2h so its pretty big for an HT, I commonly get
in
> >> > areas
> >> >> where I can key up the repeater of choice but skip in and out
> > sometimes.
> >> >> My only other choice would be a small yagi (kind of hard to fit in
a
> >> >> suitcase)
> >> >>
> >> >> Thanks
> >> >> Ki4ILB
> >> >
> >> > You may not need the gain of a yagi but could still easily do a
> >> > collapsible
> >> > dipole that would fit your briefcase. TV rabbit (aka "bunny") ears
> >> > come
> >> > to
> >> > mind as a donor antenna -- replace the twinlead with 50 ohm coax (and
a
> >> > choke balun). And for a portable antenna with a short feedline,
> > RG-174/U
> >> > is
> >> > mighty convenient (buy a BNC-to-whatever patch cable & snip off the
> >> > uneeded

> >> > end). If you buy a longer BNC/BNC patch cable, you can cut it in
half
> > and
> >> > make two (different) antennas.
> >> >
> >> > Bryan WA7PRC
> >> >
> >> >
> >> Forgot I had used TV rabbit ears during a month long stay up in
Syracuse.
> >> The TV was on cable but still had the rabbit ears that cme with the TV.
> >> These were made for use with coax so they are just a cable connected to
> > the
> >> telscoping antenna. Bought an F to BNC adapter at Radio Shack and was
in
> >> business. Ive used pieces of wire pinned to curtains.
> >>
> >> Jimmie
> >
> > The coaxial cable was likely a 75 ohm variety... but would be close
enough
> > to 50 ohms so the rig would drive it. Apparently, it did for you! ^5
> >
> > Bryan
> >
> >
>
> YEah, the cable on the antenna was pretty short, not more than a foot.
> Fortunately I had a 6ft piece of rg58 with BNC connectors.
>
Thanks all,
I had thought of a few of the options you all suggested. I was seeing what
you all could think of or have done.
I also wonder if its possible to realistically run 2 ducks in phase?
I would like to avoide the 19 inch wire hanging down.
Thanks
Joe
KI4ILB

492. Re: FA EICO 710 Grid Dip Meter circa 1959

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 22:19:00 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1169504340.087168.242930@v45g2000cwv.googlegroups.com>
Source record: 46756

kamatu wrote:
> http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=110082347881

$150.... You have to be smoking dope!

493. Re: Slim Jim vs. EZNEC

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 22:47:21 UTC
From: RST Engineering <jim@rstengineering.com>
Message-ID: <8abth.17$Zx.138376@news.sisna.com>
Source record: 46757

A real Slim Jim
> would be fed with a balun so both halves of the matching section are fed
> symmetrically.

I've never seen that configuration, just a coax feed to a tap on the
antenna.

>
> This however won't change the radiation pattern. There's nothing magic
> about a slim jim, it's just a voltage fed folded dipole so the radiation
> pattern will look like a dipole.

Yet most folks experimental results seem to show a radiation pattern
squirted a lot towards the horizon and very little up and down.

Jim

494. Re: Slim Jim vs. EZNEC

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-22 22:49:38 UTC
From: RST Engineering <jim@rstengineering.com>
Message-ID: <fcbth.18$VI.164988@news.sisna.com>
Source record: 46758

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:q84ar2hio6649mv5fvp00ahb4ase3a85n6@4ax.com...

> I would argue that your expectation would defy both experience and
> analysis. Of course, just what a pancake pattern means leaves open a
> lot of interpretation. Myself, that would mean to me to be an
> especially high gain.

That's the way I explain it to my freshman electronics classes. You have a given amount of dough. You can either make it a donut, with radiation fairly equal in all directions except up and down, or you can squish it into a pancake and aim it where you want it to go. I then go on with the garden hose analogy of a sprinkler versus a nozzle, and totally confuse them.

> I presume this tap is across the match section. Just make it a short
> wire connecting to both the short element and the long element, with
> the source in the middle segment of the short wire. Voltage, current,
> or power source driven is not going to matter at all to the results.

I'll try that. Thanks...

Jim

495. receive only ferrite antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 01:33:12 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <gdKdnbMJd42f-yjYnZ2dnUVZ_r6vnZ2d@comcast.com>
Source record: 46759

All,

I am interested in experimenting with ferrite core receive antennas. I have about a dozen .4 by 10 inch rods. The primary band of interest is 75m. My question is:

1. For best reception is it better to make a fat or a long antenna? I cannot find much written about these antennas and have not found any equations.

The literature states the efficiency of these antennas can range from a 10**3 to 10**6 a dipole of the same size. Let's not argue the high end but accept the low end for discussion. Does this ratio refer to length or diameter?

Is there a good primer source? I have the ARRL Antenna handbook.

Thanks - Dan

496. Re: Slim Jim vs. EZNEC

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 02:26:04 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <vmeth.4048$jA.1889@bignews1.bellsouth.net>
Source record: 46760

"RST Engineering" <jim@rstengineering.com> wrote in message
news:PZ7th.8$qI.153751@news.sisna.com...
>I tried simulating a Slim Jim in EZNEC and did NOT get the expected "aim at
>the horizon" low-angle radiation simulated pattern. I got instead the
>standard "hole in the donut" that you would expect from a vertical dipole
>and a rather fat true donut shape rather than the expected pancake pattern.
>
> I'm not at all sure how to connect a "voltage source" driver at the tap
> point without being able to simulate the ground of that voltage source
> tapped up from the bottom end as well.
>
> Thoughts?
>
> Jim
>

Believe EZNEC

497. Re: FA EICO 710 Grid Dip Meter circa 1959

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 02:27:56 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <eoeth.4049$jA.1568@bignews1.bellsouth.net>
Source record: 46761

"Denny" <k8do@mailblocks.com> wrote in message
news:1169504340.087168.242930@v45g2000cwv.googlegroups.com...
>
> kamatu wrote:
>> http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=110082347881
>
> $150.... You have to be smoking dope!
>
No, hes looking for sombody that is.

498. Re: receive only ferrite antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 02:31:37 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98C1898C8FF07nonenowhere@61.9.191.5>
Source record: 46762

dansawyeror <dansawyeror@comcast.net> wrote in news:gdKdnbMJd42f-yjYnZ2dnUVZ_r6vnZ2d@comcast.com:

> All,
>
> I am interested in experimenting with ferrite core receive antennas. I
> have about a dozen .4 by 10 inch rods. The primary band of interest is
> 75m. My question is:
>
> 1. For best reception is it better to make a fat or a long antenna? I
> cannot find much written about these antennas and have not found any
> equations.
>

I seem to recall that this is a design problem often treated in texts. Certainly Kraus has a treatment in his book.

In the Fig 3 in my article http://www.vk1od.net/SmallUntunedSquareLoop/index.htm , I give the formulas for calculation of the o/c voltage in a single turn loop in air. In the case of a ferrite loop, the area will be the csa of the loopstick, and you will have to multiply the single turn value by the number of turns and include the effect of relative permeability of the ferrite. You can then proceed to work out the source impedance for the ferrite coil and the loaded voltage (including the effects of tuning if used).

> The literature states the efficiency of these antennas can range from a
> 10**3 to 10**6 a dipole of the same size. Let's not argue the high end
> but accept the low end for discussion. Does this ratio refer to length
> or diameter?

Is efficiency a good indicator of the "goodness" of a rx antenna where the ambient noise is high (as it is on 80m)?

Perhaps if you want to receive normal signals, you just need an antenna that will deliver 6dB more noise (ie from ambient noise) to the receiver than its equivalent internal noise. In that case, the received S/N will not be more than 1dB worse than with a lossless antenna system.

Owen

499. Re: Yagi question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 02:43:43 UTC
From: Nelson Blaha <nelson.blaha@gmail.com>
Message-ID: <1169520223.518212.161450@m58g2000cwm.googlegroups.com>
Source record: 46763

My mother is way into the geneology stuff. Blaha is a very common name
in the Czech Republic. I'm glad to have an odd name, I don't know what
I'd do if I were a "Smith" or "Miller"!

On Jan 22, 12:30 pm, "Jimmie D" <jimmie...@bellsouth.net> wrote:
> "Nelson Blaha" <nelson.bl...@gmail.com> wrote in
messagenews:1169348220.250163.308630@q2g2000cwa.googlegroups.com...
>
> > I'm looking to build a 2m yagi, but I haven't got any money. Can I
> > make one out of aluminum coat hangers? I also have a 4-foot section of
> > 1" PVC pipe laying around, and glue, tools etc.
>
> > Nelson Blaha
> > Call-sign in the mailNelson, not about what you were asking but I have only know one
other person
> that had the Blaha name and he was Swiss. Are you?
> Just Curious
>
> Jimmie

500. Re: Yagi question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 02:50:28 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <nJeth.41$ox.100451@news.sisna.com>
Source record: 46764

Nelson Blaha wrote:
> My mother is way into the geneology stuff. Blaha is a very common name
> in the Czech Republic. I'm glad to have an odd name, I don't know what
> I'd do if I were a "Smith" or "Miller"!
>

Hmmm, I wonder? ...

Regards,
John SMITH <grin>

501. Re: Yagi question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 02:53:12 UTC
From: Nelson Blaha <nelson.blaha@gmail.com>
Message-ID: <1169520792.604873.320930@11g2000cwr.googlegroups.com>
Source record: 46765

Actually, I'm sorry to say Jeff was right. For the sake of experiment
I had connected with speaker cable more than just the ground.
Basically, I connected speaker wires to the contacts on my mobile NMO
mount. The NMO mount had coax running back to the radio. I knew
transmitting like that was a pretty bad idea (illegal anyway), and that
I needed to get a proper wiring eventually, I just wanted to see if I
could observe the directional effects of my yagi.

Oddly, though, my Alinco DR-130 came with a CB MAGMOUNT when I bought
it as a kid used. It even survived my keying it attached to that
thing, and I don't think it has any protection against high SWRs. I've
always wondered how my radio survived that. Maybe it didn't... I'll
have to test it when my license comes. I only think it works now
because I tried it a while back on MURS frequencies with a radio shack
scanner.

On Jan 22, 9:05 am, "Jeff" <j...@local.host> wrote:
> "> I'm sure it's not much of a performer, nelson. If you're using speaker
>
> > wire as your feeder, it's going to be horribly mismatched. Your trx
> > expects to see 50 ohm on the antenna, and (though I'm not certain) I'd
> > be willing to bet that your speaker wire is either much higher or much
> > lower. At best, this will give terrible performance. At worst,
> > potentially blow up the output stage of your rig.
> > RG58 is the coax you need. It's cheap, sometimes free. It's the same
> > stuff old 10base2 networks used to be wired with, so a visit to a dump
> > will probably turn up loads.He did say he was using coax, the speaker wire was just a
ground, which
> won't really be doing very much at vhf, so that is not the problem.
>
> 73
> Jeff

502. Re: Welding Rod J-Pole Possible?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 03:43:19 UTC
From: cliff wright <c.c.wright@paradise.net.nz>
Message-ID: <45b58455@clear.net.nz>
Source record: 46766

Bryan wrote:
> John Smith wrote:
>
>>In my travels about the net, I chanced upon this antenna--a rather
>>unique one and is a good conversation piece ...
>>
>>http://www.orionmicro.com/ant/ddrr/ddrr1.htm
>>
>>Regards,
>>JS
>
>
> I've seen the same antenna called a "Directional Discontinuity Ring
> Radiator" (a rose by any other name). Lots of Google hits for that phrase.
> 73,
> Bryan WA7PRC
>
>
Hi I remember about 30 years ago I needed a directional 2 metre antenna
in a hurry.
Came up with a good old Kiwi #8 fencing wire solution. using an old
ceramic "choc block" connector for the feed I madea 2 element cubical
quad on a bit of 2x1 timber. (Usual formulae out of the ARRL and RSGB
books). Despite being made out of galvanised Iron wire it showed a 7 dB
gain over a dipole at the same height on the local 2M beacon!
Where there's a will there's away!
Regatds Cliff Wright ZL1BDA ex G3NIA

503. Re: receive only ferrite antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 03:46:59 UTC
From: AndyS <andysharpe@juno.com>
Message-ID: <1169524019.256493.196630@a75g2000cwd.googlegroups.com>
Source record: 46767

Owen Duffy wrote:>
> Perhaps if you want to receive normal signals, you just need an antenna
> that will deliver 6dB more noise (ie from ambient noise) to the receiver
> than its equivalent internal noise. In that case, the received S/N will
> not be more than 1dB worse than with a lossless antenna system.
>
> Owen

Andy writes
A good point..... The rule of thumb I have always used is that if
you turn up the receiver to hear the noise, and THEN connect the
antenna,..... if the noise level goes up a lot, then everything is
working just fine..... At HF, it isn't unusual to have 30uv/m of
"noise", from cosmic or galactic or whatever... A 20 db noise
figure is just fine for a receiver in those ranges..... The biggest
challenge is man-made interference .....

I have seen several articles using ferrite loops at HF, mostly
for building direction finders.... If the ARRL handbook has a
heading under "direction finders", or Hints and Kinks, or
the ARRL Antenna Handbook, they can give the OP some ideas....

Andy W4OAH in Eureka, Texas

504. Re: receive only ferrite antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 04:39:10 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98C19F2C1703nonenowhere@61.9.191.5>
Source record: 46768

"AndyS" <andysharpe@juno.com> wrote in news:1169524019.256493.196630
@a75g2000cwd.googlegroups.com:

> working just fine..... At HF, it isn't unusual to have 30uv/m of
> "noise", from cosmic or galactic or whatever... A 20 db noise
> figure is just fine for a receiver in those ranges..... The biggest
> challenge is man-made interference .....
>

Dan,

Some more information on expected ambient noise per ITU-R p.372-8 is in my article at http://www.vk1od.net/fsm/FSAmbientNoise.htm . For 3.6MHz, it is probably wise to expect ambient noise field strength somewhere around 6dBuV/m in 2kHz bandwidth in a residential environment. If an antenna can develop more than about -130dBm in the receiver from that field strength, the S/N should be ok on most modern SSB receivers which have a noise floor somewhere around -136dBm. If you were in a quieter environment, you would benefit from a better antenna.

Owen

505. Re: Slim Jim vs. EZNEC

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 07:49:21 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <haebr2pp3kkcr2shc6ce8o5n9f8gbcvctk@4ax.com>
Source record: 46769

On Mon, 22 Jan 2007 14:47:21 -0800, "RST Engineering"
<jim@rstengineering.com> wrote:

>Yet most folks experimental results seem to show a radiation pattern
>squirted a lot towards the horizon and very little up and down.

Hi Jim,

Most folks, and many more sophisticated folks lack the skill to really confirm this. It takes 10% tools and 90% common sense. Most can afford the tools. The rarer common sense (which includes experience) again informs us that height above ground makes a considerable difference in results which are often mis-ascribed to a "revolutionary" design.

One need only examine your statement about comparing "towards the horizon" to "up and down." I dare say very few can accomplish FS measurements of any accuracy in the far field above 50 or 60 degrees (and not simultaneously create a situation that abounds in reflections off the platform they are using to achieve that elevation).

Successfully challenging these claims of superior performance is easy, unfortunately making these claims is far easier. Worse yet are these claims satisfy the dreams of wish fulfillment. We are regularly submitted to glowing reports of such dreamers who refuse to consider the aridity of fact and testing. One such is a designer of 9 foot radiators for 160 Meters. His antenna design, too, has excellent performance towards the horizon. One need only look at the list of testimonials any one of which negates science.

73's
Richard Clark, KB7QHC

506. Re: Slim Jim vs. EZNEC

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 08:28:27 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <IdBVquDrcctFFAz5@ifwtech.co.uk>
Source record: 46770

RST Engineering commented:
>
>> A real Slim Jim
>> would be fed with a balun so both halves of the matching section are fed
>> symmetrically.
>
>I've never seen that configuration, just a coax feed to a tap on the
>antenna.
>
If the feedline continues vertically downward from the antenna (J-pole or Slim Jim) then RF current will flow on the outside of the coax, and the feedline will both radiate and receive. A common-mode choke or current balun (same thing, different name) at the feedpoint will largely prevent this.

If you don't deliberately include the feedline in the model, you see only the pattern of the antenna itself - it's like having a perfect feedline choke. The difficult part of antenna modeling is to include a realistic model of the feedline... and most people don't do it.

>>
>> This however won't change the radiation pattern. There's nothing magic
>> about a slim jim, it's just a voltage fed folded dipole so the radiation
>> pattern will look like a dipole.
>
That's not quite true, for two reasons. An end-fed dipole has a slightly different pattern from a centre-fed dipole, because the current distribution is slightly different (one end has the feed current flowing into it, while the open end has zero current). Secondly, the currents in the two arms of the feed stub do not completely cancel. This leaves some common-mode current in the stub, which will radiate and modify the pattern of the dipole.

These real differences from a dipole tend to tilt the radiation pattern upward, even in free space. Variations like the Slim Jim are aiming to bring it back down towards the horizon... but there's very little evidence that actually happens.

>Yet most folks experimental results seem to show a radiation pattern
>squirted a lot towards the horizon and very little up and down.

The patterns of simple antennas are extremely difficult to measure - it needs accurate level measurements and also a very large test area which is completely free of reflecting objects (including the experimenter himself). Amateurs can meet the first of these requirements, but not the second. G2BCX, the original developer of the Slim Jim, did have some

measuring facilities, but he still had to work in his own backyard.

Another major source of errors is that most experimenters fail to use a choke balun at the feedpoint, so they are also measuring the radiation from some undetermined amount of feedline.

What "folks' experimental results" most often consist of is changing the antenna and checking how well it hits some distant repeater. That's fair enough, but it tells them less about the antenna than they believe. For a start, the new antenna will be in better physical condition... and then very few people can resist the temptation to make a few other improvements at the same time, like replacing the old coax and re-making all the connections.

All those practical things can make much bigger difference than the basic antenna design.

The differences between any of the J-pole variant designs are really too small to be worth arguing about. What makes ALL the difference is the engineering - how these designs are brought to life.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

507. regarding grounding

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 10:26:08 UTC
From: sreenivas <sreenivas.ss@gmail.com>
Message-ID: <1169547968.862318.3910@a75g2000cwd.googlegroups.com>
Source record: 46771

hi,
i would like to know how to measure perfect grounding in installation
of telecom systems.

508. Re: Slim Jim vs. EZNEC

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 11:11:06 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1169550666.471860.298000@q2g2000cwa.googlegroups.com>
Source record: 46772

RST Engineering ha escrito:
> I tried simulating a Slim Jim in EZNEC and did NOT get the expected "aim at
> the horizon" low-angle radiation simulated pattern. I got instead the
> standard "hole in the donut" that you would expect from a vertical dipole
> and a rather fat true donut shape rather than the expected pancake pattern.
>
> I'm not at all sure how to connect a "voltage source" driver at the tap
> point without being able to simulate the ground of that voltage source
> tapped up from the bottom end as well.
>
> Thoughts?
>
> Jim

Hello Jim,

I think your simulations are right.

As the height of the Slim Jim is about 0.75lambda (common mode choke in coaxial line, to avoid radiation from cable), the beam width in vertical direction is limited by physics (will be similar to a dipole). If you want an omni-directional pattern with small beam width in the vertical plane, your antenna's vertical dimension must be large with respect to wavelength (for example co-phases dipoles, full wave dipole, 1.25lambda dipole).

About the Slim Jim
The upper half wave section (with the fold back HW section) just acts as a single end-fed dipole with current maximum in the middle. The current in the two HW sections is in phase. The lower quarter wave section acts as a matching circuit to transform 50 Ohms to a high impedance to feed the dipole section. The current in both quarter wave legs are opposite to each other and therefore has little influence on the overall radiation pattern. There is a small common mode current in the quarter wave section (just as in a normal end-fed HW dipole without radials, like is done in many Citizens Band antenna's).

The two wires of the HW section are too close to each other to have significant impact on the radiation pattern in the horizontal plane (so it will be omni-directional).

If you want to simulate the effect of cable radiation, just put the voltage source at the points where you want to connect the coaxial cable. Draw a wire (that is the screen from your coax) and connect it at the voltage source (where the screen of the coax will be connected). Now you can see the common mode current in you coax and the change in

overall radiation pattern.

Best Regards,

Wim
PA3DJS

509. Re: Antenna Simulation Parameters and Folded Dipole Antenna Question...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 11:40:25 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1169552425.336490.37100@k78g2000cwa.googlegroups.com>
Source record: 46773
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna

RHF ha escrito:
> Camelot - The Google Group : Rec.Radio.Amateur.Antenna
> http://groups-beta.google.com/group/rec.radio.amateur.antenna/
> Has many Antenna Experts that may have the Answers
> to your Antenna Simulation Questions.
>
> hope this helps ~ RHF
>
> = On Jan 21, 10:45 pm, "camelot" <sco...@tiscalinet.it> wrote:
> - Any suggestion?
> -
> - camelot ha scritto:
> -
> - Hello,
> - I'm new in antenna simulation world and I would like to ask
> - you some questions on some topics.
> -
> - I hope someone could help me.
> -
> - The first question is if it is true that Directivity, Gain and
> - Efficency of an antenna are simply tied to the her topology
> - and not to the goodness of the matching network or the
> - source impedance, i.e, if I have to measure these values,
> - should I necessary verify that the antenna is correctly matched
> - with source?
> -
> - Second (and last!) question,
> - I have to simulate a folded dipole with a ground connection in
> - the center (necessary to the supplying chip as ground reference).
> - The structure had hence 3 ports. My question is if a inductive
> - or capacitive load connected to the middle virtual ground port
> - (and the chip) can significantly affect the matching and other
> - parameter (D,G) of the port.
> - In few words, that third branch connected to a virtual ground,
> - how influence the antenna behavior?
> -
> - Sorry for my trivial questions
> - but I'm continuing studying in order to fill my gaps.
> - Regards,
> -
> - Camelot
> -
> -

> - -
>
>
>
> On Jan 22, 3:50 am, "RHF" <rhf-newsgro...@pacbell.net> wrote:
> > Camelot - The Google Group :
Rec.Radio.Amateur.Antennahttp://groups-beta.google.com/group/rec.radio.amateur.antenna/
> > Has many Antenna Experts that may have the Answers
> > to your Antenna Simulation Questions.
> >
> > hope this helps ~ RHF
> >
> > = On Jan 21, 10:45 pm, "camelot" <sco...@tiscalinet.it> wrote:
> > - Any suggestion?
> > -
> > - camelot ha scritto:
> > -
> > - Hello,
> > - I'm new in antenna simulation world and I would like to ask
> > - you some questions on some topics.
> > -
> > - I hope someone could help me.
> > -
> > - The first question is if it is true that Directivity, Gain and
> > - Efficency of an antenna are simply tied to the her topology
> > - and not to the goodness of the matching network or the
> > - source impedance, i.e, if I have to measure these values,
> > - should I necessary verify that the antenna is correctly matched
> > - with source?
> > -
> > - Second (and last!) question,
> > - I have to simulate a folded dipole with a ground connection in
> > - the center (necessary to the supplying chip as ground reference).
> > - The structure had hence 3 ports. My question is if a inductive
> > - or capacitive load connected to the middle virtual ground port
> > - (and the chip) can significantly affect the matching and other
> > - parameter (D,G) of the port.
> > - In few words, that third branch connected to a virtual ground,
> > - how influence the antenna behavior?
> > -
> > - Sorry for my trivial questions
> > - but I'm continuing studying in order to fill my gaps.
> > - Regards,
> > -
> > - Camelot
> > -
> > -
> > - -

Hello Camelot,

Directivity is determined solely by the antenna structure. I dipole has a directivity of about 2.14 dB, no matter from what impedance you will feed it. Be carefull that in many cases the feedline will carry common mode current and will radiate too. If so, you must model at least the screen of the feeder as part of the antenna too.

Directivity is strongly related to the radiation pattern of the antenna.

If the match is perfect and there are not heat losses, directivity = gain.

Efficiency is the ratio between total radiated power and real input power (always less then 1). Efficiency is limited by heat losses in conductors and dielectrics.

In general: gain = directivity - (mismatch loss) - efficiency.
All in dB.

So if you have an antenna with a maximum directivity of 6 dBi, a VSWR=2 and efficiency = 0.5, you gain in the direction of maximum directivity is 6 - 0.5 - 3 = 2.5 dBi.

>From the input impedance you cannot say something about directivity. For example, look to a HW dipole, it has about 50..73 Ohms. A folded dipole (with same radiation pattern and hence same directivity) has about 200 to 300 Ohms input impedance.

About the effect of the middle ground port.
When the output of your RF chip has good symmetry, and your antenna will have good symmetry too, the RF current into the middle port will be negligible. A decoupling coil or capacitor may have a small effect on resonant frequency of the antenna (because of small capacitive coupling to the actual antenna). The change in input impedance will be minimal/negligible also.

If you might expect asymmetry, using a capacitor to ground, will cause (significant) current through the capacitor and hence will affect radiation pattern, input impedance, etc.

Best Regard and good luck,

Wim
PA3DJS.

510. Re: receive only ferrite antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 12:47:05 UTC
From: amdx <amdx@knology.net>
Message-ID: <994df$45b603d7$45011502$27336@KNOLOGY.NET>
Source record: 46774

"dansawyeror" <dansawyeror@comcast.net> wrote in message
news:gdKdnbMJd42f-yjYnZ2dnUVZ_r6vnZ2d@comcast.com...
> All,
>
> I am interested in experimenting with ferrite core receive antennas. I
> have about a dozen .4 by 10 inch rods. The primary band of interest is
> 75m. My question is:
>
> 1. For best reception is it better to make a fat or a long antenna? I
> cannot find much written about these antennas and have not found any
> equations.
>
The only work I've seen done on multiple ferrite rods was for use at
the AM BCB frequency and they bundled them side by side for a short
fat antenna.
IIRC the information was in an NRC (National Radio Club) publication.
I think you will find an index of their publications online.
Mike

Mike

511. Re: Antenna Simulation Parameters and Folded Dipole Antenna Question...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 15:43:37 UTC
From: camelot <scosmo@tiscalinet.it>
Message-ID: <1169567017.797666.299060@q2g2000cwa.googlegroups.com>
Source record: 46775

Thank you very much PA3DJS for your interest! ;-)

Camelot

On Jan 23, 12:40 pm, "Wimpie" <wim...@tetech.nl> wrote:
> RHF ha escrito:
>
>
>
>
>

512. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 16:02:32 UTC
From: craigm <none@domain.invalid>
Message-ID: <Njqth.85$Hq1.176258@news.sisna.com>
Source record: 46676

art wrote:

> Tho the Yagi has been good to communication over
> the years it has in fact retarded the advance of antennas.
> The biggest reason is the misinterpretation of the term "curl"
> where it is termed as a two dimensional vector instead
> of a three dimensional vector. The two dimensional term
> came about by adding vectors to a static charge where
> the vector values are zero i.e time was removed from
> equations by reducing the vector to a point for the sake
> of mathematical expedience but with a known direction.
> This aproach has fastened into the minds of academics that
> radiating elements should always be in parallel form and
> which the Yagi has perpetuated. The error in this aproach
> is that when a time varying field is applied to a static charge
> is that the addition of vectors move from a two dimensional
> form into a cartesian three dimensional form. With this
> concept in mind which is an extension of a Gaussian
> antenna aproach, it should be seen that parallism tho good
> in terms of manufacture is not the ideal array arrangement
> and in fact verticals may well be better off place at an angle
> somewhat less than 90 degrees. Ofcourse as always
> antennas are compromises and the biggest drawback here is
> the lack of symetry for only a small advance in efficiency.
> Food for thougtht gentlemen if you have an open mind
> Art

How about some real math and equations. You should present some technical basis for your conclusions other than some verbal handwaving.

You also seem to make some assumptions which are irrelevant (parallelism being good for manufacturing being one) that may not be valid.

You are looking for open minds, but present nothing of substance.

craigm

513. Re: Yagi question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 17:34:24 UTC
From: Allodoxaphobia <bit-bucket@config.com>
Message-ID: <slrnerchp0.14v0.bit-bucket@shell.config.com>
Source record: 46677

On Mon, 22 Jan 2007 18:50:28 -0800, John Smith I wrote:
> Nelson Blaha wrote:
>> My mother is way into the geneology stuff. Blaha is a very common name
>> in the Czech Republic. I'm glad to have an odd name, I don't know what
>> I'd do if I were a "Smith" or "Miller"!
>
> Hmmm, I wonder? ...
>
> Regards,
> John SMITH <grin>

I'll admit to using Trebetowski when making restaurant reservations.

Jonesy
--
Marvin L Jones | jonz | W3DHJ | linux
38.24N 104.55W | @ config.com | Jonesy | OS/2
*** Killfiling google posts: <http://jonz.net/ng.htm>

514. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 17:38:29 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1169573909.251728.31440@m58g2000cwm.googlegroups.com>
Source record: 46678

Well, there is the Moxon Rectangle, Discone, Sloper, Delta Loop, Big Wheel, Circular Loop, Orthogonal loops with periodic feed, Vee, Rhombic, Helix, Parabolic Dish, Cone with spiral lip, G String, Surface fed half sphere, BirdCage, Lazy Vee, Moon Bounce, and a bunch of others that escape me at the moment...

It would seem that many antenna designers, some of whom would not recognize a real time vector if it poked them in the eye and then scrawled a table of Naperian Logarithms on the wall paper, have already gone ahead without waiting on directions from open minds...

denny / k8do

515. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 18:02:40 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <ep5ik3$6fu$1@aioe.org>
Source record: 46679

"Denny" <k8do@mailblocks.com> wrote in message
news:1169573909.251728.31440@m58g2000cwm.googlegroups.com...
> Well, there is the Moxon Rectangle, Discone, Sloper, Delta Loop, Big
> Wheel, Circular Loop, Orthogonal loops with periodic feed, Vee,
> Rhombic, Helix, Parabolic Dish, Cone with spiral lip, G String, Surface
> fed half sphere, BirdCage, Lazy Vee, Moon Bounce, and a bunch of others
> that escape me at the moment...
>

You left out the King of them all:
http://members.aol.com/ve3bmv/Razors.htm
Da VE3BMV Razor Beam, which may have escaped the Art da Antenna Wiz.
Let's not forget this 3D champion that decimated Yagis and other inferior
contraptions by the antenna gurus and professoirs and scientwists. :-)))

73 Yuri da BUm da father of Razors

516. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 18:15:43 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1169576143.767479.100000@j27g2000cwj.googlegroups.com>
Source record: 46680

Yuri, I didn't remember that.. Thanks for the memory jog...
And the blurb on the cover about local rtty loops brings back lots of
good memories.. Every time I get a fresh whiff of WD-40 I hear a model
19 rattling in my head for a split second... Autostart thunder from
the basement at 2AM <the xyl hated that> after the guys got home from
work at the auto plant and started trading the latest rtty pictures....
Remember the topless girl in the indian head dress / the american flag
done with a red and black ribbon / lots others?

denny

517. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 18:40:55 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <YEsth.103$Ax.112751@news.sisna.com>
Source record: 46681

art wrote:

> ...
> of a three dimensional vector. The two dimensional term

Art:

I take the thrust of your previous text to say, "We have lost focus of the antenna as a technical device. Some now think of it as a "magical device" and some as a "work of art." I can see some truth in all of that. Plus, I will go further, if anyone thinks we have discovered ALL there is to know about antennas, they are simply wrong ...

Basically, I only have use for three types of antennas. Two of these are for terrestrial use only and one is for non-earth use ("talking" to satellites, NOT aliens.)

Of the two for terrestrial use, one is omni directional the other VERY directional. Now omni is quite easy, most dipoles or monopoles can be placed to work with varying success.

So that leaves the "beam" or directional antenna. Now, the best directional antenna I have EVER found is the parabolic dish--there just ain't any better! However, for HF (indeed vhf/uhf are VERY difficult to construct) these are out of the question for most of us. So, the question becomes, "How can we mimic the performance of the dish with practical materials.

Now, that is what we are all looking for, isn't it?

Warmest regards,
JS

518. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 18:56:59 UTC
From: Nate Bargmann <n0nb.DO.NOT.SPAM@ME.networksplus.net>
Message-ID: <trqdnYhRqPbmxyvYnZ2dnUVZ_q3inZ2d@bluevalley.net>
Source record: 46682

On Tue, 23 Jan 2007 10:25:56 -0800, art wrote:

> yuri I put my money where my mouth is, it cost me a lot to apply
> for another patent.

Getting a patent merely proves that one is able to hire a competent enough patent attorney to convince the patent examiners that the application in question isn't the rehash of prior patents. Enough bogus software patents are issued on an ongoing bases to bear this out. A patent is not proof of sound engineering even though the public at large has been hoodwinked into believing otherwise.

Without field strength/antenna range data, any other claims are akin to shouting in the wind. Your money doesn't matter, show us the data.

- Nate >>

--

"The optimist proclaims that we live in the best of all possible worlds, the pessimist fears this is true."

519. Re: receive only ferrite antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 19:12:02 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <45B65E02.6000703@comcast.net>
Source record: 46683

Owen,

Thank you. The environment is medium density residential. I am listening to a net regularly on 3970kc. I have limited space and cannot rig a half wave dipole and am looking for alternatives.

Frequently a station close by picks up stations I cannot hear. I am looking for small space alternatives. Given that that station is in the same 'cosmic' noise environment what characteristics create a superior s/n ratio?

For receive only is a ferrite core a good alternative?

- Dan

Owen Duffy wrote:
> "AndyS" <andysharpe@juno.com> wrote in news:1169524019.256493.196630
> @a75g2000cwd.googlegroups.com:
>
>> working just fine..... At HF, it isn't unusual to have 30uv/m of
>> "noise", from cosmic or galactic or whatever... A 20 db noise
>> figure is just fine for a receiver in those ranges..... The biggest
>> challenge is man-made interference .....
>>
>
> Dan,
>
> Some more information on expected ambient noise per ITU-R p.372-8 is in my
> article at http://www.vk1od.net/fsm/FSAmbientNoise.htm . For 3.6MHz, it is
> probably wise to expect ambient noise field strength somewhere around
> 6dBuV/m in 2kHz bandwidth in a residential environment. If an antenna can
> develop more than about -130dBm in the receiver from that field strength,
> the S/N should be ok on most modern SSB receivers which have a noise floor
> somewhere around -136dBm. If you were in a quieter environment, you would
> benefit from a better antenna.
>
> Owen

520. Re: receive only ferrite antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 19:12:25 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <O4SdnWynsIbfwyvYnZ2dnUVZ_sTinZ2d@comcast.com>
Source record: 46684

Owen,

Thank you. The environment is medium density residential. I am listening to a net regularly on 3970kc. I have limited space and cannot rig a half wave dipole and am looking for alternatives.

Frequently a station close by picks up stations I cannot hear. I am looking for small space alternatives. Given that that station is in the same 'cosmic' noise environment what characteristics create a superior s/n ratio?

For receive only is a ferrite core a good alternative?

- Dan

Owen Duffy wrote:
> "AndyS" <andysharpe@juno.com> wrote in news:1169524019.256493.196630
> @a75g2000cwd.googlegroups.com:
>
>> working just fine..... At HF, it isn't unusual to have 30uv/m of
>> "noise", from cosmic or galactic or whatever... A 20 db noise
>> figure is just fine for a receiver in those ranges..... The biggest
>> challenge is man-made interference .....
>>
>
> Dan,
>
> Some more information on expected ambient noise per ITU-R p.372-8 is in my
> article at http://www.vk1od.net/fsm/FSAmbientNoise.htm . For 3.6MHz, it is
> probably wise to expect ambient noise field strength somewhere around
> 6dBuV/m in 2kHz bandwidth in a residential environment. If an antenna can
> develop more than about -130dBm in the receiver from that field strength,
> the S/N should be ok on most modern SSB receivers which have a noise floor
> somewhere around -136dBm. If you were in a quieter environment, you would
> benefit from a better antenna.
>
> Owen

521. Re: receive only ferrite antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 19:21:34 UTC
From: AndyS <andysharpe@juno.com>
Message-ID: <1169580094.688629.258180@h3g2000cwc.googlegroups.com>
Source record: 46685

Owen Duffy wrote:
>
> Dan,
>
> Some more information on expected ambient noise per ITU-R p.372-8 is in my
> article at http://www.vk1od.net/fsm/FSAmbientNoise.htm . For 3.6MHz, it is
> probably wise to expect ambient noise field strength somewhere around
> 6dBuV/m in 2kHz bandwidth in a residential environment. If an antenna can
> develop more than about -130dBm in the receiver from that field strength,
> the S/N should be ok on most modern SSB receivers which have a noise floor
> somewhere around -136dBm. If you were in a quieter environment, you would
> benefit from a better antenna.
>
> Owen

Andy writes:
Thanks for posting the website, Owen.....
My comments were based on a residential/business site with a bandwidth
that
could accomodate AM, and I was generalizing .....

When I was designing LORAN (100khz) set sfor aircraft (TI2000) , I
needed to
find how small an external whip antenna could be... It turned out that
22
inches was sufficient, since a larger antenna which would convert more
signal, would also convert, proportionately, more noise......

I guess that's why whip antennae on AM car radio are only a couple
feet long, and why loopsticks work so well at AM broadcast.....

A nice article you wrote,.... thanks for giving the web reference...

Andy W4OAH, in Eureka, Texs

522. Re: regarding grounding

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 19:32:31 UTC
From: You <You@shadow.orgs>
Message-ID: <You-8F6B54.10311123012007@netnews.worldnet.att.net>
Source record: 46686

In article <1169547968.862318.3910@a75g2000cwd.googlegroups.com>,
"sreenivas" <sreenivas.ss@gmail.com> wrote:

> hi,
> i would like to know how to measure perfect grounding in installation
> of telecom systems.
>

"Perfect Grounding: is an illusion..... and can't be measured.....

523. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 19:40:15 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <1wtth.633$ch1.559@bigfe9>
Source record: 46687

"art" <aunwin@insightbb.com> wrote in message
news:1169569615.584254.163360@q2g2000cwa.googlegroups.com...
> Before the mathematical equations comes about you must understand the
> concept,
> it is that which requires an open mind . We are not back in college
> where we take every
> thing in so we can pass an examination. Ask your self why dx/dt is nor
> included
> when a conservative field is described by the experts and then we have
> the
> beginnings of a debate where you can explain your points. Don't shoot
> the messenger!
> Art
> \
>
> craigm wrote:
> how about some real math and equations. You should present some
> technical
>> basis for your conclusions other than some verbal handwaving.
>>
>> You also seem to make some assumptions which are irrelevant (parallelism
>> being good for manufacturing being one) that may not be valid.
>
>
> As an engineer I can say that elements in a varying three dimensional
> form
> to each other is more difficult and more costly than parallism on a
> single plane,
> No amount of mathematical juggling will allow you to escape that
> analysis,
> but I am willing to debate around that point
> Art
>
>
>
>>
>> You are looking for open minds, but present nothing of substance.
>
> If you are not willing to try and understand the concept then your
> mind must be closed. Yes we can debate that to
> Art
>
>>
>> craigm

>

In antennas the math is the concept. No one will ever have a clue how one works without understanding the math. May I suggest that everyone hold there responses until you say all you have to say encluding posting the relevant equations with references. This will be the only route fair to you and prevent the normal bickering. Your ideas if presented in a professional maner will recive a professional response.

Jimmie

524. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 19:47:44 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <2Dtth.634$ch1.131@bigfe9>
Source record: 46688

"art" <aunwin@insightbb.com> wrote in message
news:1169579385.920572.6150@a75g2000cwd.googlegroups.com...
> No I wouldn't call it "art" it is just science gone awry.
> If you go back to 101 you will be one of many who
> got into trouble with Divergence and Curl but chose to
> believe the books because that is what you are being
> examined for. Review Helmholts, Stokes and Gauss on
> statics now that you are not compelled to suck up
> everything. As far as a dish is concerned for HF
> that is not really a problem anymore when you understand
> how the misconceptions that took hold around "curl"
> I'll give you a hint John look at a "conservative field"
> where "vector value is zero" statement is made in
> the books based on what the masters said and then
> think it out for yourself ! As far as satellites are concerned
> where circular polarisation is chosen via a turnstile, just
> imagine what it will do for antennas when it is proven that
> parallism is not the only way to go. You are quite correct
> that all is not known and that is purely from
> misconceptions about "curl" put out via faulty
> mathematics from the masters.
> Back to the dish antenna, yes that does appear to be
> one of the best not because of its traditional nature
> but because the dish can be formed in equilibrium
> such that more than one vector points in the same direction.
> You will understand that better when you read my write up
> when I get around to it or my patent application is printed..
>
> Regards
> Art
>
>
>
>
> John Smith I wrote:
>> art wrote:
>>
>> > ...
>> > of a three dimensional vector. The two dimensional term
>>
>> Art:
>>
>> I take the thrust of your previous text to say, "We have lost focus of
>> the antenna as a technical device. Some now think of it as a "magical

>> device" and some as a "work of art." I can see some truth in all of
>> that. Plus, I will go further, if anyone thinks we have discovered ALL
>> there is to know about antennas, they are simply wrong ...
>>
>> Basically, I only have use for three types of antennas. Two of these
>> are for terrestrial use only and one is for non-earth use ("talking" to
>> satellites, NOT aliens.)
>>
>> Of the two for terrestrial use, one is omni directional the other VERY
>> directional. Now omni is quite easy, most dipoles or monopoles can be
>> placed to work with varying success.
>>
>> So that leaves the "beam" or directional antenna. Now, the best
>> directional antenna I have EVER found is the parabolic dish--there just
>> ain't any better! However, for HF (indeed vhf/uhf are VERY difficult to
>> construct) these are out of the question for most of us. So, the
>> question becomes, "How can we mimic the performance of the dish with
>> practical materials.
>>
>> Now, that is what we are all looking for, isn't it?
>>
>> Warmest regards,
>> JS
>

525. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 19:51:10 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <NGtth.111$nx.99426@news.sisna.com>
Source record: 46698

Jimmie D wrote:

> ...
> In antennas the math is the concept. No one will ever have a clue how one
> works without understanding the math. May I suggest that everyone hold there
> responses until you say all you have to say encluding posting the relevant
> equations with references. This will be the only route fair to you and
> prevent the normal bickering. Your ideas if presented in a professional
> maner will recive a professional response.
>
> Jimmie
>
>

Geesh! Something we finally stand in total agreement with.

However, like most things in science, usually what we are hunting is
first "discovered" in a "practical" form, then the math is "found" to
explain, describe, and "predict" it and its "properties" ... such has
always been mankinds' lot--or, thanks for those goofy guys in their
basements with their goofy ideas ...

Still, an excellent and valid statement.

Warmest regards,
JS

526. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 19:52:58 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <YHtth.635$ch1.136@bigfe9>
Source record: 46689

"art" <aunwin@insightbb.com> wrote in message
news:1169579385.920572.6150@a75g2000cwd.googlegroups.com...
> No I wouldn't call it "art" it is just science gone awry.
> If you go back to 101 you will be one of many who
> got into trouble with Divergence and Curl but chose to
> believe the books because that is what you are being
> examined for. Review Helmholts, Stokes and Gauss on
> statics now that you are not compelled to suck up
> everything. As far as a dish is concerned for HF
> that is not really a problem anymore when you understand
> how the misconceptions that took hold around "curl"
> I'll give you a hint John look at a "conservative field"
> where "vector value is zero" statement is made in
> the books based on what the masters said and then
> think it out for yourself ! As far as satellites are concerned
> where circular polarisation is chosen via a turnstile, just
> imagine what it will do for antennas when it is proven that
> parallism is not the only way to go. You are quite correct
> that all is not known and that is purely from
> misconceptions about "curl" put out via faulty
> mathematics from the masters.
> Back to the dish antenna, yes that does appear to be
> one of the best not because of its traditional nature
> but because the dish can be formed in equilibrium
> such that more than one vector points in the same direction.
> You will understand that better when you read my write up
> when I get around to it or my patent application is printed..
>
> Regards
> Art
>
>
>
>

Please explain the "faulty mathmatics from the masters"
Please show equations with proofs.

527. Re: receive only ferrite antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 19:55:21 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98C2465C33E87nonenowhere@61.9.191.5>
Source record: 46690

dansawyeror <dansawyeror@comcast.net> wrote in
news:45B65E02.6000703@comcast.net:

> Owen,
>
> Thank you. The environment is medium density residential. I am
> listening to a net regularly on 3970kc. I have limited space and
> cannot rig a half wave dipole and am looking for alternatives.
>
> Frequently a station close by picks up stations I cannot hear. I am
> looking for small space alternatives. Given that that station is in
> the same 'cosmic' noise environment what characteristics create a
> superior s/n ratio?

If you looked at the reference material I gave you, you will see that you might expect the ambient noise in a residential environment to develop about -83dBm in a 2kHz wide rx with a lossless antenna.

If your receiver noise floor was say -136dBm (Noise Figure about 5dB, a state of the art HF receiver), and you wanted a 6dB margin to restrict degradation of the "off-air" S/N to 1dB, then your antenna needs to have gain of at least (-136 - -83 + 6)dBi, or -47dBi. That is not very difficult to achieve, even with a ferrite loop antenna.

Owen

528. Re: receive only ferrite antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 20:15:07 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <83rcr2hbokiuh5nc85gun7msu4b30n3hv8@4ax.com>
Source record: 46692

On Tue, 23 Jan 2007 11:12:02 -0800, dansawyeror
<dansawyeror@comcast.net> wrote:

>For receive only is a ferrite core a good alternative?

Hi Dan,

Yes, but only insofar as it is balanced and gives you sharp nulls to
help eliminate some of the interference. This may require elevating
it away from reflecting surfaces if it is not shielded.

73's
Richard Clark, KB7QHC

529. The Awesome Razor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 20:15:38 UTC
From: ricknj10@hotmail.com
Message-ID: <45b66ce5.13092921@news.optonline.net>
Source record: 46691

On Tue, "Yuri Blanarovich" <K3BU> wrote:

>Let's not forget this 3D champion that decimated Yagis and other inferior
>contraptions by the antenna gurus and professoirs and scientwists. :-)))
>
>73 Yuri da BUm da father of Razors

Hey Yuri,
Is it true, I've heard you can't operate a Razor over dry land, or
where there is flamable material nearby because of the fire hazard?

How about we put one up over a salt marsh, would that be safe enough
to not endanger the population?

Rick K2XT

530. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 20:24:29 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <v9uth.636$ch1.369@bigfe9>
Source record: 46693

"art" <aunwin@insightbb.com> wrote in message
news:1169582520.117674.203370@j27g2000cwj.googlegroups.com...
> Atta boy Jimmy if only somebody pursued just a little bit of what I
> present
> we all would gain by a debate but nobody but nobody got off the couch
> except one whose aims were dishonest. With respect to patents, very few
> if any
> is for a miracle it is only a platform for additional ideas to the
> present state
> of the art which is only generated by the micro steps of information
> in any art.
> When you apply that small piece of information you are suppling a basic
> for the next patent application which is what is called progress
> because it
> was shared and without sharing achievement is retarded. When people
> decry the idea of patents I think back to the fact that many engineers
> decried them after the fact but never decried their importance on a
> resume,
> just like monday morning quarterbacks
> Art
>
> Jimmie D wrote:
>> "art" <aunwin@insightbb.com> wrote in message
>> news:1169569615.584254.163360@q2g2000cwa.googlegroups.com...
>> > Before the mathematical equations comes about you must understand the
>> > concept,
>> > it is that which requires an open mind . We are not back in college
>> > where we take every
>> > thing in so we can pass an examination. Ask your self why dx/dt is nor
>> > included
>> > when a conservative field is described by the experts and then we have
>> > the
>> > beginnings of a debate where you can explain your points. Don't shoot
>> > the messenger!
>> > Art
>> > \
>> >
>> > craigm wrote:
>> > how about some real math and equations. You should present some
>> > technical
>> >> basis for your conclusions other than some verbal handwaving.
>> >>
>> >> You also seem to make some assumptions which are irrelevant (
>> >> parallelism

>> >> being good for manufacturing being one) that may not be valid.
>> >
>> >
>> > As an engineer I can say that elements in a varying three dimensional
>> > form
>> > to each other is more difficult and more costly than parallism on a
>> > single plane,
>> > No amount of mathematical juggling will allow you to escape that
>> > analysis,
>> > but I am willing to debate around that point
>> > Art
>> >
>> >
>> >
>> >>
>> >> You are looking for open minds, but present nothing of substance.
>> >
>> > If you are not willing to try and understand the concept then your
>> > mind must be closed. Yes we can debate that to
>> > Art
>> >
>> >>
>> >> craigm
>> >
>>
>> In antennas the math is the concept. No one will ever have a clue how
>> one
>> works without understanding the math. May I suggest that everyone hold
>> there
>> responses until you say all you have to say encluding posting the
>> relevant
>> equations with references. This will be the only route fair to you and
>> prevent the normal bickering. Your ideas if presented in a professional
>> maner will recive a professional response.
>>
>> Jimmie
>

Patents are almost useless unless you actually build something. Basically patents protect ideas and I know a guy who use to do hundreds of applictions on just ideas. It is not the purpose of a patent to establish that an idea is workable. It just establishes it as "your idea" Besides I thought we were talking about antennas, not the value of patents.

Jimmie.

531. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 20:35:56 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <ekuth.638$ch1.578@bigfe9>
Source record: 46694

"art" <aunwin@insightbb.com> wrote in message
news:1169584119.317693.115920@q2g2000cwa.googlegroups.com...
>I responded to another person who posted his thoughts about patents
> on this very same thread!
> Art
>
>
> Jimmie D wrote:
>> "art" <aunwin@insightbb.com> wrote in message
>> news:1169582520.117674.203370@j27g2000cwj.googlegroups.com...
>> > Atta boy Jimmy if only somebody pursued just a little bit of what I
>> > present
>> > we all would gain by a debate but nobody but nobody got off the couch
>> > except one whose aims were dishonest. With respect to patents, very few
>> > if any
>> > is for a miracle it is only a platform for additional ideas to the
>> > present state
>> > of the art which is only generated by the micro steps of information
>> > in any art.
>> > When you apply that small piece of information you are suppling a basic
>> > for the next patent application which is what is called progress
>> > because it
>> > was shared and without sharing achievement is retarded. When people
>> > decry the idea of patents I think back to the fact that many engineers
>> > decried them after the fact but never decried their importance on a
>> > resume,
>> > just like monday morning quarterbacks
>> > Art
>> >
>> > Jimmie D wrote:
>> >> "art" <aunwin@insightbb.com> wrote in message
>> >> news:1169569615.584254.163360@q2g2000cwa.googlegroups.com...
>> >> > Before the mathematical equations comes about you must understand
>> >> > the
>> >> > concept,
>> >> > it is that which requires an open mind . We are not back in college
>> >> > where we take every
>> >> > thing in so we can pass an examination. Ask your self why dx/dt is
>> >> > nor
>> >> > included
>> >> > when a conservative field is described by the experts and then we
>> >> > have
>> >> > the
>> >> > beginnings of a debate where you can explain your points. Don't

>> >> > shoot
>> >> > the messenger!
>> >> > Art
>> >> > \
>> >> >
>> >> > craigm wrote:
>> >> > how about some real math and equations. You should present some
>> >> > technical
>> >> >> basis for your conclusions other than some verbal handwaving.
>> >> >>
>> >> >> You also seem to make some assumptions which are irrelevant (
>> >> >> parallelism
>> >> >> being good for manufacturing being one) that may not be valid.
>> >> >
>> >> >
>> >> > As an engineer I can say that elements in a varying three
>> >> > dimensional
>> >> > form
>> >> > to each other is more difficult and more costly than parallism on a
>> >> > single plane,
>> >> > No amount of mathematical juggling will allow you to escape that
>> >> > analysis,
>> >> > but I am willing to debate around that point
>> >> > Art
>> >> >
>> >> >
>> >> >
>> >> >>
>> >> >> You are looking for open minds, but present nothing of substance.
>> >> >
>> >> > If you are not willing to try and understand the concept then your
>> >> > mind must be closed. Yes we can debate that to
>> >> > Art
>> >> >
>> >> >>
>> >> >> craigm
>> >> >
>> >>
>> >> In antennas the math is the concept. No one will ever have a clue how
>> >> one
>> >> works without understanding the math. May I suggest that everyone hold
>> >> there
>> >> responses until you say all you have to say encluding posting the
>> >> relevant
>> >> equations with references. This will be the only route fair to you
>> >> and
>> >> prevent the normal bickering. Your ideas if presented in a
>> >> professional
>> >> maner will recive a professional response.
>> >>

>> >> Jimmie
>> >
>>
>> Patents are almost useless unless you actually build something. Basically
>> patents protect ideas and I know a guy who use to do hundreds of
>> applictions
>> on just ideas. It is not the purpose of a patent to establish that an
>> idea
>> is workable. It just establishes it as "your idea" Besides I thought we
>> were
>> talking about antennas, not the value of patents.
>>
>> Jimmie.
>

So, lets get back to antennas, I really want to see your proofs of
mathematical a mistake the masters made.
Cant wait?

Sincerely Jimmie.

532. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 20:40:14 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <gouth.639$ch1.479@bigfe9>
Source record: 46695

"art" <aunwin@insightbb.com> wrote in message
news:1169583046.458737.225020@a75g2000cwd.googlegroups.com...
>
> Jimmie D wrote:
>> >
>>
>>
>> Please explain the "faulty mathmatics from the masters"
>> Please show equations with proofs
>
> Aw Jimmy I gave three names and the subject matter
> when you find and declare it to the group they may listen
> to YOU but frm ME they wont.UNTIL THEY READ IT IN A BOOK
> WHICH IS WHERE THE PROBLEM STARTED
> Regards
> Art
>

Thats what I thought your answer would be.

533. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 20:45:29 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <h0scr2t772f1m1clcscjbbb84e4eapuhs6@4ax.com>
Source record: 46696

On Tue, 23 Jan 2007 14:40:15 -0500, "Jimmie D"
<jimmiedee@bellsouth.net> wrote:

>May I suggest that everyone hold there
>responses until you say all you have to say encluding posting the relevant
>equations with references.

On Tue, 23 Jan 2007 14:52:58 -0500, "Jimmie D"
<jimmiedee@bellsouth.net> wrote:

>Please explain the "faulty mathmatics from the masters"
>Please show equations with proofs.

Wow! From Hero to Zero in 12 minutes and 33 seconds.

Jimmie, you could have waited the obligatory 12 days, 33 hours and 54
thousand seconds to discover there are no facts to be had that
1. Contradict ordinary-as-mud modeling;
2. Reveal theories that would astonish the multitudes;
3. Offer a revelation of how statics can perform what dynamics do
daily. And certainly
4. No evidence of the comprehension that statics are a mathematical
fiction. Life does not allow them, and they are completely unknown
outside of a book or a classroom.

Art cannot even explain how he obtained a 50 Ohm non-reactive feed
into his five assorted wires, non of which could have possible
supported a fifth of that value (and jacked up with so much reactance
as to reject all power).

As for your first observation above about waiting. The poster is
entirely responsible for content, both its length and its purpose.
This can be as easily achieved in one posting as in 200. If the past
is to inform us of how efficiently that process has been successful;
then your cï¿½sura || is entirely justified.

73's
Richard Clark, KB7QHC

534. Re: Strayed thinking

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 21:03:52 UTC
From: gwatts <gwatts@frontiernet.net>
Message-ID: <YKuth.1160$B25.174@news01.roc.ny>
Source record: 46697

art wrote:
> Yesterday I came across an example where thinking went astray.
> My Runco three large CRT projector failed and I traced it to the first
> power
> supply of all things. There were four square power resisters, two in
> series
> but what hit me in the head was that the draftsman had put these
> resisters in a tight touching square Now you must know that you
> add a fudge factor to the power level but you never cancel it by
> removing circulation. They didn't have the apearance of damage
> but I took them out anyway. True enough two in parallel had blown
> and the engineer probably asked for them to be in parallel to provide
> the required surface area. I replaced them with tubular hollow wre
> wounds
> with separation. To many it is only obvious after the fact or shall I
> call
> them monday morning quarter backs.
> I will see the superbowl in my home theatre with a grin on my face
> Art
>

How many hours did you have on this projector at failure? Part of
engineering a design is lifetime expectancy, judging by the projectors
I've seen over the past few years a three CRT projector has exceeded
it's expected lifetime.

535. Re: Strayed thinking

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 22:05:31 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <dEvth.668$ch1.387@bigfe9>
Source record: 46699

"gwatts" <gwatts@frontiernet.net> wrote in message
news:YKuth.1160$B25.174@news01.roc.ny...
> art wrote:
>> Yesterday I came across an example where thinking went astray.
>> My Runco three large CRT projector failed and I traced it to the first
>> power
>> supply of all things. There were four square power resisters, two in
>> series
>> but what hit me in the head was that the draftsman had put these
>> resisters in a tight touching square Now you must know that you
>> add a fudge factor to the power level but you never cancel it by
>> removing circulation. They didn't have the apearance of damage
>> but I took them out anyway. True enough two in parallel had blown
>> and the engineer probably asked for them to be in parallel to provide
>> the required surface area. I replaced them with tubular hollow wre
>> wounds
>> with separation. To many it is only obvious after the fact or shall I
>> call
>> them monday morning quarter backs.
>> I will see the superbowl in my home theatre with a grin on my face Art
>>
>
> How many hours did you have on this projector at failure? Part of
> engineering a design is lifetime expectancy, judging by the projectors
> I've seen over the past few years a three CRT projector has exceeded it's
> expected lifetime.

Yes these are begining to show up in Goodwill stores.

536. Re: regarding grounding

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 22:16:08 UTC
From: Jake Brodsky <ab3a@cNo0mScPaAsMt.net>
Message-ID: <WPKdnewg3uzTFCvYnZ2dnUVZ_sCinZ2d@comcast.com>
Source record: 46700

sreenivas wrote:
> hi,
> i would like to know how to measure perfect grounding in installation
> of telecom systems.

What kind of "telecom systems"? What is the grounding for? How pervasive and destructive is lightning damage in your area? What is the soil conductivity? ...I think you get the picture.

There is no one "perfect grounding" system because there are many purposes, many requirements, and many satisfactory outcomes. You need to define your question in those terms before attempting to seek a solution. There is no "perfect grounding system for everything."

Jake Brodsky
Amateur Radio Station AB3A

537. Re: Dummy load power rating

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 22:36:16 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <25wth.672$ch1.101@bigfe9>
Source record: 46701

"Jimmie D" <jimmiedee@bellsouth.net> wrote in message
news:Ujwsh.298$ch1.65@bigfe9...
>I was cleaning up today and came across an old dummy load I had that looks
>like it is made from 2 watt resistors. ITs mounted on a quart size paint
>can lid and looks to be a 50 watts worth of resistors. This looks like it
>may have been a commercially built unit and I was wondering what the power
>handling capability would be if the resistors were submerged in mineral
>oil.
>
> Jimmie
>

Next time I ask about something I will have it in my hand when I discribe
it. Dummy load is 44 each 2.2K 2 watt resistors in paralell.
I think I will rebuild it using metal film.

538. Re: Strayed thinking

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 22:49:54 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <Qhwth.674$ch1.124@bigfe9>
Source record: 46702

"art" <aunwin@insightbb.com> wrote in message
news:1169590317.272596.16120@s48g2000cws.googlegroups.com...
>I agree, my 8 inch CRTs have very little hours on them tho I am always
> looking for spare tubes. I mentioned it to Curt who fixes them and he
> stated it is not the first time he has seen power resisters blow in the
> supply.
> Manufacturers don't want to add a lot of fans because of the noise.
> Similar things happen with the Hitachi rear projection t.v.s maybe
> that's why so many are failing. The idea of using two power resisters
> in parallel instead of just one of a lower value is purely to take
> advantage of the increased surface area, in this case the problem
> excabated because the resistors were of the square form so the
> draftsman probably placed the four in a tight touching square for
> neatness which retarded circulation.i The hollow ohmites that I put in
> should solve that oversight. The 8 inch crt forms were made by an
> unknown company in Japan for Zenith who then supplied them to G.E., nec
> and Runco for relabeling so it may well be a one type set thing
> .Have a single lamp projector of Runco but liquid spilt on the power
> supply and burnt the traces as well. Do you have the schematic? By the
> way the 8 inch crt are underdriven which is a huge advantage in terms
> of life. The early forms were over driven which forced designers to go
> back to the 7 inch forms and below in the case of rear projection to
> accomplish better life.
> By the way on single lamp incandescent projector forms I replace the
> inside bulb when they fail and use a wire clip to hold it in, much
> cheaper than paying a few hundred dollars to replace. I would expect
> that the new rear projection lights on the new tvs would benefit from
> the same treatment.. I do have a lot of fun playing around with things
> to retard the oncomming old age.
> Art
>
> gwatts wrote:
>> art wrote:
>> > Yesterday I came across an example where thinking went astray.
>> > My Runco three large CRT projector failed and I traced it to the first
>> > power
>> > supply of all things. There were four square power resisters, two in
>> > series
>> > but what hit me in the head was that the draftsman had put these
>> > resisters in a tight touching square Now you must know that you
>> > add a fudge factor to the power level but you never cancel it by
>> > removing circulation. They didn't have the apearance of damage
>> > but I took them out anyway. True enough two in parallel had blown
>> > and the engineer probably asked for them to be in parallel to provide

>> > the required surface area. I replaced them with tubular hollow wre
>> > wounds
>> > with separation. To many it is only obvious after the fact or shall I
>> > call
>> > them monday morning quarter backs.
>> > I will see the superbowl in my home theatre with a grin on my face
>> > Art
>> >
>>
>> How many hours did you have on this projector at failure? Part of
>> engineering a design is lifetime expectancy, judging by the projectors
>> I've seen over the past few years a three CRT projector has exceeded
>> it's expected lifetime.
>

Doubt if it was a fault in engineering. If the engineers had their way it would probably be a dale heatsinked to the chassis.Often one engineering team designs it and another goes through to find out how they can cut corners.

539. Re: Strayed thinking

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 22:57:11 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1169593031.284558.178130@m58g2000cwm.googlegroups.com>
Source record: 46703

On 23 Jan, 14:49, "Jimmie D" <jimmie...@bellsouth.net> wrote:
> "art" <aun...@insightbb.com> wrote in
messagenews:1169590317.272596.16120@s48g2000cws.googlegroups.com...
>
>
>
>
>
> >I agree, my 8 inch CRTs have very little hours on them tho I am always
> > looking for spare tubes. I mentioned it to Curt who fixes them and he
> > stated it is not the first time he has seen power resisters blow in the
> > supply.
> > Manufacturers don't want to add a lot of fans because of the noise.
> > Similar things happen with the Hitachi rear projection t.v.s maybe
> > that's why so many are failing. The idea of using two power resisters
> > in parallel instead of just one of a lower value is purely to take
> > advantage of the increased surface area, in this case the problem
> > excabated because the resistors were of the square form so the
> > draftsman probably placed the four in a tight touching square for
> > neatness which retarded circulation.i The hollow ohmites that I put in
> > should solve that oversight. The 8 inch crt forms were made by an
> > unknown company in Japan for Zenith who then supplied them to G.E., nec
> > and Runco for relabeling so it may well be a one type set thing
> > .Have a single lamp projector of Runco but liquid spilt on the power
> > supply and burnt the traces as well. Do you have the schematic? By the
> > way the 8 inch crt are underdriven which is a huge advantage in terms
> > of life. The early forms were over driven which forced designers to go
> > back to the 7 inch forms and below in the case of rear projection to
> > accomplish better life.
> > By the way on single lamp incandescent projector forms I replace the
> > inside bulb when they fail and use a wire clip to hold it in, much
> > cheaper than paying a few hundred dollars to replace. I would expect
> > that the new rear projection lights on the new tvs would benefit from
> > the same treatment.. I do have a lot of fun playing around with things
> > to retard the oncomming old age.
> > Art
>
> > gwatts wrote:
> >> art wrote:
> >> > Yesterday I came across an example where thinking went astray.
> >> > My Runco three large CRT projector failed and I traced it to the first
> >> > power
> >> > supply of all things. There were four square power resisters, two in
> >> > series

> >> > but what hit me in the head was that the draftsman had put these
> >> > resisters in a tight touching square Now you must know that you
> >> > add a fudge factor to the power level but you never cancel it by
> >> > removing circulation. They didn't have the apearance of damage
> >> > but I took them out anyway. True enough two in parallel had blown
> >> > and the engineer probably asked for them to be in parallel to provide
> >> > the required surface area. I replaced them with tubular hollow wre
> >> > wounds
> >> > with separation. To many it is only obvious after the fact or shall I
> >> > call
> >> > them monday morning quarter backs.
> >> > I will see the superbowl in my home theatre with a grin on my face
> >> > Art
>
> >> How many hours did you have on this projector at failure? Part of
> >> engineering a design is lifetime expectancy, judging by the projectors
> >> I've seen over the past few years a three CRT projector has exceeded
> >> it's expected lifetime.Doubt if it was a fault in engineering. If the engineers had
their way it
> would probably be a dale heatsinked to the chassis.Often one engineering
> team designs it and another goes through to find out how they can cut
> corners.- Hide quoted text -- Show quoted text -

540. Re: The Awesome Razor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-23 23:47:27 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <ep66qfjvf1@aioe.org>
Source record: 46704

"Rick" <ricknj10@hotmail.com> wrote in message
news:45b66ce5.13092921@news.optonline.net...
> On Tue, "Yuri Blanarovich" <K3BU> wrote:
>>Let's not forget this 3D champion that decimated Yagis and other inferior
>>contraptions by the antenna gurus and professoirs and scientwists. :-)))
>>
>>73 Yuri da BUm da father of Razors
>
> Hey Yuri,
> Is it true, I've heard you can't operate a Razor over dry land, or
> where there is flamable material nearby because of the fire hazard?
>

Very, very true. Razors were designed and customized over hard clay of Scarborough, ON and I had to wait for maple leaves to fall, otherwise it was fireworks. It was also reported that if I beamed power lines, the turbines in Niagara Falls started to spin in reverse and pumping up water from lake Ontario to Erie (even Tesla could not account for this). Another effect that expert matrimorticians can not formulaed it. Wide open field for basement scientwists.

> How about we put one up over a salt marsh, would that be safe enough
> to not endanger the population?
>

Salt marshes call for different breed of arrays, we are ploting some dual (mutli really - all) polarization three dimensional arrays firing and skimming the salty perfect waves jus' like pebbles, using wave ampliphication and Van Allen Belts for reaching the dark side of un-enionosferried territories utilizing resonant freakvencies of bridges as parasited elements for local coverage of QRPeers. This will be so far out in the salty mud, that I do not consider even getting patent for it, maybe some fuzzy pictures like of Razors. Looks like we will rearange all US records jus' like with Razors I decimated all Canuk records. So get your high vaders water proofed and get in shape.

> Rick K2XT
>

73 Yuri da K3BU/m

541. Re: The Awesome Razor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 00:17:28 UTC
From: ricknj10@hotmail.com
Message-ID: <45b6a2f3.26930796@news.optonline.net>
Source record: 46705

> three dimensional arrays firing and
>skimming the salty perfect waves jus' like pebbles,

So when we see the mud a bubbling it isn't marsh gas, it's the power of the Mighty Razor beam? Skimmin' the salt marsh, slippin under the Bay Bridge, grazing the Atlantic Ocean, then blasting the ionosphere, and next stop is Europe. Smashing S meters against pegs all across Europe. Oh, yeahhhhhh, now this is living, this is what antennas are all about !!

Rick K2XT

542. Re: Slim Jim vs. EZNEC

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 00:55:19 UTC
From: RST Engineering <jim@rstengineering.com>
Message-ID: <78yth.122$eq2.389231@news.sisna.com>
Source record: 46706

My FCC approved antenna pattern range is the overrun area of the local airport. It is largely comprised of short weeds, rocks, and the occasional dirt patch {;-)

If it wasn't freakin' winter, I'd put the 16' wooden mast with the up-n-down mechanism for nulling out ground effects at VHF and see what the pattern of a "real" SJ is. I think I'll wait for spring/summer for something that really isn't time critical.

I hate to admit it, but the HP 608 is still the best thing I've found for accurate attenuator calibration on the range. The Systron-Donner spectrum analyzer with phase lock down to a few Hz. is the other end of the range; we have large sheets of black conductive foam to keep the reflections from the equipment to a minimum and use battery/inverter power to keep power line interference down.

As for the choke balun referred to in another post, of course we use decoupling toroids (3 of them are generally sufficient) where the coax passes by the bottom of the antenna. Choke balun, decoupling ferrites, call it what you will.

Jim

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:haebr2pp3kkcr2shc6ce8o5n9f8gbcvctk@4ax.com...
> On Mon, 22 Jan 2007 14:47:21 -0800, "RST Engineering"
> <jim@rstengineering.com> wrote:
>
>>Yet most folks experimental results seem to show a radiation pattern
>>squirted a lot towards the horizon and very little up and down.
>
> Hi Jim,
>
> Most folks, and many more sophisticated folks lack the skill to really
> confirm this. It takes 10% tools and 90% common sense.

543. Re: Strayed thinking

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 01:10:45 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <mhyth.2252$fC2.360@bignews4.bellsouth.net>
Source record: 46707

"art" <aunwin@insightbb.com> wrote in message
news:1169593771.973438.195950@j27g2000cwj.googlegroups.com...
>
>
> On 23 Jan, 14:49, "Jimmie D" <jimmie...@bellsouth.net> wrote:
>> "art" <aun...@insightbb.com> wrote in
>> messagenews:1169590317.272596.16120@s48g2000cws.googlegroups.com...
>>
>>
>>
>>
> snipurs did you have on this projector at failure? Part of
>> >> engineering a design is lifetime expectancy, judging by the projectors
>> >> I've seen over the past few years a three CRT projector has exceeded
>> >> it's expected lifetime.Doubt if it was a fault in engineering. If the
>> >> engineers had their way it
>> would probably be a dale heatsinked to the chassis.Often one engineering
>> team designs it and another goes through to find out how they can cut
>> corners.- Hide quoted text -- Show quoted text -
>
> Jimmy it is rare to use two resisters instead of one because a board
> becomes bigger
> and introduces cost. When you get to power resisters it is not unusual
> to place two
> in parallel and accept the cost. In this case a cost improver would
> try to make the case
> for one single resister instead of four since a Dale with heatsink
> would be
> comparitively prohibative. The engineers calculation for wattage may
> well have
> been correct without being side blinded by the fact of some square
> form resisters.
> Art
>

Depends on the cost of the resistors. Prices seem to increase somewhat
expotentially with wattage so the two smaller ones may have been cheaper
than one larger. In this case the cost improver would have went for the
multiple resistors.

544. Converting From mV/m To Decayed mW (ERP)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 01:29:53 UTC
From: Kaimbridge <Kaimbridge@gmail.com>
Message-ID: <1169602193.749956.78390@l53g2000cwa.googlegroups.com>
Source record: 46708
Cross-posted to: sci.electronics.design,alt.engineering.electrical,rec.radio.amateur.antenna

I've seen the different conversions for mW, mV, mV/m, dBm, mostly based on 50 ohms.
What I'm interested in is converting a given field strength mV/m, at a given distance for a particular frequency, to the equivalent (decayed) baseline wattage.
For instance, in section 73.318, the FCC defines the FM blanket overload boundary as 562 mV/m (115 dBu), having a distance equalling .394 * KW^.5 (ERP), where (I believe) ".394" is supposed to be 50000^.5/562.
So, assuming flat terrain with "raw reception" (meaning no antenna and line gain/loss), what would the equivalent ERP wattage be (i.e., if you took a field strength meter and held it next to a transmitter, what would the wattage be to produce 562 mV/m?)?
Since wattge can be found from mV/m, what would the equation for decayed wattage (mW_d) be, given an ERP (KW_erp), frequency (MHz) and distance (Km)? Instead of 50, should 2*Pi*60 Hz (~=~ 377) be used for ohms?

~Kaimbridge~

Wikipedia-Contributor Home Page:

http://en.wikipedia.org/wiki/User:Kaimbridge

***** Void Where Permitted; Limit 0 Per Customer. *****

545. Re: regarding grounding

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 01:47:49 UTC
From: Dan Andersson <dan@andersson.co.uk>
Message-ID: <pLOdnae66LhbJyvYnZ2dnUVZ8o6jnZ2d@eclipse.net.uk>
Source record: 46709

sreenivas wrote:

> hi,
> i would like to know how to measure perfect grounding in installation
> of telecom systems.

As another reply states, there are no such thing as a perfect ground<PERIOD>

You have to define your need of grounding. What do you want to achieve etc.

You can create a "good enough" or "adequate" grounding in conformance with your spec or demands.

A health and safety approach on grounding is not necessarily enough to secure operation in a tropical thunderstorm.

However.

The easiest way to find suitable material on grounding etc for demanding specifications is to look on how to EMP proof a computer installation.

EMP stands for "ElectroMagnetic Pulse" and is a "biproduct" - or in modern weapons, the primary product of thermo nuclear weapons.

The quest for a "perfect grounding" does not necessarily protects from EMP and EMP protection does not necessarily achieve a "perfect" ground.

Again - However... Following the strict guidelines on the "ABC" of EMP protection, you will be forced to secure such a grounding that any EM pulses or EM noise will be unable to damage your telecom equipment or systems. Even if you have a self contained ground separated from the "natural" ground, you only have to connect your floating, EMP secured ground to the natural ground. Bear in mind that the EMP protection is cancelled that way but as your intention is grounding :)

Grounding a RF installation is a different matter but I believe that you are asking for a telecom grounding rather than antenna grounding.

//Dan, M0DFI

546. Re: Strayed thinking

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 02:14:12 UTC
From: gwatts <gwatts@frontiernet.net>
Message-ID: <Uhzth.1175$B25.43@news01.roc.ny>
Source record: 46710

art wrote:
>
> On 23 Jan, 14:49, "Jimmie D" <jimmie...@bellsouth.net> wrote:
>> "art" <aun...@insightbb.com> wrote in
messagenews:1169590317.272596.16120@s48g2000cws.googlegroups.com...
>>
> ...Part of
>>>> engineering a design is lifetime expectancy...
>>>> ...Doubt if it was a fault in engineering. If the engineers had their way it
>> would probably be a dale heatsinked to the chassis.Often one engineering
>> team designs it and another goes through to find out how they can cut
>> corners.
>
> Jimmy it is rare to use two resisters instead of one because a board
> becomes bigger
> and introduces cost.

If they used one resistor in another place or places it's could have
been easier to use multiples in series/parallel where they could rather
than purchase and stock another value at the factory. I worked at a
place where we used 5532 op amps in many audio circuits and in one place
as a flip flop so we wouldn't have to stock a 74xx or 40xx just for that
one use. It was easier on the assemblers to have one bin of chips,
better quantity pricing, no sweating running out of one part kept in
smaller quantity, (insert more bean counter stuff...)

547. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 02:54:46 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <WTzth.130$OI.162884@news.sisna.com>
Source record: 46711

art wrote:
> Odldy enough Jim I found out all about this by accident some years ago
> and tho I proved what I was seeing was correct the hardest part was
> why
> this was occurring when the subject has been studied to death over the
> years
> It was when I reviewed past works of the masters I came across this
> error
> and you must realise that in the old days decades passed before it was
> studied by others. George Green like others such as Gauss had a niche
> in mathematics a lot of which came from non uniform studies such that
> later reiterations of what they had deduced was shaken around and
> rehashed
> after death such that if an error was introduced there were few who
> could
> refute it. Let's face it, if it is seen in a book in present day how
> many would
> be alert or foolhardy enough to refute it without changing context,
> the naysayers
> would immediatly shout, not pounce, from their lazy boys knowing full
> well it
> is easier to ridicule than to think things out for themselves.
> Have you ever heard a monday morning quarterback prophesising two days
> before the match and repeating it again on monday morning?
> Art
>

Art:

We may be two of the three blind men who went to see the elephant.

I know for a fact the spinning of the earth (time) has no place it our equation on radio frequency vibrations. However, I do accept the possibility of a "universal time frame" which does--but, someone SHOW it to me first!--universal time frame.

I do accept that the "mysterious 377 ohms" seems to "work" in our equations. However, I do NOT believe it is "real", but I do believe it is acting as a "mysterious placeholder" for something unknown, unseen and undiscovered by us ... and, I do not know what this is.

So, in the end, I am viewed as a kook--just like you. But, with what you have described, it only leaves me with me with more questions--at least at the present time ... I am patient, perhaps one day you find the right words and I will have a revelation ...

Regards,
JS

548. Musical analog to transmission line/antenna issues

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 03:48:30 UTC
From: jawod <jawod@fuse.net>
Message-ID: <31213$45b6d7c4$4831cf4b$31775@FUSE.NET>
Source record: 46712

to Richard, Cecil and anyone else interested in a way OT idea.

I was listening to an old recording of Steve Reich Violin Phase and later to Piano Phase. Both pieces remind me intensely of discussions read over this newsgroup. Easily downloaded from iTunes or other.

My apologies for OT. Let me know if you ever hear these recordings...some of my faves.

John
AB8O

549. Re: receive only ferrite antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 04:31:31 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <4iBth.2306$qt.503@bignews5.bellsouth.net>
Source record: 46713

"dansawyeror" <dansawyeror@comcast.net> wrote in message
news:gdKdnbMJd42f-yjYnZ2dnUVZ_r6vnZ2d@comcast.com...
> All,
>
> I am interested in experimenting with ferrite core receive antennas. I
> have about a dozen .4 by 10 inch rods. The primary band of interest is
> 75m. My question is:
>
> 1. For best reception is it better to make a fat or a long antenna? I
> cannot find much written about these antennas and have not found any
> equations.
>
> The literature states the efficiency of these antennas can range from a
> 10**3 to 10**6 a dipole of the same size. Let's not argue the high end but
> accept the low end for discussion. Does this ratio refer to length or
> diameter?
>
> Is there a good primer source? I have the ARRL Antenna handbook.
>
> Thanks - Dan

Try googling loopstick antenna, while if didnt go through much of it there
seems to be a fair amount of info on the net.

550. Urgent need of top level Building Construction expats for India

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 05:08:25 UTC
From: Ram <globalheadhunter.ram@gmail.com>
Message-ID: <1169615305.505738.136550@m58g2000cwm.googlegroups.com>
Source record: 46714

We (Rank holder EPC Co.in Asia) are in search for Top Level Civil / Arch.Professionals for India Positions are mentioned Below.

Head Engineering Arch. + Primavera+MS Project For Multi story Buildings , IT Park, Hospitals etc. Min. Experiance 16 Years Max 28Years

Head Project - Civil /Arch. + MS Project with Min. Experiance 16 Years Max 28Years

Head Procurement - Civil/Mechanical + Diploma in Material Management + Sap MM Module - Min. Experiance 16 Years Max 28Years

Head Project Management : - Civil /Arch. + MS Project + Primavera Min. Experiance 16 Years Max 28Years

Send cv's to ram@targetconsultants.net or call +919818087835

551. Local station bad harmonics on 80 meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 05:10:38 UTC
From: "R. Scott" <spamtrap@w7psk.net>
Message-ID: <mMCdnUvbveLRdyvYnZ2dnUVZ_tqnnZ2d@comcast.com>
Source record: 46715

80 is basically useless. 3400 and 4000 I have a Pegged meter WFM signal
from 1380kc station here. I have mini harmonics ever 200kc that
basically makes 80meters unusable Its really annoying and the station
says they had their equipment recertified 2 months ago

Is there a place I can report this in the FCC?

The antenna is about 10 miles from me. And they are running 5kw.

They are planning and have approval for 50KW now and Im worried that
160 and 80 and possibly 40 could me useless.

Thanks
Scotty W7PSK.

552. Re: Local station bad harmonics on 80 meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 05:28:56 UTC
From: "David G. Nagel" <nagel.david@sbcglobal.net>
Message-ID: <12rdrlp43j0us33@corp.supernews.com>
Source record: 46716

R. Scott wrote:
> 80 is basically useless. 3400 and 4000 I have a Pegged meter WFM signal
> from 1380kc station here. I have mini harmonics ever 200kc that
> basically makes 80meters unusable Its really annoying and the station
> says they had their equipment recertified 2 months ago
>
> Is there a place I can report this in the FCC?
>
> The antenna is about 10 miles from me. And they are running 5kw.
>
> They are planning and have approval for 50KW now and Im worried that
> 160 and 80 and possibly 40 could me useless.
>
>
> Thanks
> Scotty W7PSK.
You can simply send a letter to the FCC in Washington DC. However there might not be anything they can do.
Some years ago a radio station in Marion IN was causing interferance to amateur radio ops in the area. It seemed that there was a spur that fell in the middle of the affected ham band. When the FCC inspected the instalation they measured the spur and determined that it was below the maximum power limit for such emissions. The result was the hams had to suffer due to a totally legal emission.

Dave WD9BDZ

553. Re: Local station bad harmonics on 80 meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 05:31:05 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <ep6qupjeh1@theodyn.ncf.ca>
Source record: 46717

"R. Scott" (spamtrap@w7psk.net) writes:
> 80 is basically useless. 3400 and 4000 I have a Pegged meter WFM signal
> from 1380kc station here. I have mini harmonics ever 200kc that
> basically makes 80meters unusable Its really annoying and the station
> says they had their equipment recertified 2 months ago
>
This is hardly an antenna issue.

You do realize that it may not be the transmitter?

If your receiver (and you don't specify what it is) hasn't got
good strong signal-handling, the station may be overloading it
and causing the junk. And at first glance, it wouldn't be
obvious whether it's the receiver or the transmitter.

Try a different receiver.

Put an attenuator between your receiver and antenna, and see
what happens to those signals when you increase attenuation. If
it's overloadig, there will be a point where the unwanted signals
go away that can't be accounted for by the actual attenuation.

Borrow a spectrum analyzer, which should stand up well to strong
signals since it wouldn't be much use otherwise, and see what signals
are arriving at your antenna. If you do see signals that are traceable
to the broadcast station, then likely they do have a problem. But if
not, it's your receiver.

And it may not even be the receiver. There could be something acting
as a rectifier, that is picking up the transmiter signal and generating
harmonics for your receiver to pickup. A rusty rain gutter, or
a bad connection on an antenna, obviously something nearby.

You have no reason to doubt the station's word, especially since
they do have the rules to follow, and likely are in a worse
position than a ham with a bad signal. You are expecting the
transmitter to blame because you can't imagine your receiver
is at fault. But until you can actually rule out the latter,
you have no real reason to blame the transmitter.

Michael VE2BVW

> Is there a place I can report this in the FCC?
>
> The antenna is about 10 miles from me. And they are running 5kw.
>
> They are planning and have approval for 50KW now and Im worried that

> 160 and 80 and possibly 40 could me useless.
>
>
> Thanks
> Scotty W7PSK.

554. Re: Dummy load power rating

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 05:45:17 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <RnCth.847$pH3.811@newsfe12.phx>
Source record: 46718

> "Jimmie D" <jimmiedee@bellsouth.net> wrote in message
> news:Ujwsh.298$ch1.65@bigfe9...
> >I was cleaning up today and came across an old dummy load I had that
looks
> >like it is made from 2 watt resistors. ITs mounted on a quart size paint
> >can lid and looks to be a 50 watts worth of resistors. This looks like it
> >may have been a commercially built unit and I was wondering what the
power
> >handling capability would be if the resistors were submerged in mineral

Related, sort of:

When I was in Navy ET School in the 1960's, we had a shipboard radio transmitter lab which used banks of incandescent lamps for the dummy loads. By the time we got to that phase of the school we understood the concept of matching to 50 ohms and I wondered then (and now) what the actual impedance of a bank of light bulbs would be. (Of course it changed with the amount of power applied, since it lit the lamps more or less brightly.)

Nobody ever explained it. It's a wonder we didn't make more smoke than light. [AN/SRT-14, AN/SRT-15, for those who've been there & done that.]

Also, for excellent heat dissipation and no conduction, a liquid called FC-75 is used as a heat transfer medium. They literally immerse the gear in a tank of the stuff and run it though a liquid-to-liquid heat exchanger. It's totally inert. We used it in our high power pulse transmitters in ECM gear and it's apparently still around [http://news.thomasnet.com/fullstory/473395] . No, I don't have any :-(

555. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 06:41:16 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <ecDth.175$Aq2.396394@news.sisna.com>
Source record: 46719

art wrote:

>
> Why would you say that? Lets look at a rain drop accellerating towards
> ground
> until it comes to a sudden stop. Now look at this senario in terms of
> the big picture
> and we note that relatively speaking the droplet does not follow a
> straight line relative
> to a particular point on the face on the earth because of the earths
> rotation.
> So with the accellaration towards earth by gravity is a relative change
> in time
> it needs an accompanaying vector to qualify as curl which is supplied
> by the
> earths rotation. Thus I would contend that a droplet in free fall is
> statically loaded
> and provided with a time varying change at the same time. Thus the
> noise I heard
> with the antenna inside the car while in the rain forest was actually
> something that
> was transmitted as opposed to a static discharge on impact!. If you
> read about space
> transmissions you will note that they always place the word static
> within " "..
> Why do you think they do that? An answer to that would be very
> interesting in
> light of what I infere early in this post would it not?
> Art

Art:

Take 1.1111 Mhz. How do we know that is 1,111,100 cps?

We know that because earth makes 1 revolution in 1 day (24 hrs).
We know there are 60 mins in an hour.
We know there are 60 secs in a min.
Etc.

Now, destroy the earth, forget all about its' revolutions.

Now, what is that 1.1111 Mhz really?

If you were an alien the rf would NOT appear to change (assuming they
are "stupid" enough to base time on the rotations of their planet), what
does it look like to them? Certainly NOT 1,111,100 cps.

So, how could everyone ever agree on what that rf REALLY is?

You must give me an example NOT including the earth, else I will give
you back examples basing time on my goldfish swimming! (and he/she makes
way more than 1 revolution per/day!)

And, perhaps gravity and time are only two phenomenons of the same thing ...

In space, there is only the ether ...

Regards,
JS

556. Re: Local station bad harmonics on 80 meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 06:47:47 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <liDth.176$on2.238694@news.sisna.com>
Source record: 46720

Michael Black wrote:

> You do realize that it may not be the transmitter?
>
> If your receiver (and you don't specify what it is) hasn't got
> good strong signal-handling, the station may be overloading it
> and causing the junk. And at first glance, it wouldn't be
> obvious whether it's the receiver or the transmitter.
>

Excellent suggestion. Try a high pass filter passing everything above
1710 to see if you have an improvement.

At least then you will have a good indication if it is a problem of
receiver overloading or not ...

If you are using a transceiver as opposed to a separate receiver/xmitter
(I know, I am an OT) you can use an rf switch to cut out the filter on
xmit to "cure" the problem.

Regards,
JS

557. Re: Dummy load power rating

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 06:50:27 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <2tvdr2tcok6vh37t27raq78vf0a9kq69jt@4ax.com>
Source record: 46721

On Tue, 23 Jan 2007 21:45:17 -0800, "Sal M. Onella"
<salmonella@food.poisoning.org> wrote:

>Nobody ever explained it. It's a wonder we didn't make more smoke than
>light. [AN/SRT-14, AN/SRT-15, for those who've been there & done that.]

Hi OM,

Must've been before they were replaced with the AN/URC-32 (Collins). I
suppose there weren't enough bulbs to load 500W (much less from about
a dozen bays). All I remember where conventional dummy loads and the
time we used the shorting bar on the finals' capacitors and took out
the island's power station (forgot to throw the power switch off).

73's
Richard Clark, KB7QHC

558. Re: Musical analog to transmission line/antenna issues

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 07:41:54 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <pr2er29b5185qf0oq11msb82il8fi56h1t@4ax.com>
Source record: 46722

On Tue, 23 Jan 2007 22:48:30 -0500, jawod <jawod@fuse.net> wrote:

>My apologies for OT. Let me know if you ever hear these
>recordings...some of my faves.

Hi John,

My taste runs to Reggae, Electronica, Hip-hop, and Wo'pop - and the
immortal Carlos Gardel.

For violin, Papa John Creech, or David LaFlamme. To return this to
any faint resemblance of RF, I studied violin under Clarence Westphall
who called it a fiddle. What makes the connection to RF? He was the
first solo male performer on coast-to-coast radio. Hmm, something
like three or four degrees of separation in that....

I have no talent for violins, however.

73's
Richard Clark, KB7QHC

559. Re: Local station bad harmonics on 80 meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 07:45:51 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ih3er2ppjq55i34aibnjl4o6mjidq587e9@4ax.com>
Source record: 46723

On Tue, 23 Jan 2007 21:10:38 -0800, "R. Scott" <spamtrap@w7psk.net>
wrote:

>80 is basically useless. 3400 and 4000 I have a Pegged meter WFM signal
>from 1380kc station here. I have mini harmonics ever 200kc that
>basically makes 80meters unusable Its really annoying and the station
>says they had their equipment recertified 2 months ago

Hi OM,

Sounds like IF images from a front-end overload. Build yourself a 6
or 8 pole Hi pass filter to the antenna input.

73's
Richard Clark, KB7QHC

560. Re: Musical analog to transmission line/antenna issues

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 07:48:23 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <8bEth.180$OE2.408733@news.sisna.com>
Source record: 46724

Richard Clark wrote:

> ...
> My taste runs to Reggae, Electronica, Hip-hop, and Wo'pop - and the
> immortal Carlos Gardel.
> ...

Richard:

IT'S ROCK N' ROLL TO SAVE MY SOUL!

Rolling Stones--Mick Jagger is immortal, he is going to live forever!

Well, some say he is beginning to look like he already has :(

Warmest regards,
JS

561. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 08:02:34 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <404er2hcp6877m31ou2ujfba76blvagu7r@4ax.com>
Source record: 46725

On Tue, 23 Jan 2007 22:41:16 -0800, John Smith I
<assemblywizard@gmail.com> wrote:

>Now, what is that 1.1111 Mhz really?
10,214,000,000,000,000 oscillations of the Cesium atom - DUH

Any dimbulb alien knows that! They've been watching our TV for more
than half a century to catch onto the universal standard of a
commercial break.

Desperately trying to elevate the technical content of this thread to
at least the level of a Duz laundry ad.... "Antennas led astray"
sounds like a 50s Sal Mineo flick about delinquents.

73's
Richard Clark, KB7QHC

562. Re: Musical analog to transmission line/antenna issues

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 08:08:34 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <5o4er21rm824b51ijfues8b1ndi2m87pkk@4ax.com>
Source record: 46776

On Tue, 23 Jan 2007 23:48:23 -0800, John Smith I
<assemblywizard@gmail.com> wrote:

>Rolling Stones--Mick Jagger is immortal, he is going to live forever!

Yeah, the wheel-chair tour. That stuff is from La Brea.

Never heard him draw a bow on anything. Try Jean-Luc Ponty when he
was with Zappa or John McLaughlin's Mahavishnu orchestra.

73's
Richard Clark, KB7QHC

563. Re: Local station bad harmonics on 80 meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 08:44:11 UTC
From: Jeff <jeff@local.host>
Message-ID: <45b71c58$0$1102$834e42db@reader.greatnowhere.com>
Source record: 46777

> 80 is basically useless. 3400 and 4000 I have a Pegged meter WFM signal
> from 1380kc station here. I have mini harmonics ever 200kc that basically
> makes 80meters unusable Its really annoying and the station says they had
> their equipment recertified 2 months ago
>

Perhaps it is different in the US, but are not MW stations AM?

Jeff

564. Re: Local station bad harmonics on 80 meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 08:48:45 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <t97er2pmd21hlqb09ns34q0su634sjgd4a@4ax.com>
Source record: 46778

On Wed, 24 Jan 2007 08:44:11 -0000, "Jeff" <jeff@local.host> wrote:

>Perhaps it is different in the US, but are not MW stations AM?

Hi Jeff,

Some are digital (but still AM ..um perhaps)

73's
Richard Clark, KB7QHC

565. Re: Local station bad harmonics on 80 meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 10:48:46 UTC
From: Andr&#65533; <nospam@free.fr>
Message-ID: <45b73985$0$22790$426a74cc@news.free.fr>
Source record: 46779

"R. Scott" <spamtrap@w7psk.net> a &#65533;crit dans le message de news:
mMCdnUvbveLRdyvYnZ2dnUVZ_tqnnZ2d@comcast.com...

I solved such a problem by receiving on separates antennas: two center
loaded verticals 3meter high and about ten meter between them.
By adjusting attenuation and phase delay between the two antennas i got a
null in the spurious direction (ground wave), but no nul for incomming
signals from correspondants because the phases after ionospheric propagation
were not constant and identical on the two antennas.
Unfortunatly I have forgotten the phasig system I used, it was lengths of
coax (WL/8) and a variable capacity, found on QST or Ham Radio at the end of
the sixtees or at the beginning of the seventees.
For attenuation it was a simple linear double pot.

73

Andr&#65533; F5AD
http://f5ad.free.fr/.

566. Re: Strayed thinking

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 12:40:32 UTC
From: gwatts <gwatts@frontiernet.net>
Message-ID: <4tIth.1244$ya1.768@news02.roc.ny>
Source record: 46780

art wrote:
>
> On 23 Jan, 18:14, gwatts <gwa...@frontiernet.net> wrote:
>
>>art wrote:
>>
>>
>>>On 23 Jan, 14:49, "Jimmie D" <jimmie...@bellsouth.net> wrote:
>>>
>>>>"art" <aun...@insightbb.com> wrote in
messagenews:1169590317.272596.16120@s48g2000cws.googlegroups.com...
>>
>>>...Part of
>>>
>>>>snip where we used 5532 op amps in many audio circuits and in one place
>>
>>as a flip flop so we wouldn't have to stock a 74xx or 40xx just for that
>>one use. It was easier on the assemblers to have one bin of chips,
>>better quantity pricing, no sweating running out of one part kept in
>>smaller quantity, (insert more bean counter stuff...)
>
>
> Very interesting if you are refering to power resisters used in a
> non switching power supply.

Your particular case sounds like they designed for one resistor and
designed very close to the function/failure edge, then rushed to
production only to discover the single resistor was too far over that
edge. Their solution was to quickly change the board design for four in
series-parallel but put them in the same space, since they already had
umpteen thousand resistors ordered or even in stock. It worked in test,
worked for a week or so running continuously... ship it!

> ... It would appear that I retired just in time
> before engineering studies became out of fashion

Engineering studies aren't out of fashion, in fact they're more
intensive, involve a lot more computer modeling and help push the design
closer to the function/failure edge. Not out of fashion but a smaller
piece of the pie, now the design involves a lot more
design-for-manufacture including pick-and-place instead of a human
assembler, all SMT (see previous reason), least component count
possible, limited lifetime so you have to buy a new unit in a few years,
less 'robust design' and more 'economical,' higher profit and lower quality.

Don't blame the engineers, unless they went on to get an MBA after the EE, ME, etc. I got out of private industry ten years ago for these reasons, I was tired of design reviews where management pushed the 'you can cut this out, it won't be so bad' line. Designs aren't for the benefit of the customer, they are for the benefit of the stockholder and the board of directors. What was 'The quality goes in before the name goes on,' is now 'the profit is determined before the unit is produced.' I'm not saying that profit isn't a good thing, just that it shouldn't be the overwhelming thing.

73,
W8LNA

567. Re: Dummy load power rating

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 12:50:41 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <3CIth.2396$qt.194@bignews5.bellsouth.net>
Source record: 46781

"Sal M. Onella" <salmonella@food.poisoning.org> wrote in message
news:RnCth.847$pH3.811@newsfe12.phx...
>
>> "Jimmie D" <jimmiedee@bellsouth.net> wrote in message
>> news:Ujwsh.298$ch1.65@bigfe9...
>> >I was cleaning up today and came across an old dummy load I had that
> looks
>> >like it is made from 2 watt resistors. ITs mounted on a quart size paint
>> >can lid and looks to be a 50 watts worth of resistors. This looks like
>> >it
>> >may have been a commercially built unit and I was wondering what the
> power
>> >handling capability would be if the resistors were submerged in mineral
>
> Related, sort of:
>
> When I was in Navy ET School in the 1960's, we had a shipboard radio
> transmitter lab which used banks of incandescent lamps for the dummy
> loads.
> By the time we got to that phase of the school we understood the concept
> of
> matching to 50 ohms and I wondered then (and now) what the actual
> impedance
> of a bank of light bulbs would be. (Of course it changed with the amount
> of
> power applied, since it lit the lamps more or less brightly.)
>
> Nobody ever explained it. It's a wonder we didn't make more smoke than
> light. [AN/SRT-14, AN/SRT-15, for those who've been there & done that.]
>
> Also, for excellent heat dissipation and no conduction, a liquid called
> FC-75 is used as a heat transfer medium. They literally immerse the gear
> in
> a tank of the stuff and run it though a liquid-to-liquid heat exchanger.
> It's totally inert. We used it in our high power pulse transmitters in
> ECM
> gear and it's apparently still around [
> http://news.thomasnet.com/fullstory/473395] . No, I don't have any :-(
>
>

Yeah, I am familar with the stuff, its an inert flurocarbon. FAA did some
experiments to see if it could be use in RADAR tx oil tanks to replace PCB
type oil. I understand it worked pretty good, having better heat transfer

qualities than the oil they finally used.

After I got my ham ticket I built a little TX with a 6146 and used a light bulb dummy load. To get an idea of how much power I was putting out I measure the rsistance of a photo resistor with the tx keyed then applied a variable ac voltage to the lamp and adjusted it until the resistor measured the same and calculated power from the voltage and current measurements. I wonder how accurate this was.

568. Re: Local station bad harmonics on 80 meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 12:58:03 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <YIIth.2397$qt.1902@bignews5.bellsouth.net>
Source record: 46782

"R. Scott" <spamtrap@w7psk.net> wrote in message
news:mMCdnUvbveLRdyvYnZ2dnUVZ_tqnnZ2d@comcast.com...
> 80 is basically useless. 3400 and 4000 I have a Pegged meter WFM signal
> from 1380kc station here. I have mini harmonics ever 200kc that basically
> makes 80meters unusable Its really annoying and the station says they had
> their equipment recertified 2 months ago
>
> Is there a place I can report this in the FCC?
>
> The antenna is about 10 miles from me. And they are running 5kw.
>
> They are planning and have approval for 50KW now and Im worried that 160
> and 80 and possibly 40 could me useless.
>
>
> Thanks
> Scotty W7PSK.
1 800 CALL FCC

569. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 13:10:00 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1169644200.518568.69040@l53g2000cwa.googlegroups.com>
Source record: 46783

I spend time with EZNEC trying my antenna theories - most of which are dogs, but once in a while I get lucky...
No, I have not done the modeling iterations for off the vertical as fine as 1 degree steps as you suggest... Not sure what surprises you are alluding to as I have spent considerable time modeling leaning vertical elements - and then built arrays that sprawl across hundreds of feet of swamp... I am actually running my EZNEC modeled antennas on 160...

cheers ... denny / k8do

570. Re: Local station bad harmonics on 80 meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 13:15:54 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1169644554.695387.161150@v45g2000cwv.googlegroups.com>
Source record: 46784

Get the AM Brickwall Filter by PAR... It will attenuate the AM signal
-40dB at the front end of the radio will should go a long ways towards
cleaning up your receiver...
Since you have a single station to contend with, talk to Paul at PAR
and he will build you one with specific tuning for that station...

denny / k8do

571. Re: Converting From mV/m To Decayed mW (ERP)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 13:17:05 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1169644625.166176.261960@j27g2000cwj.googlegroups.com>
Source record: 46785

On 24 ene, 02:29, "Kaimbridge" <Kaimbri...@gmail.com> wrote:
> I've seen the different conversions for mW, mV, mV/m, dBm, mostly based
> on 50 ohms.
> What I'm interested in is converting a given field strength mV/m, at a
> given distance for a particular frequency, to the equivalent (decayed)
> baseline wattage.
> For instance, in section 73.318, the FCC defines the FM blanket
> overload boundary as 562 mV/m (115 dBu), having a distance equalling
> .394 * KW^.5 (ERP), where (I believe) ".394" is supposed to be
> 50000^.5/562.
> So, assuming flat terrain with "raw reception" (meaning no antenna and
> line gain/loss), what would the equivalent ERP wattage be (i.e., if you
> took a field strength meter and held it next to a transmitter, what
> would the wattage be to produce 562 mV/m?)?
> Since wattge can be found from mV/m, what would the equation for
> decayed wattage (mW_d) be, given an ERP (KW_erp), frequency (MHz) and
> distance (Km)? Instead of 50, should 2*Pi*60 Hz (~=~ 377) be used for
> ohms?
>
> ~Kaimbridge~
>
> -----
> Wikipedia-Contributor Home Page:
>
> http://en.wikipedia.org/wiki/User:Kaimbridge
>
> ***** Void Where Permitted; Limit 0 Per Customer. *****

Hello,

The formula you should use (or propagation graph) to calculate the ERP
(or input wattage), based on field strength measurement, depends on
many factors like: Frequency, height of transmitter and receiver,
ground properties, antenna gain, etc.

The reason for that is that at certain distance from the transmitting
antenna, the ground reflected wave interferes with the direct wave.
Whether the reflected wave will result in destructive or constructive
interference depends on the path length difference and ground
reflection coefficient. At large difference, there is always
destructive interference (this causes that in reality for VHF and low
UHF, field strength is inversely proportional to distance squared).

Maybe you can give some more details about antenna type, transmitter
height, distance, frequency, etc. One formula to calculate the path

loss that incorporates ground reflection is the "two-ray propagation formula". It comes in two versions one without sinusoidal functions (the simple one) and the complete one (with goniometric functions) that also gives reasonable results when the antenna is more close to the antenna.

At large distance other phenomena become dominant (for example over the horizon diffraction).

Hope this will help you,

Wim
PA3DJS

572. Re: Converting From mV/m To Decayed mW (ERP)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 13:18:56 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1169644736.068596.101090@l53g2000cwa.googlegroups.com>
Source record: 46786

One of the broadcast engineeer groups would be better suited for your
problem... This is a calculation that is not relevant to hams..

denny / k8do

On Jan 23, 8:29 pm, "Kaimbridge" <Kaimbri...@gmail.com> wrote:
> I've seen the different conversions for mW, mV, mV/m, dBm, mostly based
> on 50 ohms.
> What I'm interested in is converting a given field strength mV/m, at a
> given distance for a particular frequency, to the equivalent (decayed)
> baseline wattage.
> For instance, in section 73.318, the FCC defines the FM blanket
> overload boundary as 562 mV/m (115 dBu), having a distance equalling
> .394 * KW^.5 (ERP), where (I believe) ".394" is supposed to be
> 50000^.5/562.
> So, assuming flat terrain with "raw reception" (meaning no antenna and
> line gain/loss), what would the equivalent ERP wattage be (i.e., if you
> took a field strength meter and held it next to a transmitter, what
> would the wattage be to produce 562 mV/m?)?
> Since wattge can be found from mV/m, what would the equation for
> decayed wattage (mW_d) be, given an ERP (KW_erp), frequency (MHz) and
> distance (Km)? Instead of 50, should 2*Pi*60 Hz (~=~ 377) be used for
> ohms?
>
> ~Kaimbridge~
>
> -----
> Wikipedia-Contributor Home Page:
>
> http://en.wikipedia.org/wiki/User:Kaimbridge
>
> ***** Void Where Permitted; Limit 0 Per Customer. *****

573. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 14:07:41 UTC
From: nm5k@wt.net
Message-ID: <1169647661.496133.309770@h3g2000cwc.googlegroups.com>
Source record: 46787

On Jan 23, 1:20 pm, "art" <aun...@insightbb.com> wrote:

> I have put my money down in earnest, I am not just waving my hands.

Reminds me of a Pink Floyd song... "Your lips move, but I can't hear
what yer
saying..." ooooooohhhhhh, oooohhhh, I've become comfortably numb"

MK

574. Re: Converting From mV/m To Decayed mW (ERP)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 14:39:25 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <ep7r32$122$1@aioe.org>
Source record: 46788
Cross-posted to: sci.electronics.design,alt.engineering.electrical,rec.radio.amateur.antenna

"Kaimbridge" wrote:
>I've seen the different conversions for mW, mV, mV/m, dBm,
>mostly based on 50 ohms. What I'm interested in is converting
>a given field strength mV/m, at a given distance for a particular
>frequency, to the equivalent (decayed) baseline wattage.

The radiated power needed to generate a given, free-space field strength of course depends on the length of the propagation path to that value of field strength.

Re-arranging the FCC equation to solve for the radiated power needed to generate 562 mV/m when distance in kilometers is known gives

P = D^2/0.1552

So if there is a need to limit the field strength to 562 mV/m at a location 1 km from the antenna, we see that ERP cannot exceed ~6.44 kW.

Another way of doing it is to massage this "classic" equation.

Field Strength in dB above 1 microvolt/meter =
104.77 + ERPi - 20 log (D)

where ERPi = Effective Radiated Power in dB referenced
to 1kW from an isotropic radiator
D = Distance in kilometers

It gives the same answer as the simpler equation above.

I think this will answer your question, if I understood it right.

RF

575. Re: Local station bad harmonics on 80 meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 16:49:21 UTC
From: RST Engineering <jim@rstengineering.com>
Message-ID: <y6Mth.3$Xq3.61501@news.sisna.com>
Source record: 46789

Why all this stuff about "high pass filters" and such. You are dealing with a spot frequency, not a band of frequencies. A simple parallel resonant notch filter should do the job quite nicely and still pass everything from DC to daylight except that spot frequency.

Jim

576. Re: Local station bad harmonics on 80 meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 16:49:41 UTC
From: "R. Scott" <lintardspamtrap@scotts-home.net>
Message-ID: <JCDtEt.CuE@news.boeing.com>
Source record: 46795

"Michael Black" <et472@FreeNet.Carleton.CA> wrote in message
news:ep6qupjeh1@theodyn.ncf.ca...
> "R. Scott" (spamtrap@w7psk.net) writes:
>> 80 is basically useless. 3400 and 4000 I have a Pegged meter WFM signal
>> from 1380kc station here. I have mini harmonics ever 200kc that
>> basically makes 80meters unusable Its really annoying and the station
>> says they had their equipment recertified 2 months ago
>>
> This is hardly an antenna issue.

I know, but I thought it might be for them or me, so I came here (one of the
only groups I subscribe to)

> You do realize that it may not be the transmitter?

Possibly, but You never know, it might have to do with their plans on moving
the antenna and upping power or the
recent storms we've had.

> If your receiver (and you don't specify what it is) hasn't got
> good strong signal-handling, the station may be overloading it
> and causing the junk. And at first glance, it wouldn't be
> obvious whether it's the receiver or the transmitter.

ICOM 706MKIIG ... Never had a problem in the 2 years Ive owned it, havnt
changed anything at my end.

> Try a different receiver.

Ill see what I can find to use, good idea.

> Borrow a spectrum analyzer, which should stand up well to strong
> signals since it wouldn't be much use otherwise, and see what signals
> are arriving at your antenna. If you do see signals that are traceable
> to the broadcast station, then likely they do have a problem. But if
> not, it's your receiver.

Ill see if I can find one

> And it may not even be the receiver. There could be something acting
> as a rectifier, that is picking up the transmiter signal and generating
> harmonics for your receiver to pickup. A rusty rain gutter, or
> a bad connection on an antenna, obviously something nearby.

only happend in the last month or two the Big clues that make me wonder is
if it was
a pure Birdie wouldnt it still be AM rather that Wide FM ? Makes me wonder
if the TX

is FMing some how.

> You have no reason to doubt the station's word, especially since
> they do have the rules to follow, and likely are in a worse
> position than a ham with a bad signal. You are expecting the
> transmitter to blame because you can't imagine your receiver
> is at fault. But until you can actually rule out the latter,
> you have no real reason to blame the transmitter.

I used to work at a Station and I know the rules they have to follow, I also know that very shoddy
work is done at a lot and just signed off. Ill continue to check my end, but If Ive never heard the
birdies before with the same station (Save the 706MKIIG and new coax on occasion) Ive had for 18 years here
with no problems until the recent storms and the station has multiple birdies and its in Wide FM rather than
AM ... makes me wonder.

Scotty W7PSK

577. Re: i punce in agin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 17:06:08 UTC
From: Mark <Mark@kb69rqz.com>
Message-ID: <45b7855b$0$24441$88260bb3@free.teranews.com>
Source record: 46790
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,alt.usenet.kooks

ok I back four anoter tuff day on the news grupes it my job tast is waht I
do so bringit on you loosers
show-na-to-va (that is the greeting for this time of year as JEW rendered
phonicticaly)
happy new years it means and it can be better one if Wismen Robson and SC a
few just decided to not to be as hateful with the punce gotcha he wonders
why I simple don't bother to ty impoving my spelling do u hav anyting
cognet two say?
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

578. woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 17:12:42 UTC
From: Mark@kb9rqz.org
Message-ID: <cr4fr2hiqat16n9dl64pivdmmgcavhbvu5@4ax.com>
Source record: 46791
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,alt.usenet.kooks

On Wed, 24 Jan 2007 12:06:08 -0500, "Mark" <Mark@kb69rqz.com> wrote:

>
you still ain't me but you wait all day for me to post loser
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

579. Re: Local station bad harmonics on 80 meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 17:14:22 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <0r4fr29nqvdgt56mcnjd3edj0g027oumva@4ax.com>
Source record: 46794

On Wed, 24 Jan 2007 08:49:21 -0800, "RST Engineering"
<jim@rstengineering.com> wrote:

>Why all this stuff about "high pass filters" and such. You are dealing with
>a spot frequency, not a band of frequencies. A simple parallel resonant
>notch filter should do the job quite nicely and still pass everything from
>DC to daylight except that spot frequency.

Hi Jim

There's not much more effort in completely covering a band of problems
with a band reject (high pass) filter. The original poster could
discover the NEXT broadcaster creating problems when he limited his
suppression to the first one. Who needs a chain of notch filters when
one would work as well for the entire band?

73's
Richard Clark, KB7QHC

580. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 17:14:56 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <luMth.5$Tq3.57401@news.sisna.com>
Source record: 46792

Richard Clark wrote:

> ...
>> Now, what is that 1.1111 Mhz really?
> 10,214,000,000,000,000 oscillations of the Cesium atom - DUH
> ...

Richard:

Really?

Perhaps my understanding of Einsteins theory is incorrect, or I am attempting to add a relative quality to it?

In that aliens galaxy existing far-far-away on a planet engaged in Star Wars, that cesium atom may not oscillate at that frequency at all!

Now, like that told Virgina O'Hanlon about Santa Claus--if the NEW YORK TIMES said it, it must be true--or, perhaps the editor was mistaken?; I must admit--if Einstein said it, it must be true! <half-smirk>

Warmest regards,
JS

581. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 17:15:47 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <5vMth.7$0A3.154775@news.sisna.com>
Source record: 46793

Richard Clark wrote:
> On Tue, 23 Jan 2007 22:41:16 -0800, John Smith I
> <assemblywizard@gmail.com> wrote:
>
>> Now, what is that 1.1111 Mhz really?
> 10,214,000,000,000,000 oscillations of the Cesium atom - DUH
>
> Any dimbulb alien knows that! They've been watching our TV for more
> than half a century to catch onto the universal standard of a
> commercial break.
>
> Desperately trying to elevate the technical content of this thread to
> at least the level of a Duz laundry ad.... "Antennas led astray"
> sounds like a 50s Sal Mineo flick about delinquents.
>
> 73's
> Richard Clark, KB7QHC

Richard:

Just so you can double check me:

http://www.stormfax.com/virginia.htm

Regards,
JS

582. Re: Dummy load power rating

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 17:22:38 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <i25fr25jpsarl421fna7qtspholefbq8u8@4ax.com>
Source record: 46797

On Wed, 24 Jan 2007 07:50:41 -0500, "Jimmie D"
<jimmiedee@bellsouth.net> wrote:

>After I got my ham ticket I built a little TX with a 6146 and used a light
>bulb dummy load. To get an idea of how much power I was putting out I
>measure the rsistance of a photo resistor with the tx keyed then applied a
>variable ac voltage to the lamp and adjusted it until the resistor measured
>the same and calculated power from the voltage and current measurements. I
>wonder how accurate this was.

Hi Jimmie,

This was exceptionally accurate. The substitution method here employs
a transfer standard. By bringing the light bulb to the same light
level (the substitution), you have removed any inaccuracy of the
detector, the photo resistor. It has been removed from the sources of
error. Further, you have shifted out of the more difficult domain of
direct RF measurement into 60 HZ where there are a world of tools
(transfer standards) that exhibit very good accuracy.

This is a form of calorimetric measurement, akin to bolometery.

73's
Richard Clark, KB7QHC

583. Re: Dummy load power rating

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 17:22:49 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <IBMth.9$9z3.151700@news.sisna.com>
Source record: 46796

Jimmie D wrote:

>
> Next time I ask about something I will have it in my hand when I discribe
> it. Dummy load is 44 each 2.2K 2 watt resistors in paralell.
> I think I will rebuild it using metal film.
>
>

Jimmie D:

Perhaps they misunderstood the title of your thread and/or your original question?

Now, I clearly heard you asking about a "Dummy Load Question"; however, I fear some heard that as you wanted "A Load of Dummies' Answers to Your Question."

However, you are right, be wise to ask a more concise question next time <LOL>

Regards,
JS

584. Re: Strayed thinking

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 17:34:36 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <qj5fr21s75le668jhddlf2h99g1m9tpl62@4ax.com>
Source record: 46798

On Wed, 24 Jan 2007 12:40:32 GMT, gwatts <gwatts@frontiernet.net>
wrote:

>I was tired of design reviews where management pushed the 'you
>can cut this out, it won't be so bad' line.

Hi OM,

My very first EE professor (also an engineer at the HP division in
Colorado Springs) taught us the merits of designs meeting the
expectations of Mad Man Muntz.

Muntz was a car salesman who entered the nascent field of TV in the
late 40s and would wander the design lab with a pair of dikes in his
pocket. Looking over the shoulder of any designer he would snip out
components until they lost the picture, it would roll, or the sound
would go dead. Then he would suggest they put back in the last
snipped component.

He discovered his TVs didn't need synchronization circuits because his
market was in urban cities where the signal was so powerful as to
provide enough level to be self-syncing. I know, because I fixed many
of those TVs that eventually found their way into the Burbs, and were
forever rolling unless you found the sweet spot on the horizontal or
vertical adjustment (always in the back).

73's
Richard Clark, KB7QHC

585. Re: Local station bad harmonics on 80 meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 17:38:05 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <j96fr2d040jol1u40edre2egsp28tr23sb@4ax.com>
Source record: 46799

On Wed, 24 Jan 2007 16:49:41 GMT, "R. Scott"
<lintardspamtrap@scotts-home.net> wrote:

> it might have to do with ...
>recent storms we've had.

Hi OM,

Corrosion is a classic distortion products source that could easily
bring the problems you see.

73's
Richard Clark, KB7QHC

586. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 17:48:39 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <rf6fr2hlkrkptl3rj75qrj2foginm5cv10@4ax.com>
Source record: 46800

On Wed, 24 Jan 2007 09:14:56 -0800, John Smith I
<assemblywizard@gmail.com> wrote:

>In that aliens galaxy existing far-far-away on a planet engaged in Star
>Wars, that cesium atom may not oscillate at that frequency at all!

Cesium by any other name would smell as sw.... no, that alludes to
Shakespeare and we know how much he gets pissed on here by
anglophobes. We'll try that again:

If it didn't oscillate (resonate actually in a magnetically biased
electron fountain) at that frequency, it's probably Rubidium. Aliens
watching first runs of 50s soap operas ("The Secret Storm" in this
case) would undoubtedly have naming problems. This is not a technical
problem; it is a cultural one.

73's
Richard Clark, KB7QHC

587. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 17:52:43 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <J1Nth.10$tz3.153750@news.sisna.com>
Source record: 46801

John Smith I wrote:

> Now, like that told Virgina O'Hanlon about Santa Claus--if the NEW YORK
> TIMES said it, it must be true--or, perhaps the editor was mistaken?; I

Make that "New York Sun."

Hey, what can I say, I read the Times ...

JS

588. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 17:57:53 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <B6Nth.11$ry3.141451@news.sisna.com>
Source record: 46802

Richard Clark wrote:

> ...
> If it didn't oscillate (resonate actually in a magnetically biased
> electron fountain) at that frequency, it's probably Rubidium. Aliens
> watching first runs of 50s soap operas ("The Secret Storm" in this
> case) would undoubtedly have naming problems. This is not a technical
> problem; it is a cultural one.
>
> 73's
> Richard Clark, KB7QHC

Again, I may have misunderstood "Old Al" along then!

If that cesium atom no longer obeys your "10,214,000,000,000,000 oscillations"--"LAW", then perhaps 1,111,100 cps no longer obeys the "cps law" either. And, indeed, 1.1111 Mhz is no longer what we see at all!!!

Of course, the above must be wrong. ET did manage to call home and apparently there were able to agree on the same freq. (sure would have liked to have taken a look at "Ole ETs'" watch ...)

Warmest regards,
JS

589. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 18:05:01 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <35jk84-5ih.ln1@mail.specsol.com>
Source record: 46803

John Smith I <assemblywizard@gmail.com> wrote:
> Richard Clark wrote:

> > ...
> >> Now, what is that 1.1111 Mhz really?
> > > 10,214,000,000,000,000 oscillations of the Cesium atom - DUH
> > > ...

> Richard:

> Really?

Yes, really.

> Perhaps my understanding of Einsteins theory is incorrect, or I am
> attempting to add a relative quality to it?

Einstein has nothing to do with it nor does the rotation of the Earth.

"Under the International System of Units, the second is currently defined
as the duration of 9,192,631,770 periods of the radiation corresponding
to the transition between the two hyperfine levels of the ground state
of the caesium-133 atom. This definition refers to a cesium atom at rest
at a temperature of 0 K (absolute zero)."

Where Einstein comes in is that the cesium atom has to be at rest in
your reference frame.

> In that aliens galaxy existing far-far-away on a planet engaged in Star
> Wars, that cesium atom may not oscillate at that frequency at all!

Only in comic books and movies.

<snip rest>

--
Jim Pennino

Remove .spam.sux to reply.

590. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 18:09:06 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <4hNth.16$%q3.65601@news.sisna.com>
Source record: 46804

jimp@specsol.spam.sux.com wrote:

> ...
> "Under the International System of Units, the second is currently defined
> as the duration of 9,192,631,770 periods of the radiation corresponding
> to the transition between the two hyperfine levels of the ground state
> of the caesium-133 atom. This definition refers to a cesium atom at rest
> at a temperature of 0 K (absolute zero)."
>

Now, I do constantly worry about my understanding of such things; and,
if they are in error will seek to "update" them. But, the example you
just gave me is about the weakest and most worrisome I have seen ...

Regards,
JS

591. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 18:18:58 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <lqNth.17$Oq3.52276@news.sisna.com>
Source record: 46805

jimp@specsol.spam.sux.com wrote:
> John Smith I <assemblywizard@gmail.com> wrote:
>> Richard Clark wrote:
>
>> > ...
>>>> Now, what is that 1.1111 Mhz really?
>>> 10,214,000,000,000,000 oscillations of the Cesium atom - DUH
>> > ...
>
>> Richard:
>
>> Really?
>
> Yes, really.
>
>> Perhaps my understanding of Einsteins theory is incorrect, or I am
>> attempting to add a relative quality to it?
>
> Einstein has nothing to do with it nor does the rotation of the Earth.
>
> "Under the International System of Units, the second is currently defined
> as the duration of 9,192,631,770 periods of the radiation corresponding
> to the transition between the two hyperfine levels of the ground state
> of the caesium-133 atom. This definition refers to a cesium atom at rest
> at a temperature of 0 K (absolute zero)."
>
> Where Einstein comes in is that the cesium atom has to be at rest in
> your reference frame.
>
>> In that aliens galaxy existing far-far-away on a planet engaged in Star
>> Wars, that cesium atom may not oscillate at that frequency at all!
>
> Only in comic books and movies.
>
> <snip rest>
>

Actually, I was so flabbergasted I failed to even give you a reason why
I would find holes immediately in your statement, to begin:

From http://en.wikipedia.org/wiki/Absolute_zero

"While scientists cannot fully achieve a state of ï¿½zeroï¿½ heat energy in
a substance, they have made great advancements in achieving temperatures
ever closer to absolute zero (where matter exhibits odd quantum

effects). In 1994, the NIST achieved a record cold temperature of 700 nK (billionths of a kelvin). In 2003, researchers at MIT eclipsed this with a new record of 450 pK (0.45 nK)."

Some "kooks" in the scientific community are even brazen enough to speculate that if we achieve such temps in matter, it will disappear! Well, return to the ether from which it was torn ...

Regards,
JS

592. Re: Strayed thinking

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 18:20:51 UTC
From: gwatts <gwatts@frontiernet.net>
Message-ID: <7sNth.1270$ya1.483@news02.roc.ny>
Source record: 46806

Richard Clark wrote:
> On Wed, 24 Jan 2007 12:40:32 GMT, gwatts <gwatts@frontiernet.net>
> wrote:
>
>
>>I was tired of design reviews where management pushed the 'you
>>can cut this out, it won't be so bad' line.
>
>
> Hi OM,
>
> My very first EE professor (also an engineer at the HP division in
> Colorado Springs) taught us the merits of designs meeting the
> expectations of Mad Man Muntz...he would snip out
> components until they lost the picture, it would roll, or the sound
> would go dead. Then he would suggest they put back in the last
> snipped component.
>
> He discovered his TVs didn't need synchronization circuits because his
> market was in urban cities where the signal was so powerful as to
> provide enough level to be self-syncing. I know, because I fixed many
> of those TVs that eventually found their way into the Burbs, and were
> forever rolling unless you found the sweet spot on the horizontal or
> vertical adjustment (always in the back).

Yes, I've heard the tales of M. M. Muntz, but apparently so had the head designer at the audio mfr I worked at. They had a VCA circuit using a well known VCA chip. The data sheet notes mentioned a small value capacitor across two pins for stability. The designer discovered his circuit would work just as well without the cap and thus left it out of his design, so far out that there weren't even traces or pads to put the cap in should it become necessary (you can see where this is going, no?). The VCA vendor outsourced fabrication of the chip and all of a sudden the noise level of the VCA circuit would jump about 70 dB as the fader reached the bottom of travel, not desirable in an audio application. I spent a little time perusing the data sheets and our schematics, noticed the cap omission, soldered a cap across the pins of an offending circuit and within the hour we had the assemblers tack soldering caps we bought at a local electronics shop (not RS) onto assembled modules. The designer's comment was 'Well, it worked for quite a while...' Later we found customers with similar noise level jumps using pre-outsourced VCAs. Yes, they saved a few pennies on each module but lost about two dozen customers when they figured out what had been left out of their very expensive audio equipment.

When I started at that place I was told not to make suggestions
regarding modifications of existing designs lest I offend the managing
'engineer'.

593. Re: Strayed thinking

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 18:22:43 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <ep885r$1fj0$1@f04n12.cac.psu.edu>
Source record: 46807

gwatts wrote:
>
> Don't blame the engineers, unless they went on to get an MBA after the
> EE, ME, etc. I got out of private industry ten years ago for these
> reasons, I was tired of design reviews where management pushed the 'you
> can cut this out, it won't be so bad' line. Designs aren't for the
> benefit of the customer, they are for the benefit of the stockholder and
> the board of directors. What was 'The quality goes in before the name
> goes on,' is now 'the profit is determined before the unit is produced.'
> I'm not saying that profit isn't a good thing, just that it shouldn't
> be the overwhelming thing.

On the other hand, someone has to take the project from the engineers
because if they don't, the engineers won't stop working on it.

- 73 de Mike KB3EIA -

594. Mobile antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 18:32:34 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <ep88o2$1fj2$1@f04n12.cac.psu.edu>
Source record: 46808

I'm putting together a homebrew mobile antenna based more or less on "20 dollar mobile antenna" that appeared in QST some years ago.

For those not familiar, the antenna consists of a tapped coil at the bottom, a spiral wound lower section, a tapped loading coil, and an upper stinger.

My question involves that spiral wound lower section. What would this be thought of? As antenna below the loading coil, as an inductor in addition to the other two, or some sort of hybrid of antenna/inductor?

How would this be modeled in EZNEC?

Apologies in advance if this was an incredibly stupid thing to ask! 8^)

- 73 de Mike KB3EIA -

595. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 18:35:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <lukk84-q8n.ln1@mail.specsol.com>
Source record: 46809

John Smith I <assemblywizard@gmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:

> > ...
> > "Under the International System of Units, the second is currently defined
> > as the duration of 9,192,631,770 periods of the radiation corresponding
> > to the transition between the two hyperfine levels of the ground state
> > of the caesium-133 atom. This definition refers to a cesium atom at rest
> > at a temperature of 0 K (absolute zero)."
> >

> Now, I do constantly worry about my understanding of such things; and,
> if they are in error will seek to "update" them. But, the example you
> just gave me is about the weakest and most worrisome I have seen ...

What example?

Are you saying you don't believe that is the definition of the second
since 1967 or that you don't understand the definition?

Start with:

http://physics.nist.gov/cuu/Units/second.html

http://tycho.usno.navy.mil/cesium.html

--
Jim Pennino

Remove .spam.sux to reply.

596. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 18:39:58 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <0KNth.20$3r3.69701@news.sisna.com>
Source record: 46810

jimp@specsol.spam.sux.com wrote:

> ...
> Are you saying you don't believe that is the definition of the second
> since 1967 or that you don't understand the definition?
>
> Start with:
>
> http://physics.nist.gov/cuu/Units/second.html
>
> http://tycho.usno.navy.mil/cesium.html
>

I am saying:

Yes, I believe someone would search for "solid ground" to base measurements on. Again, yes, I believe that is about the best we can find in an un-perfect world ...

No, I don't think that is any better than basing it on my goldfish, and he/she is unpredictable (quantum effects perhaps.) But still, if all which availed itself to me were my goldfish--I'd be damn temped to start basing measurements on his/her activity!

At least your argument(s) cause one to think ...

Warmest regards,
JS

597. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 18:45:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <cmlk84-q8n.ln1@mail.specsol.com>
Source record: 46811

John Smith I <assemblywizard@gmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:
> > John Smith I <assemblywizard@gmail.com> wrote:
> >> Richard Clark wrote:
> >
> >> > ...
> >>>> Now, what is that 1.1111 Mhz really?
> >>> 10,214,000,000,000,000 oscillations of the Cesium atom - DUH
> >> > ...
> >
> >> Richard:
> >
> >> Really?
> >
> > Yes, really.
> >
> >> Perhaps my understanding of Einsteins theory is incorrect, or I am
> >> attempting to add a relative quality to it?
> >
> > Einstein has nothing to do with it nor does the rotation of the Earth.
> >
> > "Under the International System of Units, the second is currently defined
> > as the duration of 9,192,631,770 periods of the radiation corresponding
> > to the transition between the two hyperfine levels of the ground state
> > of the caesium-133 atom. This definition refers to a cesium atom at rest
> > at a temperature of 0 K (absolute zero)."
> >
> > Where Einstein comes in is that the cesium atom has to be at rest in
> > your reference frame.
> >
> >> In that aliens galaxy existing far-far-away on a planet engaged in Star
> >> Wars, that cesium atom may not oscillate at that frequency at all!
> >
> > Only in comic books and movies.
> >
> > <snip rest>
> >

> Actually, I was so flabbergasted I failed to even give you a reason why
> I would find holes immediately in your statement, to begin:

> From http://en.wikipedia.org/wiki/Absolute_zero

> "While scientists cannot fully achieve a state of ?zero? heat energy in
> a substance, they have made great advancements in achieving temperatures

> ever closer to absolute zero (where matter exhibits odd quantum
> effects). In 1994, the NIST achieved a record cold temperature of 700 nK
> (billionths of a kelvin). In 2003, researchers at MIT eclipsed this with
> a new record of 450 pK (0.45 nK)."

I don't suppose it ever occured to you that a practical hardware
implementation would correct for the actual temperature?

<snip nonsense>

Since you seem to like wikipedia:

http://en.wikipedia.org/wiki/Second

Hmmm, looks like they got their definition for the second the same
place I did.

--
Jim Pennino

Remove .spam.sux to reply.

598. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 18:51:21 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <HUNth.21$9z3.151700@news.sisna.com>
Source record: 46812

jimp@specsol.spam.sux.com wrote:

> ...
> I don't suppose it ever occured to you that a practical hardware
> implementation would correct for the actual temperature?
>
> <snip nonsense>
>
> Since you seem to like wikipedia:
>
> http://en.wikipedia.org/wiki/Second
>
> Hmmm, looks like they got their definition for the second the same
> place I did.
>

Now, perhaps we hit the real crux of this matter. You say "practical
hardware implementation", I say "guess!"

Warmest regards,
JS

599. QEX Magazines WTB

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 18:53:24 UTC
From: amdx <amdx@knology.net>
Message-ID: <eaad1$45b7ab2f$45011502$5207@KNOLOGY.NET>
Source record: 46813
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,sci.electronics.design

Hi,
I'm interested in buying a collection of QEX magazines.
I'd like to go back about 10 years, but any years is better than none.
If you have QEX your willing to sell please contact me offline.
Mike Knowlton
amdxdiscard@knology.net

To reply please discard the word discard.

Thanks, Mike

600. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 18:55:01 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <b9mk84-q7r.ln1@mail.specsol.com>
Source record: 46814

John Smith I <assemblywizard@gmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:

> > ...
> > Are you saying you don't believe that is the definition of the second
> > since 1967 or that you don't understand the definition?
> >
> > Start with:
> >
> > http://physics.nist.gov/cuu/Units/second.html
> >
> > http://tycho.usno.navy.mil/cesium.html
> >

> I am saying:

> Yes, I believe someone would search for "solid ground" to base
> measurements on. Again, yes, I believe that is about the best we can
> find in an un-perfect world ...

> No, I don't think that is any better than basing it on my goldfish, and
> he/she is unpredictable (quantum effects perhaps.) But still, if all
> which availed itself to me were my goldfish--I'd be damn temped to start
> basing measurements on his/her activity!

> At least your argument(s) cause one to think ...

I made no arguments.

I stated facts that can be verified by reading the links.

If you were to read them you might stop babbling nonsense about goldfish
and "solid ground".

--
Jim Pennino

Remove .spam.sux to reply.

601. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 19:02:39 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <h3Oth.22$cs3.115826@news.sisna.com>
Source record: 46815

jimp@specsol.spam.sux.com wrote:

> ...
> I made no arguments.
>
> I stated facts that can be verified by reading the links.
>
> If you were to read them you might stop babbling nonsense about goldfish
> and "solid ground".
>

Oh. I thought that would have been clear from the way our "discussion"
was going.

Show me a "Universal Time Frame" and you show me proof of all this
(well, you at least show me something I can test all this against);
don't show me this and I have MAJOR doubts ...

Warmest regards,
JS

602. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 19:15:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <clnk84-2q1.ln1@mail.specsol.com>
Source record: 46816

John Smith I <assemblywizard@gmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:

> > ...
> > I made no arguments.
> >
> > I stated facts that can be verified by reading the links.
> >
> > If you were to read them you might stop babbling nonsense about goldfish
> > and "solid ground".
> >

> Oh. I thought that would have been clear from the way our "discussion"
> was going.

Non sequitur.

> Show me a "Universal Time Frame" and you show me proof of all this
> (well, you at least show me something I can test all this against);
> don't show me this and I have MAJOR doubts ...

There is no such thing as a "Universal Time Frame".

Read the links provided.

Your posts are word salad.

--
Jim Pennino

Remove .spam.sux to reply.

603. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 19:15:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <cmnk84-2q1.ln1@mail.specsol.com>
Source record: 46817

John Smith I <assemblywizard@gmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:

> > ...
> > I don't suppose it ever occured to you that a practical hardware
> > implementation would correct for the actual temperature?
> >
> > <snip nonsense>
> >
> > Since you seem to like wikipedia:
> >
> > http://en.wikipedia.org/wiki/Second
> >
> > Hmmm, looks like they got their definition for the second the same
> > place I did.
> >

> Now, perhaps we hit the real crux of this matter. You say "practical
> hardware implementation", I say "guess!"

You babble a lot.

Read the links.

--
Jim Pennino

Remove .spam.sux to reply.

604. Re: Yagi question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 19:37:49 UTC
From: W4WNT <w4wnt@carolina.rr.com>
Message-ID: <45b7b590$0$28155$4c368faf@roadrunner.com>
Source record: 46818

Yes, there is a way. Look up "Cheap Yagis" with your search engine. You want WA5VJB's article published by the Clear Lake Amateur Radio Club in Texas. Great plans. His antennas use eight inch copper tube, but I've known people to make the antenna with welding rod, so substitutions are possible.

73 and good luck,

Bill Turner, W4WNT

"Nelson Blaha" <nelson.blaha@gmail.com> wrote in message news:1169348220.250163.308630@q2g2000cwa.googlegroups.com...
> I'm looking to build a 2m yagi, but I haven't got any money. Can I
> make one out of aluminum coat hangers? I also have a 4-foot section of
> 1" PVC pipe laying around, and glue, tools etc.
>
> Nelson Blaha
> Call-sign in the mail
>

605. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 19:59:39 UTC
From: "David G. Nagel" <nagel.david@sbcglobal.net>
Message-ID: <12rfem84kaedk83@corp.supernews.com>
Source record: 46819

John Smith I wrote:
> Richard Clark wrote:
>
> > ...
>> If it didn't oscillate (resonate actually in a magnetically biased
>> electron fountain) at that frequency, it's probably Rubidium. Aliens
>> watching first runs of 50s soap operas ("The Secret Storm" in this
>> case) would undoubtedly have naming problems. This is not a technical
>> problem; it is a cultural one.
>>
>> 73's
>> Richard Clark, KB7QHC
>
> Again, I may have misunderstood "Old Al" along then!
>
> If that cesium atom no longer obeys your "10,214,000,000,000,000
> oscillations"--"LAW", then perhaps 1,111,100 cps no longer obeys the
> "cps law" either. And, indeed, 1.1111 Mhz is no longer what we see at
> all!!!
>
> Of course, the above must be wrong. ET did manage to call home and
> apparently there were able to agree on the same freq. (sure would have
> liked to have taken a look at "Ole ETs'" watch ...)
>
> Warmest regards,
> JS
I think that astronomers have made sufficient spectroscopic observations
and measurements to firmly establish that physical phenomina are
constant across the universe. Other dimensions may have different
measurements but they are constant in this one.

Dave N

606. Re: woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 20:03:02 UTC
From: The Demon Prince of Absurdity <absurd_number_of_nicks@hell.corn>
Message-ID: <pan.2007.01.24.20.02.59.389163@hell.corn>
Source record: 46820
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,alt.usenet.kooks

On Wed, 24 Jan 2007 12:12:42 -0500, Mark did the cha-cha, and screamed:
> On Wed, 24 Jan 2007 12:06:08 -0500, "Mark" wrote:
>
> you still ain't me but you wait all day for me to post loser

Now, now. Would you rob him of his life's few pleasures? The poor frogger can't even wank without being you, your wife, your imaginary children, Lloyd, or Andy. Impersonation of most of his owners is all he has to get him through the day. Why, without you guys, Wabbit would have to commit suicide. His life would be over, finis, kaput. But Wabbit had better watch out he doesn't frog /me/ -- Monkey-man'll kick his arse. He wuvs me. He'll never have me, but still, unrequited love is so charming, innit?

--

Hail Eris! TM#5; COOSN-029-06-71069
Cardinal Snarky of the Fannish Inquisition

"No effort at all c*cksucking you, b1tch." -- At last, the Monkey-man comes out of the closet, in MID: <aXkth.3535$QE6.1902@trnddc02>

http://www6.kingdomofloathing.com/login.php

"This is a sandwich made by a Spam Witch. You know why Spam Witches can't starve if they're at the beach? Because they can always eat the sand which is there." -- Spam Witch sammich, from The Kingdom of Loathing

http://www.runescape.com/
No one expects the Fannish Inquisition!
http://groups.yahoo.com/group/Cabal_of_the_Holy_Pretzel/join
Cabal of the Holy International Discordian Internet & Usenet Terrorist Pretzel

"What are marijuana tablets?"

I own "James C Cracked is God!!!":
MID: <1161060410.704020.285410@i42g2000cwa.googlegroups.com>

"Chips on you dud, you got bugged for being near me, Viruses transmit that way you know." -- Blooey: Master of the Autoflame. Message-ID: <4556A926.6F259DC9@pharae.org>

"The nonsense screeds you compose and post to usenet lack any kind of coherent and rational meaning whatsoever, and are composed of random

bits and pieces stolen from mythology, science fiction, religion, comic books, etc., placed into a blender, and the switch turned to the highest setting.
About every other screed has droppings of death threats, racial bigotry, laughably false prophesies of gloom and doom, and inane attempts to extort money. These bland, meaningless, pulpy messes are then trowled into usenet; identical or nearly identical screeds are repeated ad nauseum." -- Art Deco had to clean up bits of Warhol for days after using the Hammer on him

"Q: How many Bush administration officials does it take to change a light bulb?
A: None. There is no need to change anything. We made the right decision to stick with that light bulb. People who say that it is burned out are giving aid and encouragement to the Forces of Darkness." -- Anon.

"Etymology:
Argumentum ad Septicus : argument to putrefaction. Derived from Septicum Argumentum : putrefaction of argument.

"Septic \Sep"tic\, Septical \Sep"tic*al\
a. [L. septicus to make putrid: cf. F. septique.]
Having power to promote putrefaction. Of or relating to or caused by putrefaction." -- Kadaitcha Man, indirectly to Donald "Skeptic"/"Septic" Alford, in MID: <a3svh.djj.19.1@news.alt.net>

"I never fail to be amazing" -- Looney Maroon for September 2006 nominee William Barwell's ego knows no bounds. MID: 12ggt3q3uti3t52@corp.supernews.com

"We are most nearly ourselves when we achieve the seriousness of the child at play." -- Heraclitus

"And thats another mistake on your part. Your 'playing' games on usenet, and I'm not playing...It has nothing to do with impressing you, it has more to do with making sure you have the education you'll need to debate. The debate is no fun for me if you are mentally incapable of it. I'm giving you an opportunity to educate yourself. That's all." -- A trashy former virus-writer turned Outer Filth doesn't know if he's playing or working, in MID: <1159389579.179851.33970@e3g2000cwe.googlegroups.com>

"I am incapable of original thoughts" -- Ctrlï¿½/Altï¿½/Delï¿½ has an honest moment, in MID: <0h59i25ejlthqeeitdp0hlk4kvo1ejpkt9@4ax.com>

"But now the end is near. Now Mark Foley comes along and is making almost all liberal dreams come true and seriously, I'm sorry for it. See, I believe in karma. I believe what comes around goes around and I know full well that it's just bad juju to wish such a level of turmoil and ill upon other humans, warmongering gay-hating maladroits or no, and that the real path of enlightenment is paved with forgiveness and progress and white-hot love and turning the other cheek and scotch.

"In fact, Jesus said something about that, I do believe. He said, "Knock it off already with the warmongering and the hating of each other and let's all get some wine and party like it's 2012." Then again, he never saw Karl Rove stab the nation with the dull ice pick of bogus fear. He never heard George W. Bush describe brutal war and the death of tens of thousands as "just a comma" in world history.

"Check that. Maybe I'm not so sorry after all." -- Mark Morford,
http://sfgate.com/cgi-bin/article.cgi?f=/gate/archive/2006/10/11/notes101106.DTL&nl=fix
http://tinyurl.com/kusmr

607. Re: woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 20:05:05 UTC
From: Mark@kb9rqz.org
Message-ID: <qtefr21s436h1599m2t97m3a9vv79noa65@4ax.com>
Source record: 46821
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,alt.usenet.kooks

On Wed, 24 Jan 2007 20:03:02 GMT, The Demon Prince of Absurdity
<absurd_number_of_nicks@hell.corn> wrote:

>On Wed, 24 Jan 2007 12:12:42 -0500, Mark did the cha-cha, and screamed:
>> On Wed, 24 Jan 2007 12:06:08 -0500, "Mark" wrote:
>>
>> you still ain't me but you wait all day for me to post loser
>
>Now, now. Would you rob him of his life's few pleasures?

idealy yes

> The poor
>frogger can't even wank without being you, your wife, your imaginary
>children, Lloyd, or Andy. Impersonation of most of his owners is all he
>has to get him through the day. Why, without you guys, Wabbit would have
>to commit suicide.

I'll be happy to help if needed

> His life would be over, finis, kaput. But Wabbit had
>better watch out he doesn't frog /me/ -- Monkey-man'll kick his arse. He
>wuvs me. He'll never have me, but still, unrequited love is so charming,
>innit?
sickening in this case
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

608. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 20:20:37 UTC
From: "David G. Nagel" <nagel.david@sbcglobal.net>
Message-ID: <12rffthbb5jsp55@corp.supernews.com>
Source record: 46822

John Smith I wrote:
> jimp@specsol.spam.sux.com wrote:
>
> > ...
>> I don't suppose it ever occured to you that a practical hardware
>> implementation would correct for the actual temperature?
>>
>> <snip nonsense>
>>
>> Since you seem to like wikipedia:
>>
>> http://en.wikipedia.org/wiki/Second
>>
>> Hmmm, looks like they got their definition for the second the same
>> place I did.
>>
>
> Now, perhaps we hit the real crux of this matter. You say "practical
> hardware implementation", I say "guess!"
>
> Warmest regards,
> JS

The "SECOND" is an arbitrary measurement of duration. It has been
defined with reference to specific measurements of a particular isotope
of CESIUM under specific conditions. That those specific conditions may
or may not be obtainable utilizing present technology is of no moment.
Adjustments to the best obtainable results are made all the time in
other areas. For instance the GRAM, the METER and the DEGREE. All these
units are defined and approximated in real life. The only place where
you can obtain absolutes is in conversion factors: 1 inch equals 2.54
centimeters, 1 degree Celsius (and it's derivatives: centigrade and
kelvin) equal 1.8 degrees Fahrenheit. The degree Fahrenheit is
determined by measuring the lowest temperature liquid water can reach
and the boiling point of the same water.
The upshot of all this is that everything in modern science is based on
these and many other values. They all seem to work. At least until you
get into quantum mechanics, which is another thread.

Dave N

609. Re: Strayed thinking

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 20:24:42 UTC
From: "David G. Nagel" <nagel.david@sbcglobal.net>
Message-ID: <12rfg56frnmmpfe@corp.supernews.com>
Source record: 46823

gwatts wrote:
> Richard Clark wrote:
>> On Wed, 24 Jan 2007 12:40:32 GMT, gwatts <gwatts@frontiernet.net>
>> wrote:
>>
>>
>>> I was tired of design reviews where management pushed the 'you can
>>> cut this out, it won't be so bad' line.
>>
>>
>> Hi OM,
>>
>> My very first EE professor (also an engineer at the HP division in
>> Colorado Springs) taught us the merits of designs meeting the
>> expectations of Mad Man Muntz...he would snip out
>> components until they lost the picture, it would roll, or the sound
>> would go dead. Then he would suggest they put back in the last
>> snipped component.
>>
>> He discovered his TVs didn't need synchronization circuits because his
>> market was in urban cities where the signal was so powerful as to
>> provide enough level to be self-syncing. I know, because I fixed many
>> of those TVs that eventually found their way into the Burbs, and were
>> forever rolling unless you found the sweet spot on the horizontal or
>> vertical adjustment (always in the back).
>
> Yes, I've heard the tales of M. M. Muntz, but apparently so had the head
> designer at the audio mfr I worked at. They had a VCA circuit using a
> well known VCA chip. The data sheet notes mentioned a small value
> capacitor across two pins for stability. The designer discovered his
> circuit would work just as well without the cap and thus left it out of
> his design, so far out that there weren't even traces or pads to put the
> cap in should it become necessary (you can see where this is going,
> no?). The VCA vendor outsourced fabrication of the chip and all of a
> sudden the noise level of the VCA circuit would jump about 70 dB as the
> fader reached the bottom of travel, not desirable in an audio
> application. I spent a little time perusing the data sheets and our
> schematics, noticed the cap omission, soldered a cap across the pins of
> an offending circuit and within the hour we had the assemblers tack
> soldering caps we bought at a local electronics shop (not RS) onto
> assembled modules. The designer's comment was 'Well, it worked for
> quite a while...' Later we found customers with similar noise level
> jumps using pre-outsourced VCAs. Yes, they saved a few pennies on each
> module but lost about two dozen customers when they figured out what had

> been left out of their very expensive audio equipment.
>
> When I started at that place I was told not to make suggestions
> regarding modifications of existing designs lest I offend the managing
> 'engineer'.

This reminds me of an old story about how you can become a hero in
Detroit. Save 1/2 cent each on 10 million washers. To become a bum in
Detroit, have those washers cause a 10 million car recall.

Dave N

610. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 20:27:24 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <ep8fpa$r32$1@news.service.uci.edu>
Source record: 46824

John Smith I wrote:
> I am saying:
>
> Yes, I believe someone would search for "solid ground" to base
> measurements on. Again, yes, I believe that is about the best we can
> find in an un-perfect world ...
>
> No, I don't think that is any better than basing it on my goldfish, and
> he/she is unpredictable (quantum effects perhaps.) But still, if all
> which availed itself to me were my goldfish--I'd be damn temped to start
> basing measurements on his/her activity!
>
> At least your argument(s) cause one to think ...

You might look into finding a way for that activity to occur
spontaneously as well.

ac6xg

611. Re: Strayed thinking

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 21:12:24 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <pYPth.2433$qt.1482@bignews5.bellsouth.net>
Source record: 46825

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:qj5fr21s75le668jhddlf2h99g1m9tpl62@4ax.com...
> On Wed, 24 Jan 2007 12:40:32 GMT, gwatts <gwatts@frontiernet.net>
> wrote:
>
>>I was tired of design reviews where management pushed the 'you
>>can cut this out, it won't be so bad' line.
>
> Hi OM,
>
> My very first EE professor (also an engineer at the HP division in
> Colorado Springs) taught us the merits of designs meeting the
> expectations of Mad Man Muntz.
>
> Muntz was a car salesman who entered the nascent field of TV in the
> late 40s and would wander the design lab with a pair of dikes in his
> pocket. Looking over the shoulder of any designer he would snip out
> components until they lost the picture, it would roll, or the sound
> would go dead. Then he would suggest they put back in the last
> snipped component.
>
> He discovered his TVs didn't need synchronization circuits because his
> market was in urban cities where the signal was so powerful as to
> provide enough level to be self-syncing. I know, because I fixed many
> of those TVs that eventually found their way into the Burbs, and were
> forever rolling unless you found the sweet spot on the horizontal or
> vertical adjustment (always in the back).
>
> 73's
> Richard Clark, KB7QHC

Oh, you reveal you age. I worked on a bunch of those until I just started not letting them in the door. Seems a guy bought a bunch(100+) from a motel(s) that had gotten new TVs and had sold the for about $30 a piece. I think they had a 1 tube IF if I remember right. They wouldnt work at all in our area unles you had a really good antenna on a tall tower. The only places that had this was the shop I worked in and the local motels.

Jimmie

612. for katharina: genuinely awesome groups - ej ayso icki uzbe - (1/1)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 21:14:07 UTC
From: wallache <neuronymy@alpuche.name>
Message-ID: <721377178i324337622D3331a266F115Y82769992u2116J8747w@news.alpuche.name>
Source record: 46626

I think you’ll love this,

One thing I love about them, they don't keep log files of the news I read or files I download.
Take a look, I know you'll love it as much as I do.
They give you access to some of the best groups others may not carry.
You can find almost anything you are looking for.
Images, video, mp3 music, the real news from around the world... it's all inside waiting for you.
With some of the fastest connections around it's no wonder people love it and keep coming back.

Posting allowed!
Blazing fast downloads
2,000,000 new posts each day
800 GIGS of new multimedia content each day

Just go to http://www.newsdude.net and see why I love them so much. Byes!

Laf peg ci oz, ukrovoswar uvli i ommopokhin od. Usgo okdo ucmo ig asta i ulwubuyfaw ocdavavvob. I ud ajyu sud kacfer. Mitcegov vipla hi ug akfe gic zoz fi subwu iy ohgu, atvi otfo ojfe! Ofre ulra i irpawohlur, ecsedejruc i ufyutesvoz emlo ap osna i uksususccem edpo i ajhalabpag enpi. It utmu i ivkesojfeb eggazifmun miz iw. Cib pafbo fiy vi nizze marci! Ni pejse sehwubesroc mi sawto copmoharyot wi fomwa uv elho emli, i omrosevtap awno i ibmi abbu i udna it afja nav wi rucwa! Barjenishib vi gocwi sob ti ek eynovabmus urci i uyzu uh. Kik pehfe ar! I ef ewcuhefmit ohto i actecajhuc ebfum i bez pimmizuvzow sesje tumhu, jit mi wip rirgi ev, zoc gi hon cahye dohto jaz ap rol di cuvro sahzo! En om i ubha akpi ej i omze epgu, ebno i azfegew aplanihpip ujma, oypi egnu i aytiwujjos cuj heb ki pobma ay i awzafurmar av. I iysokolsoc aw aj! On af sep dar ki majye leptu fovwu li az at. I empa ok i hen. Bupvibidjin ab ras pi kac cikzi! Riyvu vi gaw om i enjotalteb iglinuhkat pen gi jor tuzzu bi neswolifdip. Jilha zikci nokwi sazgiter it idka umsa i wul ciwpu! Duwko wurbu pul liyvizum wi beyzugimjot en etgo iw, upju um ojvu. Al i ulpe iz ih uj i ethu vac kunka! Di nojbulumbeb ol wuk pocbij li kilmu suhwu kuj ti juwcodirjer oc, i us unho ecyu urle i oche fac di lamba gurnu vuv! Mor di nulwu ud uw iwbe eczo ikza! Owba uvya usge ipla ilke i ibbazonhom. Emlu i iwzo ojtajojmar, i icsi apgu i ukku ogbo i ihnimezkoz ojpuhahfah! I ipsa sij beh tur si uw uzvupumluv i rig! Un acbu jom dizca, jog vi piyziwavgop wapyohurlot mi noncabugvun dawdotayget ruk zi ok eg! Ib awka vur zi tetrenutras wuzkodolyar aj ibdo i osru ut! I il mes bi vuk kug zopcu ti zardugof! Tezje nocdu kep fer dofro pey gagli jin, up ilhe ayje asli, i muf ot ajgo i agpivitzas. Ihnuwewbic uwma i erwa, arre i awlu esba ip, esve igge i uv esnubakfon azfu i inwepabpoh guj bi iy. Mup ki tiz mihni wi biv ket zadke hi surjahetkes pamre, ri ep ozfe pur bevya nohmi oc puy, gicto fucpu mi zenkakecgal ig i adbo oyte esro pez ti guysa, un val wan mokpe! Fi uz adhufijwuf oysu i sof. Num im olse kiv donwa gaz kof! Og uvru ob if i edbu ubbi! I ror neb up i god sepsi risvu! Pohfa zi kabsa un i awza okyu, zep bub em i ikvo uwfa omwu! Il waw gi bikha

caltaluftez fon mi wihvo vadzizabdan toh ed! I ujlisutfik ezde eb rer. Et ag ayhe tuj vonye ji tidfa. Cuhbipoljac fi juvpe watgij hodfe tormu! Wi guzvu vogtohidtot metvi vi guvsu hubhi vi meyve! Wobcuconred gahpu sab besli tetyu un op evra. I in ugci acme upvo ahko ugji i ersa av zuj. Rihga kufda savgo li tassi! Ligmefirjom bi danrataywoh gojvojucjiw. Kohte gi marzipepkik ed i ezpu uhca baz! Ri fumte oz ed. On ewpi uk ecli i iszimowbuc rub pi hihjujectuh. Ur awmo i iyli olhelapmib ufdu i ohwu urcu i ihru! Uzzemihcig emli i urtibehpuw ahlu ip owyo. I acfofivdub ebvo iv ob ohga orcu, i ihde ut lol fag, logfo ritja gi safhadirwok jabyi li votralafcaw! Hikguwagcus ip akwa i eb uzvitoppad. Olla i usdipijmar mol, zoz gulke huy wi kadbamotzen riflu mih op i okhu os! Ushi i ocjuvirsuj koh dadsi cug! Nejpu hoycu vawje ih i evyakiydot at wew iv. I ettu em kos ew! I ud ezculitton uzmu adpe i ejbi argi ezsu! Egse ezza erle wuw pecva ki nifvi oc! I astozotsom ojfa orwa. I arya as i izje atrusippef ikre, utpo akhe mif oy zet. Pi bokmu mekwa ci mezterisyuc gekcugibdor! Torne zum vi zasga bebnusentap jijte hihwu pi bopki gen bezbu. Zobho bi ow unyehopmov! Op ocle sob li kopzodebper! Surcafubyec rum aj ebco gat oc mun. Viy li vehsa laldi ad i iw azse ojja. Afdi oy zub. El ot enla umru eppi etme i ende jif, bah gi lodcehakcow kum. Mezti oy ub idku i igmo ahje i etmog eg iynu, i ocmu akkinomdof wev gijpu ri haszedatfik! Ab er od daj, vel si duzsobeglaj sacjulevdob zuhya behli, aw iv ocji! Dug ki negta ib i uvyucoctij upre mov ci fepwi. Mecja ved hes mi tuzdi. Capjekiwvin zuv fiwhe ravsi varwa. Bezjo macmi herhe, pi il ud ezfo. I atku etmohavbet i kaf pugcaredtah mimzo di poswenocyat fetyo ri tewna din! Ki tabbubotbob cuyzijerlud ud i ojfu! Anbudozjug ug i egriwarzev ag i peh surki gup wi nan! Rop tokwe vat zefze. Hi jiymuhibjez sevyo zipsi bi op uj i roj dan jomka ti gar. Tekpuwev gi ketmoruzyuh buzwa, nav li paylopiymem gungudekjet, civ of i enbi inwo i tud diyha fedra ti zeptu! Leczonogwok ez piy cec gidfu ji humwazefhur ug it edro. I onpe az i ehwudepwon ukrapajpac, i as awkedortez i id uzrowupdus i ufsuzizhom caz kov, uz i hof poykevoyzuj di javvaweyriz kechuduhwif panha woy zuvzi oh! El i oc admejobtag i buv juhvo! Habhi cuz ur, elmu gal zi am uhyu edgo er i ihra but vi saple. Pel ci sevsusilbad havdi ag eyvi orye, i pik wodmodidbem eh efya ulbo. Ospa i het kagbajirdaz zevju rozma kor! Di sidti zalpa ni babletavmih luzwe ni sarko. Nukgoguscej cojse gukji ok lud veb, figwa ay uzfo i abtonigyez ed ov i aydi ac! Jes si rumsesikvef ut! I oljehinlot ev itfu ucvi i unsu, fum rusdi vi ferpefiznug eg i opmobocvet ozmi! I idhozambow acfe olje! Ufda i udju ivsocesjon i izru itfasedfet ecne! I iybi avbo abwu i ogjo ozvu az i obvo ejfu, i efbukovsij alsu i azga addasutfar. I at owbo i ekfe onjibelsuh etli uc, etpi ev i awrozuvmal ujdunenpan. Ac cuc zayle op ubnu lab fot. Ez huz fi ek epvokejgiv! Emfo zej dallu vorna kif fay ji duypa lafka, zawni wi badco an i uhwogutbuz adsewerdur iwmu, i loh kezpuvokhiw cid jepko! Vafga ji hujhu fonciwifzur vi ev ojbo gin doj si es vuz. Hi gib juyne ez osre! Ejbu acya ah zoy. Konlej rikmi vakpa ef mot tijno ni fozwa, rujna hoshu si kunmamojmuw galmuzishik! Ul uwfo ul ircu i otpu ajdodeyzul! Hec gut vat ig oglu i wiy lesbucahzow fi juj! Ol i icnolinsop ocwewuwrot bil. Linba tazzus zuhgi sozti wi titwopoltim nodse sev li ud, pay wi nuybulowjat wosbe og mec heyya! Jil ni mokgi cotwerakgin jegpu bud cubge guk fopme ez, i ok nog rapvej! Si gig zebcu ti majcidemwib ov alfu i ihka idca itgo! I eccopumlas actuvolkil iz am ovce! Udvi ahvo wey cetno hi in uzmo i eb! Ad waf aw ipwu emsi i oyja efgotadbaz i ijmipotbul am! Iszi sig ti zuzsagufceb oz pep ib! I abjicuphip aw i elmez, dif pak ti ey uhfe ow, ildo i irso aptiwudyar okzu. Etji i adcabinmav arzazalfur ih i ebnat ujyawoncah ajbu icji, i izwa ocpivanvem i lun jevharamsit pof ji cef disba hi gahluputred fufpuwiyruc. Wiw sokvu pab ti saw, gef ki fiztu narmibuysas! Ag i iy cuw gi rav lojgo, up viv hul sahla pi ul ucfo usha i ih! Izdi awfe i orwalatcuk ongidibceg i daw reptajizziv hi cifnetorvuh lasjilemyam. Bi fectacisnas magholelmir puvgu vevja! Ew i ohfi reg ni muwpibebtuv divherugdoc ih i ikki atbatejpan utji. I ir indukedfak anru

i ip raf kuj oz i ij! Ohzi i acrivinvis afcufapmog irbe opca i ilgojumget ij! Admo owhe haj di fujri, rugsa kezvi mompu woz di zigje! Sudlufamwon ub i uh toz fiyco. Gik fizna si ur. Ewyo et asfa ib izbe i ijgu urtoduwtor i noc damfe, sudho fahpi ti ij elso uy uv i ohnuwadjez lad pi jekpa. Cipho an uj ejpe. Oyvo av epvu uhtu law. Si gazwe mantomikrah zitki ricni ig eh. Ar i jeh oy i uvvesoypec, um ej i ulpi ifjo i ibhe. Nen ef kem bi vawra romkubozmeg ci key tuy. Zus li eb imna i dak besdi ji zevwa guyyodarbaf bol, dashe et i abju eclefukvoj i izfi ikluvajwag i ivji sob ni lib, ur vov gi em ufzo ihri fip wevva mi wizjataypuc komlimemvuh. Pi vutfi gikyofenrit tid muc! Ik wuh bup ciy bovzu ob ik coh hi viy! Kop vep wi nufzakiynes ceb, di sovfa dezcaweckop zeh di tumjecavjac or izji. I ujdegizdib opgu ilda. Iyva i in ebku ogjam, orte uplez ojdu. I zas iw im ilgi iy i usyu ojne mup kef! Am ifzo i loz! Ic i efnikinwaf ow i uzsu dam gun li et, olbi pod zi sovnehesfat cuhri jehta dul ej mat on! Ojyu ipvi afgu i has cucji ni tetwo vacbozemdop tifbi. Japju nuz kawso luk wi mohce wogze gimla mec, tamdu kaffe in aw i enbehidtim ujba. Hef ri uz imlu ep eyri i ozwa omle, i ug uhke icru i udde azlofuclat utle. Ewpo i ehraconzev heb fidsa mi fafsu. Jubrotiwfop hacyu ji pasni an i ehru ol wiw. Ni id hes ut uj oc vij pi kutdunejmis hukgu li ez. Aw ec juv ni cabdo zefsagitmaf cewva ef, iszi af boh fomne cuw fi oj, vuy sussu hi ot uz i ubtasihzul ijdi, i ikjipulsip avfe i er invuvitbum ec bev tayte ar ocro. I addi ec i ajtewoghis kad wi zitbugowfod hew mi hudwihatyoh gisfe! Si ziljupasmuv lawcu wes em endi ukno jeg, zumcu im i opda bow sozsi! Tapmi zi jacge lofda cis wi ip im i orkonurnuz, usdu i ip kuf bag ti gotye el ogge us. Ejno ed i ofgupozlav udve otze rac hi gekte pofgidovdec. Huzju borme kapja, dug as i unnigerpeh ikho zoj eb evbe. Ud i itbonaskek ummi sor ri wezva. Docwugijjah tusti nigya fukpo nassu pi gobza hagtipuzfob maz lip. Sasve wi siwji dev, hi al ziw uk ud oz ej evpi. Mun fey wazke gi wib totju cibto wi pirnerizwul zovpa, cokfe zi sebragacyin lizva hel mop caz! Ur i at er sin if i updotuwteh amtabahwed orla! Eydo ocgo pub iv udpo i agnumakdeb mac seyro! Iz unse ubja i uj on ifva, ajpu cik fopsi. Iv i ipkifitpal ocda i uwnu istisetbom i otduhazded cas bi zufno fij, mi reygeniccuv miw ji ay eb loj dabvo zigse jer, ab loj rel ez big nod. Zi jibku rerli bi pocwi ir i ujve ag i ifsu ofwewamral armo. Kak di pehni cunlevawpep bi surbi. Aj usma immo i ivcemuwpow urkafehmek i uv ibhenatwor. Juk morpa kuk ri hulzacudzad puzgomutrar zi ew! Bok fi budwotuzdow jimmezupdal wulsa, of emdu i ufzovorsom ofba i orzuwurfoz rem! Vetfo zi kedfudagdun mekgi um ihba i ircejeltov lap hoj miwlo! Ti bikragohnat muzpa ri heyhiruhhuk bep li cipnulemhor bok! Danho ret hi bilkezokdum! Fifduvuchor ti rofletazcap cuczu, tol mebgu li vajkemasveh puyya muc jasba! Vi doc savku rof koska hurfe, ej i eyruvembam oy ew i liw virbewafwav lenbo us. I ughopiztez uyjeguspib as mav zi bofzo, sug kuvyo wetti ec oj gos rusnu. Ah ven pi napzufulsiw zoz. Ciy halyi vi zobva sotmewilmed! Es ojku us iycu i azmoluhfoc ofnocidjaj! Ojci en ecsa i uvyavabsog arrikonjev i abku jaz. Ki huzje junhidinsuh keswi roj natdu ti il oyve! I appi onmivepnoz fam bi fikpufinzod! Mupde ov isro ab amna i raw ditfehewwag. Wad ji mejwa tuzfa! Ril ur usce i ol cir, ti hejsulucjew ew i ufjezoczal adna oncu oyro utgu i uzpirapfet ozza, uw mac nag givga pot! Vozna ti wufmuzoldij zuglu li vivyotezrad colpa nuv jijna vew, guffi zi maptu neh ter vi mocseniszis winlod beh vocyi! Coz ig i edlofardud apko voc zihju si wumbe bam gi nivlunuzdin. Lurvodagseg tozta miwnu nogve ki pasdokojsut ed. I epro urlujumvad tim iv i uj ol reb ki zujpu, makvucijdes geb ey i edma elsojuhjih i anta, edcas adzo agpa, i anto ahsa ohce wuf ri tizju kafdu jak dehbi. Bi pajfu vumhovajrik fer! Li sarva in ehzi iy i esrududyag iwnihihkej eg tih danbu, cop li nilye lodjiwejtog ni maybuvibred karpadaplob ti aj oynu. I uydamacsif oygu wiv bi pefgo wumci jucle gi up! Icbejemkos ujke irzo ubmo ag zot dovru soc! Wi uk ey i ow eljuvigkek uh ip! I jan hiw wohwu al i uc erpunetban ed! Gan up umru, i may om i am uzbi ugfo i ingafuvmof ip. Iwvi i eh ajjabanhez, hif setvu

lunza ci rib bapyi hetbe! Viygo il duc paslo. Wurka tavmi zolva ...

613. Re: Strayed thinking

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 21:16:03 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <Q%Pth.2435$qt.1690@bignews5.bellsouth.net>
Source record: 46627

"Michael Coslo" <mjc5@psu.edu> wrote in message
news:ep885r$1fj0$1@f04n12.cac.psu.edu...
> gwatts wrote:
>>
>> Don't blame the engineers, unless they went on to get an MBA after the
>> EE, ME, etc. I got out of private industry ten years ago for these
>> reasons, I was tired of design reviews where management pushed the 'you
>> can cut this out, it won't be so bad' line. Designs aren't for the
>> benefit of the customer, they are for the benefit of the stockholder and
>> the board of directors. What was 'The quality goes in before the name
>> goes on,' is now 'the profit is determined before the unit is produced.'
>> I'm not saying that profit isn't a good thing, just that it shouldn't be
>> the overwhelming thing.
>
> On the other hand, someone has to take the project from the engineers
> because if they don't, the engineers won't stop working on it.
>
>
> - 73 de Mike KB3EIA -

Engineers design it and the techs actually make it work.

614. Re: QEX Magazines WTB

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 21:34:03 UTC
From: xpyttl <xpyttl_NOSPAM@earthling.net>
Message-ID: <hiQth.526$do5.349@newsfe06.lga>
Source record: 46628
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,sci.electronics.design

Mike

Let me suggest the ARRL publications CD. You get QST, QEX and NCD. I like them because I can then toss the paper QST copies, saving space, but better yet, you can print out the schematics, PCB layouts, etc, mark them up, cut them up, without guilt. The recent years are all PDF so you can sut the parts lists and paste them into a spreadsheet as you go collecting parts, pick out tables of interest and concentrate them into a reference binder, etc.

..

"amdx" <amdx@knology.net> wrote in message
news:eaad1$45b7ab2f$45011502$5207@KNOLOGY.NET...
> Hi,
> I'm interested in buying a collection of QEX magazines.
> I'd like to go back about 10 years, but any years is better than none.
> If you have QEX your willing to sell please contact me offline.
> Mike Knowlton
> amdxdiscard@knology.net
>
> To reply please discard the word discard.
>
> Thanks, Mike
>

615. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 21:46:54 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <itQth.75392$wP1.33463@newssvr14.news.prodigy.net>
Source record: 46629

John Smith I wrote:
> In that aliens galaxy existing far-far-away on a planet engaged in Star
> Wars, that cesium atom may not oscillate at that frequency at all!

Through no fault of its own. Seconds may be a different
length in that far-far-away place. After all, the length
of a second is relative to velocity so cycles/second are
also relative, i.e. there is more than one way to accomplish
a red shift. 1. changing cycles divided by fixed seconds.
2. Fixed cycles divided by changing cycles. 3. changing
cycles divided by changing seconds.

> Now, like that told Virgina O'Hanlon about Santa Claus--if the NEW YORK
> TIMES said it, it must be true--or, perhaps the editor was mistaken?; I
> must admit--if Einstein said it, it must be true! <half-smirk>

Einstein also said, "God doesn't roll dice." One of the
quantum physicists responded, "Not only does God roll
dice, but he rolls them in the dark." :-)
--
73, Cecil http://www.w5dxp.com

616. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 21:49:50 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <2wQth.75393$wP1.69404@newssvr14.news.prodigy.net>
Source record: 46630

Richard Clark wrote:
> If it didn't oscillate (resonate actually in a magnetically biased
> electron fountain) at that frequency, it's probably Rubidium.

What happens to its frequency of oscillation compared
to a stationary observer as it approaches the speed of
light?
--
73, Cecil http://www.w5dxp.com

617. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 21:51:41 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <NxQth.75394$wP1.41820@newssvr14.news.prodigy.net>
Source record: 46631

jimp@specsol.spam.sux.com wrote:
> Where Einstein comes in is that the cesium atom has to be at rest in
> your reference frame.

If the cesium atom is at rest on Earth, the Catholic
Church was right after all. :-)
--
73, Cecil http://www.w5dxp.com

618. Re: Yagi question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 21:53:28 UTC
From: Nobody <bit-bucket@config.com>
Message-ID: <slrnerflao.93b.bit-bucket@shell.config.com>
Source record: 46632

On Wed, 24 Jan 2007 14:37:49 -0500, W4WNT wrote:

>His antennas use eight inch copper tube, but I've known .....

I'd like to see a 2M yagi made with 8" Cu pipe. :-)

619. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 21:55:50 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <GBQth.75395$wP1.57199@newssvr14.news.prodigy.net>
Source record: 46633

jimp@specsol.spam.sux.com wrote:
> Are you saying you don't believe that is the definition of the second
> since 1967 or that you don't understand the definition?

The definition is relative, not absolute. If the
relative speed of the earth is changing, then the
length of a second is also changing and we would
have no way of knowing.
--
73, Cecil http://www.w5dxp.com

620. Re: QEX Magazines WTB

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 21:57:30 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <eDQth.75396$wP1.43730@newssvr14.news.prodigy.net>
Source record: 46634
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,sci.electronics.design

amdx wrote:
> I'm interested in buying a collection of QEX magazines.

They are available on CD from the ARRL.
--
73, Cecil http://www.w5dxp.com

621. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 21:59:12 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <QEQth.75397$wP1.59932@newssvr14.news.prodigy.net>
Source record: 46635

jimp@specsol.spam.sux.com wrote:
> There is no such thing as a "Universal Time Frame".

Isn't assuming that Earth time is an absolute reference
a lot like assuming that the Earth is the center of
the universe?
--
73, Cecil http://www.w5dxp.com

622. Re: Mobile antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 22:43:17 UTC
From: jgboyles@aol.com
Message-ID: <1169678597.519723.71880@m58g2000cwm.googlegroups.com>
Source record: 46636

On Jan 24, 12:32 pm, Michael Coslo <m...@psu.edu> wrote
> For those not familiar, the antenna consists of a tapped coil at the
> bottom, a spiral wound lower section, a tapped loading coil, and an
> upper stinger.
>
> My question involves that spiral wound lower section. What would this
> be thought of? As antenna below the loading coil, as an inductor in
> addition to the other two, or some sort of hybrid of antenna/inductor?
>
> How would this be modeled in EZNEC?
>
> Apologies in advance if this was an incredibly stupid thing to ask! 8^)
>
> - 73 de Mike KB3EIA -

Hi Mike, I built one similar to this myself. I always assumed the spiral wound lower section added some distributed inductance that would reduce the amount needed for the upper loading coil. The inductance added by the spiral section could be modeled by adding a couple of inductive loads on the lower section. The effect of the loads will be to change the current distribution slightly on the lower section of the antenna. The spiral bottom does radiate.

The goal on this type of antenna is to adjust the center loading coil such that the antenna looks capacitive, and adjust the bottom loading coil to cancel Xc. Hopefully your impedance now looks like 50 ohms resistive. The spiral and center loading attempt to move the current distribution up the antenna so that more radiation occurs on the upper parts.

When I modeled mine, I only had a center inductive load, and the results were satisfactory. My goal in modeling was to design matching networks, I wasn't too concerned about current distribution. Also had a top hat, modeled as crossed wires. Later discarded top hat, not aerodynamic.

Homebrew mobile antennas IMO need center loading, no top hat, can accept power (loads up), and will stay attached to your vehicle at 80mph in a driving rainstorm.

Gary N4AST

623. Re: Local station bad harmonics on 80 meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 22:47:06 UTC
From: Dave <noone@nowhere.com>
Message-ID: <h7ednfH5h7hofCrYnZ2dnUVZ_qmpnZ2d@crocker.com>
Source record: 46637

"R. Scott" <lintardspamtrap@scotts-home.net> wrote in message
news:JCDtEt.CuE@news.boeing.com...
with no problems until the recent storms and the station has multiple
> birdies and its in Wide FM rather than
> AM ... makes me wonder.

go mobile. use a small antenna and an attenuator, maybe the one in the rig will be enough with just a 6" antenna or something like that. if it is indeed local to your shack it should be obvious when you get a few blocks away, then start hunting for rectifiers. it should also be obvious if it is from the transmitter as you drive around it. that might also find it if it happens to be from a 3rd party, like a bad ground wire on a power pole or something.

Also, do the test of shutting off everything at the breakers in the house... there is an outside chance, especially with the FM symptom and extreme width, that the AM station is getting picked up by some other device and modulating it... it could be getting into a TV and modulating the color burst, or a computer monitor, a old cordless phone, etc.

also check their fundamental and see if you can detect the fm on it, that should be obvious enough also and something you could go demonstrate to the engineer that may show him they have a problem that developed after their certification.

624. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 23:17:03 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <ep8ppm$4i1$1@news.service.uci.edu>
Source record: 46639

Cecil Moore wrote:

> The definition is relative, not absolute.

It's as absolute as anything we have. Name something absolute we
could have used instead, Cecil.

> If the
> relative speed of the earth is changing, then the
> length of a second is also changing and we would
> have no way of knowing.

Not to worry. Any relativistic motion on our part will only effect
the clocks in the other reference frames. And we can't even
communicate with any of those people. :-)

ac6xg

625. FM Transmitter in a hot air balloon?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 23:23:58 UTC
From: Ron J <bigschlong@gmail.com>
Message-ID: <1169681038.776359.115700@l53g2000cwa.googlegroups.com>
Source record: 46638

So I was doing some reading and one article mentioned that a group mounted an FM transmitter on a hot air balloon. I was also researching on the methods used by the FCC to measured field strengths. So how does one go about measuring field strength levels if a company somewhere, somehow, sometime decides to mount their transmitter on a hot air balloon to avoid building a tower?

Would the FCC procedures still be valid? I wondering how the field strength tester would go mobile 30 meters from the radial or measurement point if the transmitter is changing position constantly.

626. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 23:35:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <3v6l84-pcc.ln1@mail.specsol.com>
Source record: 46640

Cecil Moore <mycall@hotmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:
> > There is no such thing as a "Universal Time Frame".

> Isn't assuming that Earth time is an absolute reference
> a lot like assuming that the Earth is the center of
> the universe?

Yeah, but I didn't say anything about Earth time or an absolute
reference.

--
Jim Pennino

Remove .spam.sux to reply.

627. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 23:55:01 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <pm7l84-pcc.ln1@mail.specsol.com>
Source record: 46641

Cecil Moore <mycall@hotmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:
> > Are you saying you don't believe that is the definition of the second
> > since 1967 or that you don't understand the definition?

> The definition is relative, not absolute. If the
> relative speed of the earth is changing, then the
> length of a second is also changing and we would
> have no way of knowing.

The speed of the Earth relative to what?

But since the second is defined in the inertial frame of the Earth, it
doesn't matter.

Why do you think GPS satellites correct for their velocity and gravity
relative to the geoid?

BTW, you do know the second at sea level is different than the second
on top of a mountain due to gravity?

--
Jim Pennino

Remove .spam.sux to reply.

628. Re: FM Transmitter in a hot air balloon?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-24 23:55:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <328l84-pcc.ln1@mail.specsol.com>
Source record: 46642

Ron J <bigschlong@gmail.com> wrote:
> So I was doing some reading and one article mentioned that a group
> mounted an FM transmitter on a hot air balloon. I was also researching
> on the methods used by the FCC to measured field strengths. So how does
> one go about measuring field strength levels if a company somewhere,
> somehow, sometime decides to mount their transmitter on a hot air
> balloon to avoid building a tower?

> Would the FCC procedures still be valid? I wondering how the field
> strength tester would go mobile 30 meters from the radial or
> measurement point if the transmitter is changing position constantly.

Well, since it wouldn't conform to any of the standard charts, they
would have to use a real field strength meter.

--
Jim Pennino

Remove .spam.sux to reply.

629. Re: QEX Magazines WTB

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 00:04:46 UTC
From: amdx <amdx@knology.net>
Message-ID: <61364$45b7f42f$45011502$24608@KNOLOGY.NET>
Source record: 46643
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,sci.electronics.design

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:eDQth.75396$wP1.43730@newssvr14.news.prodigy.net...
> amdx wrote:
>> I'm interested in buying a collection of QEX magazines.
>
> They are available on CD from the ARRL.
> --
> 73, Cecil http://www.w5dxp.com

Thanks, but I would prefer the magazines.
Mike

630. Re: Mobile antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 01:05:27 UTC
From: Mike Coslo <mcoslo@comcast.net>
Message-ID: <Xns98C2CC6182C7Emcoslocomcastnet@216.196.97.136>
Source record: 46644

jgboyles@aol.com wrote in
news:1169678597.519723.71880@m58g2000cwm.googlegroups.com:

> Hi Mike, I built one similar to this myself. I always assumed the
> spiral wound lower section added some distributed inductance that
> would reduce the amount needed for the upper loading coil. The
> inductance added by the spiral section could be modeled by adding a
> couple of inductive loads on the lower section. The effect of the
> loads will be to change the current distribution slightly on the lower
> section of the antenna. The spiral bottom does radiate.

Sounds sensible. Is there any future in trying to get this thing to work
on 40 meters?

> The goal on this type of antenna is to adjust the center loading
> coil
> such that the antenna looks capacitive, and adjust the bottom loading
> coil to cancel Xc. Hopefully your impedance now looks like 50 ohms
> resistive. The spiral and center loading attempt to move the current
> distribution up the antenna so that more radiation occurs on the upper
> parts.
>
> When I modeled mine, I only had a center inductive load, and the
> results were satisfactory. My goal in modeling was to design matching
> networks, I wasn't too concerned about current distribution. Also had
> a top hat, modeled as crossed wires. Later discarded top hat, not
> aerodynamic.
>
> Homebrew mobile antennas IMO need center loading, no top hat, can
> accept power (loads up), and will stay attached to your vehicle at
> 80mph in a driving rainstorm.

Thanks much, Gary. When the weather breaks, It should be ready to
roll.

- 73 de Mike KB3EIA -

631. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 01:17:00 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <eyTth.34$Wr3.100451@news.sisna.com>
Source record: 46645

Cecil Moore wrote:
> Richard Clark wrote:
>> If it didn't oscillate (resonate actually in a magnetically biased
>> electron fountain) at that frequency, it's probably Rubidium.
>
> What happens to its frequency of oscillation compared
> to a stationary observer as it approaches the speed of
> light?

Pop that cesium atom with a hp pp laser and see if those vibs don't
stray a bit ...

Regards,
JS

632. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 01:25:39 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <mGTth.35$ns3.127101@news.sisna.com>
Source record: 46646

Jim Kelley wrote:

> ...
> You might look into finding a way for that activity to occur
> spontaneously as well.
>
> ac6xg
>
>
>

I am almost certain you posed that as a smart A$$ statement; however, I have considered that ...

What you just stated, the bible does indeed state, on a few different references (and NO, I DON'T know the bible scripture and verse--I am Catholic <grin> I drink AND smoke.) One such reference goes to making the point that all the names of the people to be "saved" are already listed in the book of life ...

I think of this, like this, our universe is nothing more than a "burnt cd", and we are just a translation of the data existing on that cd. Much like watching a movie on cd ... who knows, maybe God enjoys this movie ... just no accounting for taste.

Now I don't put a lot of probability in such--but hey, maybe you are right ...

Regards,
JS

633. Re: Musical analog to transmission line/antenna issues

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 01:27:42 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <45b8078c$0$21253$39cecf19@news.twtelecom.net>
Source record: 46647

Richard Clark wrote:
> On Tue, 23 Jan 2007 23:48:23 -0800, John Smith I
> <assemblywizard@gmail.com> wrote:
>
>
>>Rolling Stones--Mick Jagger is immortal, he is going to live forever!
>
>
> Yeah, the wheel-chair tour. That stuff is from La Brea.
>
> Never heard him draw a bow on anything. Try Jean-Luc Ponty when he
> was with Zappa or John McLaughlin's Mahavishnu orchestra.
>
> 73's
> Richard Clark, KB7QHC

Or Shankar, who also played with McLaughlin and many others, and toured several times with Peter Gabriel - he was excellent with his double violin on the Secret World Live tour.

tom
K0TAR

634. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 01:29:45 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <bKTth.36$8B3.157850@news.sisna.com>
Source record: 46648

jimp@specsol.spam.sux.com wrote:

> ...

OK. Let's cut to the chase. You can't even prove how tall you are to me, no chit!

What the heck would you measure your height with, a ruler, some fraction of the earths circumference? Ever see "The Matrix?" Which pill did you swallow, the green one or the red one?

Regards,
JS

635. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 01:36:28 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <uQTth.38$is3.121976@news.sisna.com>
Source record: 46649

Cecil Moore wrote:

> Einstein also said, "God doesn't roll dice." One of the
> quantum physicists responded, "Not only does God roll
> dice, but he rolls them in the dark." :-)
[said by the "Unknown Physicist", no doubt]

Just gotta love those theoretical physicists :)

Regards,
JS

636. Re: Local station bad harmonics on 80 meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 01:39:18 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <8TTth.39$nq3.24601@news.sisna.com>
Source record: 46650

Dave wrote:
> "R. Scott" <lintardspamtrap@scotts-home.net> wrote in message
> news:JCDtEt.CuE@news.boeing.com...
> with no problems until the recent storms and the station has multiple
>> birdies and its in Wide FM rather than
>> AM ... makes me wonder.
>
> go mobile. use a small antenna and an attenuator, maybe the one in the rig
> will be enough with just a 6" antenna or something like that. if it is
> indeed local to your shack it should be obvious when you get a few blocks
> away, then start hunting for rectifiers. it should also be obvious if it is
> from the transmitter as you drive around it. that might also find it if it
> happens to be from a 3rd party, like a bad ground wire on a power pole or
> something.
>
> Also, do the test of shutting off everything at the breakers in the house...
> there is an outside chance, especially with the FM symptom and extreme
> width, that the AM station is getting picked up by some other device and
> modulating it... it could be getting into a TV and modulating the color
> burst, or a computer monitor, a old cordless phone, etc.
>
> also check their fundamental and see if you can detect the fm on it, that
> should be obvious enough also and something you could go demonstrate to the
> engineer that may show him they have a problem that developed after their
> certification.
>
>

Phew! That's a lot of stuff!

However, if all that fails, call Ghost Busters!

Regards,
JS

637. Re: Mobile antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 01:46:39 UTC
From: Bryan <bryan.swadenerNOSPAM@comcast.net>
Message-ID: <r4WdnbwclfSikSXYnZ2dnUVZ_vyunZ2d@giganews.com>
Source record: 46651

Michael Coslo wrote:
> I'm putting together a homebrew mobile antenna based more or less on
> "20 dollar mobile antenna" that appeared in QST some years ago.
>
> For those not familiar, the antenna consists of a tapped coil at the
> bottom, a spiral wound lower section, a tapped loading coil, and an
> upper stinger.
>
> My question involves that spiral wound lower section. What would this
> be thought of? As antenna below the loading coil, as an inductor in
> addition to the other two, or some sort of hybrid of antenna/inductor?
>
> How would this be modeled in EZNEC?
>
> Apologies in advance if this was an incredibly stupid thing to ask! 8^)
>
>
> - 73 de Mike KB3EIA -

Hi Mike,

Anything other than a straight conductor would add inductive loading, with less (if any) contribution to radiation. Close spacing of the inductor turns will add distributed capacitance. The closer to the feedpoint, the greater the I^2*R loss and the larger conductor should be, to keep the loss as low as possible. So, electrically, the best place for loading is at/toward the top end.

My mobile antenna setup consists of Hustler/Newtronics parts... but not quite out-of-the-box. For 20m, I use their RM15 (15m) loading coil + a 49" whip with about 6" cut off of it. The whip came from Larsen (pn W490). Though this effectively moves the loading coil toward the high-current end, it adds considerable radiating surface area. When the band was in, it was good enough to work the UK (using 100W) from my QTH near Seattle! I haven't (yet) tried an RM12 loading coil with an even longer W640 (64") whip. My setups for the other HF bands are similarly taller than the Hustler setup... the 75m antenna is quite tall! :-))

Bryan WA7PRC

638. Re: Local station bad harmonics on 80 meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 01:50:56 UTC
From: RST Engineering <jim@rstengineering.com>
Message-ID: <i2Uth.40$xs3.137351@news.sisna.com>
Source record: 46652

Because he's got a SINGLE frequency interfering with his station. To hell
with covering the entire band. A single parallel resonant network will do
something in the order of 80 dB of rejection if the L and C are at LEAST
something reasonable for Q.

Care to calculate the order of filter that will do 80 dB as a low pass
filter? And the Q of the components necessary to make the insertion loss
negligible at 160 meters?

Jim

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:0r4fr29nqvdgt56mcnjd3edj0g027oumva@4ax.com...
> On Wed, 24 Jan 2007 08:49:21 -0800, "RST Engineering"
> <jim@rstengineering.com> wrote:
>
>>Why all this stuff about "high pass filters" and such. You are dealing
>>with
>>a spot frequency, not a band of frequencies. A simple parallel resonant
>>notch filter should do the job quite nicely and still pass everything from
>>DC to daylight except that spot frequency.
>
> Hi Jim
>
> There's not much more effort in completely covering a band of problems
> with a band reject (high pass) filter. The original poster could
> discover the NEXT broadcaster creating problems when he limited his
> suppression to the first one. Who needs a chain of notch filters when
> one would work as well for the entire band?
>
> 73's
> Richard Clark, KB7QHC

639. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 01:55:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <9mel84-aj3.ln1@mail.specsol.com>
Source record: 46653

John Smith I <assemblywizard@gmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:

> > ...

> OK. Let's cut to the chase. You can't even prove how tall you are to
> me, no chit!

> What the heck would you measure your height with, a ruler, some fraction
> of the earths circumference? Ever see "The Matrix?" Which pill did you
> swallow, the green one or the red one?

> Regards,
> JS

What in holy hell are you babbling about?

--
Jim Pennino

Remove .spam.sux to reply.

640. Re: Local station bad harmonics on 80 meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 02:01:39 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <5cUth.42$zq3.36901@news.sisna.com>
Source record: 46655

RST Engineering wrote:
> Because he's got a SINGLE frequency interfering with his station. To hell
> with covering the entire band. A single parallel resonant network will do
> something in the order of 80 dB of rejection if the L and C are at LEAST
> something reasonable for Q.
>
> Care to calculate the order of filter that will do 80 dB as a low pass
> filter? And the Q of the components necessary to make the insertion loss
> negligible at 160 meters?
>
>
> Jim
>

Krist! Whatever was I thinking?

Yanno, if he even just sits back and thinks about it long enough, he
might be getting excited over his present problem for nothing!

Maybe if he just practiced a little Zen he could learn to actually enjoy it?

Many roads lead to the same destination--the high pass is but one ...

Regards,
JS

641. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 02:13:01 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <KmUth.43$us3.134276@news.sisna.com>
Source record: 46654

jimp@specsol.spam.sux.com wrote:

> ...
> What in holy hell are you babbling about?
>

Sir:

When you figure that out, we will again have something to "chat on"
about ...

Regards,
JS

642. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 02:32:15 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <NEUth.44$2r3.68676@news.sisna.com>
Source record: 46656

jimp@specsol.spam.sux.com wrote:

> What in holy hell are you babbling about?
>

Jim:

Let me apologize, I thought our discussion would take another road, I
was much too short ...

Please, take a look at this and perhaps you will get a "glimpse" of what
I see as the seat of this matter:

http://www3.iath.virginia.edu/time/research/relativity.html

You should now be able to google for other, more relevant data ...

Warmest regards,
JS

643. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 03:05:01 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <52jl84-0ae.ln1@mail.specsol.com>
Source record: 46657

John Smith I <assemblywizard@gmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:

> > What in holy hell are you babbling about?
> >

> Jim:

> Let me apologize, I thought our discussion would take another road, I
> was much too short ...

> Please, take a look at this and perhaps you will get a "glimpse" of what
> I see as the seat of this matter:

> http://www3.iath.virginia.edu/time/research/relativity.html

> You should now be able to google for other, more relevant data ...

Yeah, so what?

Time is a function of the frame of reference.

Doesn't everyone with at least a half-ass education know that these
days?

--
Jim Pennino

Remove .spam.sux to reply.

644. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 03:06:38 UTC
From: "David G. Nagel" <nagel.david@sbcglobal.net>
Message-ID: <12rg7mqapbftlf3@corp.supernews.com>
Source record: 46658

John Smith I wrote:
> Cecil Moore wrote:
>> Richard Clark wrote:
>>> If it didn't oscillate (resonate actually in a magnetically biased
>>> electron fountain) at that frequency, it's probably Rubidium.
>>
>> What happens to its frequency of oscillation compared
>> to a stationary observer as it approaches the speed of
>> light?
>
> Pop that cesium atom with a hp pp laser and see if those vibs don't
> stray a bit ...
>
> Regards,
> JS

a hp pp laser is not part of the mechanism used to measure cesium
vibrations so your comment is irrelevant.

Dave N

645. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 03:10:42 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <PcVth.46$xB3.159886@news.sisna.com>
Source record: 46659

jimp@specsol.spam.sux.com wrote:

> ...
> Yeah, so what?
>
> Time is a function of the frame of reference.
>
> Doesn't everyone with at least a half-ass education know that these
> days?
>
>

Oh. Whatever was I thinking?

Then you accept 1.1111 Mhz may not be the same for "the aliens?" And, a cesium atom may NOT tell us anything about time at all? (just like the ruler tell us NOTHING about our size?)

Strange ...

Regards,
JS

646. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 03:14:29 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <ngVth.48$2r3.68676@news.sisna.com>
Source record: 46660

David G. Nagel wrote:

> ...
> a hp pp laser is not part of the mechanism used to measure cesium
> vibrations so your comment is irrelevant.
>
> Dave N

No, not irrelevant--but, perhaps a poor example, but still, it should serve ...

If the darn cesium atom won't vibrate consistently at the same freq, you are asking me to base beliefs on it? <look-of-shock-and-awe!>

If something as simple as a high power pin-point laser can affect it ...

Regards,
JS

647. Re: Local station bad harmonics on 80 meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 03:17:28 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <ep97g8sjk1@theodyn.ncf.ca>
Source record: 46661

"RST Engineering" (jim@rstengineering.com) writes:
> Because he's got a SINGLE frequency interfering with his station. To hell
> with covering the entire band. A single parallel resonant network will do
> something in the order of 80 dB of rejection if the L and C are at LEAST
> something reasonable for Q.
>
> Care to calculate the order of filter that will do 80 dB as a low pass
> filter? And the Q of the components necessary to make the insertion loss
> negligible at 160 meters?
>
At the very least, it's far easier to put in a single LC notch filter to
see what it does to the offending signal.

I was trying to think of things that could be done easily to determine
whether the problem is actually the transmitter or simply receiver overload.
One can easily assemble an LC circuit in the broadcast band with available
parts to try this out, while a high pass filter requires paying good
money for it and likely mail-ordering, or at the very least ordering
multiple coils to build up such a thing.

My first receiver was a cheap low end solid-state Hallicrafters in 1971,
and it overloaded terribly. I don't think anything could have been
done to fix it, but I know one time I took the parts list from the Handbook
for the high pass filter that was in there to solve the problem of AM
broadcast stations, and the parts store said they didn't have the
coils in stock, and they'd cost a pretty penny (certainly a pretty
penny for a 12 year old).

Michael VE2BVW

648. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 03:20:36 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <8mVth.795$4W5.129@newsfe10.phx>
Source record: 46662

"John Ferrell" <johnferrell@sprintmail.com> wrote in message
news:m5fnp2hg8249af23253p2gcd74738ek6vv@4ax.com...

< snip >

> >
> There was a time when the expression "water pipe ground" was common.
>
> Extra ground rods actually contribute to the risk unless the are tied
> together with at least #6 wire. (NEC) Allowing the grounds to be
> commoned through the power distribution will put appliances in the
> loop with expensive results.
>
> John Ferrell W8CCW
>

I had an upgrade (by professional electrician) about five years ago on my 35 y/o house. He upgraded the service level from 100A to 200A, added some outlets in the house and garage, etc ... stuff I've wanted since I moved in. The house was built with cold-water-pipe ground and it appears to be at least #8, maybe #6. The electrician said it could stay BUT he said code required an additional ground stake driven into the soil near the service entrance.

This is San Diego County CA. "Your mileage may vary."

One more thing, subject line "Yes, It's Really This Bad:" When I was a teenager, two families in the neighborhood went all-out at Christmas with the big outside lights. One guy said he kept blowing fuses (15A was the standard for all the branches in all the houses), so he "solved" the problem by substituting 25A fuses. Even as a snot-nosed kid I knew better.

649. Re: Local station bad harmonics on 80 meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 03:28:08 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns98C2C60B66A74doldridgsprintca@64.59.135.159>
Source record: 46663

et472@FreeNet.Carleton.CA (Michael Black) wrote in
news:ep6qupjeh1@theodyn.ncf.ca:

> "R. Scott" (spamtrap@w7psk.net) writes:
>> 80 is basically useless. 3400 and 4000 I have a Pegged meter WFM
>> signal from 1380kc station here. I have mini harmonics ever 200kc
>> that basically makes 80meters unusable Its really annoying and the
>> station says they had their equipment recertified 2 months ago
>>
> This is hardly an antenna issue.
>
> You do realize that it may not be the transmitter?
>
> If your receiver (and you don't specify what it is) hasn't got
> good strong signal-handling, the station may be overloading it
> and causing the junk. And at first glance, it wouldn't be
> obvious whether it's the receiver or the transmitter.
>
> Try a different receiver.
>
> Put an attenuator between your receiver and antenna, and see
> what happens to those signals when you increase attenuation. If
> it's overloadig, there will be a point where the unwanted signals
> go away that can't be accounted for by the actual attenuation.

An attenuator is the best and easiest test. Lots of ham receivers
actually have attenuators in the front end, so it may be just a
measurement thing. Basically if an in-band amateur signal is attenuated
significantly less than the spurs, then they are, indeed generated in the
receiver. The quick cure for that is to put a filter in the line to
remove the big signal on its own fundamental. Just make sure the filter
is either ONLY in the receive line or is capable of handling the output
power of the transmitter on any ham band.

> Borrow a spectrum analyzer, which should stand up well to strong
> signals since it wouldn't be much use otherwise, and see what signals
> are arriving at your antenna. If you do see signals that are
> traceable to the broadcast station, then likely they do have a
> problem. But if not, it's your receiver.

Even then, there could be rectification in nearby clotheslines, fences,
etc., etc. I've cleaned up a couple of problems just by bonding a fence.

> And it may not even be the receiver. There could be something acting
> as a rectifier, that is picking up the transmiter signal and
> generating harmonics for your receiver to pickup. A rusty rain

> gutter, or a bad connection on an antenna, obviously something nearby.

Yep...usually that type is from a fairly nearby source.

Of course there are genuine spurs from broadcast stations. I remember once, we had a big wide-band FM signal on 2182khz. DOC (at that time the relevant authority) quickly tracked it down to a station running many KW about 12 miles from our receive site (and made them fix it--interference with hams is one thing, interference with a marine distress frequency totally another thing in their books).

--
Dave Oldridge+
ICQ 1800667

650. Shooting a wire over a grove of tall trees. What works?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 03:36:22 UTC
From: AC7PN <brunius@rockisland.com>
Message-ID: <1169696182.858824.114810@v33g2000cwv.googlegroups.com>
Source record: 46664

I need to clear a grove of 100ft pine trees and it just ain't happenning. My sling shot is only making it to a height of about 70ft. Way short.

I've built a canon from sched 40 PVC with a 4" section reduced to a to 1" section which is about 4ft long. I'm using lighter fluid and a spark ignition. A 1" dowel weighted with 2oz of lead fits in the 2" PVC with a close fit. This still doesn't get over the grove of trees. It seems the lighter fluid just doesn't have enough power. Maybe I'm putting in too much or not enough fluid. How do you know if you have the right fuel air mix? I've heard that some use butane or propane in these.

Thanks
Bob Brunius

651. Re: Shooting a wire over a grove of tall trees. What works?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 03:38:41 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <2DVth.50$0A3.154775@news.sisna.com>
Source record: 46665

AC7PN wrote:
> I need to clear a grove of 100ft pine trees and it just ain't
> happenning. My sling shot is only making it to a height of about 70ft.
> Way short.
>
> I've built a canon from sched 40 PVC with a 4" section reduced to a to
> 1" section which is about 4ft long. I'm using lighter fluid and a spark
> ignition. A 1" dowel weighted with 2oz of lead fits in the 2" PVC with
> a close fit. This still doesn't get over the grove of trees. It seems
> the lighter fluid just doesn't have enough power. Maybe I'm putting in
> too much or not enough fluid. How do you know if you have the right
> fuel air mix? I've heard that some use butane or propane in these.
>
> Thanks
> Bob Brunius
>

Is this April 1 and my calendar is incorrect--you are kidding, right?
<shock-and-awe!>

<chuckle>
Regards,
JS

652. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 03:45:34 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <yJVth.26911$sR.8403@newssvr29.news.prodigy.net>
Source record: 46666

Jim Kelley wrote:
> Cecil Moore wrote:
>> The definition is relative, not absolute.
>
> It's as absolute as anything we have. Name something absolute we could
> have used instead, Cecil.

Please don't blame the messenger. If we could locate
an atomic clock at the center of gravity of the Big
Bang, we might have an absolute reference point -
(assuming that point is not moving. :-)

>> If the
>> relative speed of the earth is changing, then the
>> length of a second is also changing and we would
>> have no way of knowing.
>
> Not to worry. Any relativistic motion on our part will only effect the
> clocks in the other reference frames. And we can't even communicate
> with any of those people. :-)

But, Jim, that other reference frame may be yesterday
on Earth. A second today may be shorter than a second
was yesterday. I can prove that seconds are getting
shorter. It takes me many more seconds to run 100
yards than it once did.

I'm pretty sure that first second after the Big
Bang wasn't anywhere near the length of a second now.
--
73, Cecil http://www.w5dxp.com

653. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 03:46:40 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <AKVth.26912$sR.424@newssvr29.news.prodigy.net>
Source record: 46667

jimp@specsol.spam.sux.com wrote:
> Cecil Moore <mycall@hotmail.com> wrote:
>> jimp@specsol.spam.sux.com wrote:
>>> There is no such thing as a "Universal Time Frame".
>
>> Isn't assuming that Earth time is an absolute reference
>> a lot like assuming that the Earth is the center of
>> the universe?
>
> Yeah, but I didn't say anything about Earth time or an absolute
> reference.

I was agreeing with you and expanding a bit.
--
73, Cecil http://www.w5dxp.com

654. Re: regarding grounding

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 03:52:30 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <3QVth.1467$bL.538@newsfe08.phx>
Source record: 46668

"You" <You@shadow.orgs> wrote in message
news:You-8F6B54.10311123012007@netnews.worldnet.att.net...
> In article <1169547968.862318.3910@a75g2000cwd.googlegroups.com>,
> "sreenivas" <sreenivas.ss@gmail.com> wrote:
>
> > hi,
> > i would like to know how to measure perfect grounding in installation
> > of telecom systems.
> >
>
> "Perfect Grounding: is an illusion..... and can't be measured.....

Although "ground resistance" can be quantified and is, by the following
method:

Three stakes are driven into the ground at intervals. A measured current is
induced between the first and the last, while the voltage between the first
and the middle stakes is measured. By R=E/I, the ground resistance is
determined.

I last saw this done more than 10 years ago and I have no idea what the
numbers are. However, in poor soils, it must surely lead the installers to
drive more or deeper ground rods to meet the numerical requirments.

I hope this helps.

655. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 03:54:14 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <GRVth.26919$sR.4988@newssvr29.news.prodigy.net>
Source record: 46670

jimp@specsol.spam.sux.com wrote:
> The speed of the Earth relative to what?

Relative to the center of gravity of the Big Bang.

> But since the second is defined in the inertial frame of the Earth, it
> doesn't matter.

How long was a second before the Earth existed? Seems
to me that assuming the age of the universe can be
calculated in Earth seconds is just as bad as assuming
the Earth is the center of the universe. Similar
Earth-centric arguments can be made for both concepts.

> BTW, you do know the second at sea level is different than the second
> on top of a mountain due to gravity?

So how is it possible to calculate the age of the
universe in Earth seconds? Are we talking sea level
seconds or what? Are Black Holes the same age as the
universe?
--
73, Cecil http://www.w5dxp.com

656. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 03:54:39 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <0SVth.51$Yr3.102501@news.sisna.com>
Source record: 46669

```
Cecil Moore wrote:
> jimp@specsol.spam.sux.com wrote:
>> Cecil Moore <mycall@hotmail.com> wrote:
>>> jimp@specsol.spam.sux.com wrote:
>>>> There is no such thing as a "Universal Time Frame".
>>
>>> Isn't assuming that Earth time is an absolute reference
>>> a lot like assuming that the Earth is the center of
>>> the universe?
>>
>> Yeah, but I didn't say anything about Earth time or an absolute
>> reference.
>
> I was agreeing with you and expanding a bit.

Cecil:

I am glad you responded here, I had missed a very good thing in Jims'
text--absolute reference.

I like "Absolute Time Reference" much, much better than "Universal
Time-Frame."

Regards,
JS
```

657. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 04:02:23 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <iZVth.1256$4H1.316@newssvr17.news.prodigy.net>
Source record: 46673

jimp@specsol.spam.sux.com wrote:
> Time is a function of the frame of reference.
>
> Doesn't everyone with at least a half-ass education know that these
> days?

What does it mean when someone says the age of the universe
is 12.5 billion years?
--
73, Cecil http://www.w5dxp.com

658. Re: woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 04:02:58 UTC
From: The Demon Prince of Absurdity <absurd_number_of_nicks@hell.corn>
Message-ID: <SZVth.3102$R65.1994@trnddc01>
Source record: 46672
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,alt.usenet.kooks

```
The Demon Prince of Absurdity wrote:
> On Wed, 24 Jan 2007 12:12:42 -0500, Mark did the cha-cha, and screamed:
>> On Wed, 24 Jan 2007 12:06:08 -0500, "Mark" wrote:
>>
>> you still ain't me but you wait all day for me to post loser
>
> Now, now. Would you rob him of his life's few pleasures? The poor
> frogger can't even wank without being you, your wife, your imaginary
> children, Lloyd, or Andy. Impersonation of most of his owners is all he
> has to get him through the day. Why, without you guys, Wabbit would have
> to commit suicide. His life would be over, finis, kaput. But Wabbit had
> better watch out he doesn't frog /me/ -- Monkey-man'll kick his arse. He
> wuvs me. He'll never have me, but still, unrequited love is so charming,
> innit?
>
You're full of $hit again, ying la moo b1tch
```

659. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 04:03:02 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <TZVth.52$0A3.154775@news.sisna.com>
Source record: 46671

Cecil Moore wrote:
> jimp@specsol.spam.sux.com wrote:
>> The speed of the Earth relative to what?
>
> Relative to the center of gravity of the Big Bang.
>
>> But since the second is defined in the inertial frame of the Earth, it
>> doesn't matter.
>
> How long was a second before the Earth existed? Seems
> to me that assuming the age of the universe can be
> calculated in Earth seconds is just as bad as assuming
> the Earth is the center of the universe. Similar
> Earth-centric arguments can be made for both concepts.
>
>> BTW, you do know the second at sea level is different than the second
>> on top of a mountain due to gravity?
>
> So how is it possible to calculate the age of the
> universe in Earth seconds? Are we talking sea level
> seconds or what? Are Black Holes the same age as the
> universe?

Cecil:

Whoa! Where did you get your bottle of red pills at? Mine ain't THAT GOOD!

Warmest regards,
JS

660. Re: woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 04:03:19 UTC
From: The Demon Prince of Absurdity <absurd_number_of_nicks@hell.corn>
Message-ID: <b_Vth.3142$R65.368@trnddc01>
Source record: 46674
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,alt.usenet.kooks,alt.comics.2000ad

```
Mark@kb9rqz.org wrote:
> On Wed, 24 Jan 2007 20:03:02 GMT, The Demon Prince of Absurdity
> <absurd_number_of_nicks@hell.corn> wrote:
>
>> On Wed, 24 Jan 2007 12:12:42 -0500, Mark did the cha-cha, and screamed:
>>> On Wed, 24 Jan 2007 12:06:08 -0500, "Mark" wrote:
>>>
>>> you still ain't me but you wait all day for me to post loser
>> Now, now. Would you rob him of his life's few pleasures?
>
> idealy yes
>
Sperm is dribbling down your ugly face
>> The poor
>> frogger can't even wank without being you, your wife, your imaginary
>> children, Lloyd, or Andy. Impersonation of most of his owners is all he
>> has to get him through the day. Why, without you guys, Wabbit would have
>> to commit suicide.
>
> I'll be happy to help if needed
>
Lead by example b1tch.
>> His life would be over, finis, kaput. But Wabbit had
>> better watch out he doesn't frog /me/ -- Monkey-man'll kick his arse. He
>> wuvs me. He'll never have me, but still, unrequited love is so charming,
>> innit?
> sickening in this case
> http://kb9rqz.blogspot.com/
>
```

661. Re: woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 04:18:40 UTC
From: Mark@kb9rqz.org
Message-ID: <asbgr255sd23jquftl6nd8kjf497umfl3h@4ax.com>
Source record: 46675
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,alt.usenet.kooks,alt.comics.2000ad

On Thu, 25 Jan 2007 04:03:19 GMT, The Demon Prince of Absurdity
<absurd_number_of_nicks@hell.corn> wrote:

>Mark@kb9rqz.org wrote:
>> On Wed, 24 Jan 2007 20:03:02 GMT, The Demon Prince of Absurdity
>> <absurd_number_of_nicks@hell.corn> wrote:
>>
>>> On Wed, 24 Jan 2007 12:12:42 -0500, Mark did the cha-cha, and screamed:
>>>> On Wed, 24 Jan 2007 12:06:08 -0500, "Mark" wrote:
>>>>
>>>> you still ain't me but you wait all day for me to post loser
>>> Now, now. Would you rob him of his life's few pleasures?
>>
>> idealy yes
>>
>Sperm is dribbling down your ugly face
somehow I don't think this is the real demon
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

662. Re: HT 2 meter antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 04:20:36 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <qeWth.1510$bL.1076@newsfe08.phx>
Source record: 46576

"Jimmie D" <jimmiedee@bellsouth.net> wrote in message
news:6DUsh.3881$jA.1535@bignews1.bellsouth.net...

< snip >

> There are a lot of alternatives betwenn the rubber duck and yagi antenna.
>
>
He's right. I made my first FD contacts on 2M using a TV-twinlead J-pole in a length of PVC pipe. Worked one contact over 100 miles with my 5 watt Yaesu FT-530 very near ground level. (Yes, the other end had a beam.)

The TV-twinlead J-pole is a bit tricky to build. I much prefer using copper water pipe, but I made one of twinlead since that first FD. Twinlead's big advantage: it rolls up and fits in your pocket, as there is no ground plane. With a simple plastic loop at the top, it can be hoisted aloft with kite string or hung by a stray nail on Uncle Hank's porch roof, etc. Rigid, permanent mounting is always optional but never required.

Plus, it gets them ol' RFs away from yor haid.

663. Re: Local station bad harmonics on 80 meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 04:23:49 UTC
From: "R. Scott" <spamtrap@w7psk.net>
Message-ID: <35SdnZniGc5OrSXYnZ2dnUVZ_ojinZ2d@comcast.com>
Source record: 46577

> also check their fundamental and see if you can detect the fm on it, that
> should be obvious enough also and something you could go demonstrate to the
> engineer that may show him they have a problem that developed after their
> certification.

Bingo, I just went to thier fundimental and in FM and WFM I can
understand the radio perfectly ... Nice and clear.

Weirdness.

Scotty W7PSK.

664. Re: woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 04:32:26 UTC
From: The Demon Prince of Absurdity <absurd_number_of_nicks@hell.corn>
Message-ID: <upWth.3147$R65.2586@trnddc01>
Source record: 46578
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,alt.usenet.kooks,alt.comics.2000ad

```
Mark@kb9rqz.org wrote:
> On Thu, 25 Jan 2007 04:03:19 GMT, The Demon Prince of Absurdity
> <absurd_number_of_nicks@hell.corn> wrote:
>
>> Mark@kb9rqz.org wrote:
>>> On Wed, 24 Jan 2007 20:03:02 GMT, The Demon Prince of Absurdity
>>> <absurd_number_of_nicks@hell.corn> wrote:
>>>
>>>> On Wed, 24 Jan 2007 12:12:42 -0500, Mark did the cha-cha, and screamed:
>>>>> On Wed, 24 Jan 2007 12:06:08 -0500, "Mark" wrote:
>>>>>
>>>>> you still ain't me but you wait all day for me to post loser
>>>> Now, now. Would you rob him of his life's few pleasures?
>>> idealy yes
>>>
>> Sperm is dribbling down your ugly face
> somehow I don't think this is the real demon
> http://kb9rqz.blogspot.com/
>
does the tip taste different to you?
```

665. Re: woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 04:41:39 UTC
From: Mark@kb9rqz.org
Message-ID: <p7dgr21li7t32td5110r2jaq56t89vslq3@4ax.com>
Source record: 46579
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,alt.usenet.kooks,alt.comics.2000ad

```
On Thu, 25 Jan 2007 04:32:26 GMT, The Demon Prince of Absurdity
<absurd_number_of_nicks@hell.corn> wrote:

>Mark@kb9rqz.org wrote:
>> On Thu, 25 Jan 2007 04:03:19 GMT, The Demon Prince of Absurdity
>> <absurd_number_of_nicks@hell.corn> wrote:
>>
>>> Mark@kb9rqz.org wrote:
>>>> On Wed, 24 Jan 2007 20:03:02 GMT, The Demon Prince of Absurdity
>>>> <absurd_number_of_nicks@hell.corn> wrote:
>>>>
>>>>> On Wed, 24 Jan 2007 12:12:42 -0500, Mark did the cha-cha, and screamed:
>>>>>> On Wed, 24 Jan 2007 12:06:08 -0500, "Mark" wrote:
>>>>>>
>>>>>> you still ain't me but you wait all day for me to post loser
>>>>> Now, now. Would you rob him of his life's few pleasures?
>>>> idealy yes
>>>>
>>> Sperm is dribbling down your ugly face
>> somehow I don't think this is the real demon
>> http://kb9rqz.blogspot.com/
>>
>does the tip taste different to you?
what tip oh not deman
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com
```

666. Re: woger on RRAPage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 04:50:35 UTC
From: The Demon Prince of Absurdity <absurd_number_of_nicks@hell.corn>
Message-ID: <vGWth.3150$R65.1993@trnddc01>
Source record: 46580
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,alt.usenet.kooks,alt.comics.2000ad

```
Mark@kb9rqz.org wrote:
> On Thu, 25 Jan 2007 04:32:26 GMT, The Demon Prince of Absurdity
> <absurd_number_of_nicks@hell.corn> wrote:
>
>> Mark@kb9rqz.org wrote:
>>> On Thu, 25 Jan 2007 04:03:19 GMT, The Demon Prince of Absurdity
>>> <absurd_number_of_nicks@hell.corn> wrote:
>>>
>>>> Mark@kb9rqz.org wrote:
>>>>> On Wed, 24 Jan 2007 20:03:02 GMT, The Demon Prince of Absurdity
>>>>> <absurd_number_of_nicks@hell.corn> wrote:
>>>>>
>>>>>> On Wed, 24 Jan 2007 12:12:42 -0500, Mark did the cha-cha, and screamed:
>>>>>>> On Wed, 24 Jan 2007 12:06:08 -0500, "Mark" wrote:
>>>>>>>
>>>>>>> you still ain't me but you wait all day for me to post loser
>>>>>> Now, now. Would you rob him of his life's few pleasures?
>>>>> idealy yes
>>>>>
>>>> Sperm is dribbling down your ugly face
>>> somehow I don't think this is the real demon
>>> http://kb9rqz.blogspot.com/
>>>
>> does the tip taste different to you?
> what tip oh not deman
> http://kb9rqz.blogspot.com/
>
You like things stuffed in your backdoor, eh?
```

667. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 05:05:01 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <n1ql84-ie3.ln1@mail.specsol.com>
Source record: 46581

Cecil Moore <mycall@hotmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:
> > Cecil Moore <mycall@hotmail.com> wrote:
> >> jimp@specsol.spam.sux.com wrote:
> >>> There is no such thing as a "Universal Time Frame".
> >
> >> Isn't assuming that Earth time is an absolute reference
> >> a lot like assuming that the Earth is the center of
> >> the universe?
> >
> > Yeah, but I didn't say anything about Earth time or an absolute
> > reference.

> I was agreeing with you and expanding a bit.

OK.

I have a bit of a hair trigger when babblers are present.

--
Jim Pennino

Remove .spam.sux to reply.

668. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 05:05:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <83ql84-ie3.ln1@mail.specsol.com>
Source record: 46582

John Smith I <assemblywizard@gmail.com> wrote:
> Cecil Moore wrote:
> > jimp@specsol.spam.sux.com wrote:
> >> Cecil Moore <mycall@hotmail.com> wrote:
> >>> jimp@specsol.spam.sux.com wrote:
> >>>> There is no such thing as a "Universal Time Frame".
> >>
> >>> Isn't assuming that Earth time is an absolute reference
> >>> a lot like assuming that the Earth is the center of
> >>> the universe?
> >>
> >> Yeah, but I didn't say anything about Earth time or an absolute
> >> reference.
> >
> > I was agreeing with you and expanding a bit.

> Cecil:

> I am glad you responded here, I had missed a very good thing in Jims'
> text--absolute reference.

> I like "Absolute Time Reference" much, much better than "Universal
> Time-Frame."

No surprise there.

--
Jim Pennino

Remove .spam.sux to reply.

669. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 05:05:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <j6ql84-ie3.ln1@mail.specsol.com>
Source record: 46583

John Smith I <assemblywizard@gmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:

> > ...
> > Yeah, so what?
> >
> > Time is a function of the frame of reference.
> >
> > Doesn't everyone with at least a half-ass education know that these
> > days?
> >
> >

> Oh. Whatever was I thinking?

> Then you accept 1.1111 Mhz may not be the same for "the aliens?" And, a
> cesium atom may NOT tell us anything about time at all? (just like the
> ruler tell us NOTHING about our size?)

> Strange ...

Meaningless babble.

--
Jim Pennino

Remove .spam.sux to reply.

670. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 05:05:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <fcql84-ie3.ln1@mail.specsol.com>
Source record: 46584

Cecil Moore <mycall@hotmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:
> > Time is a function of the frame of reference.
> >
> > Doesn't everyone with at least a half-ass education know that these
> > days?

> What does it mean when someone says the age of the universe
> is 12.5 billion years?

Exactly what most people think it means.

--
Jim Pennino

Remove .spam.sux to reply.

671. radioshack UHF corner reflector outdoor antenna feed point impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 05:07:07 UTC
From: CCW N4AOX <wynn9701@bellsouth.net>
Message-ID: <HVWth.15567$uW.9135@bignews3.bellsouth.net>
Source record: 46585

I thought about using one of these for DTV reception. I am curious about the feed point impedance. The antenna (see it at radioshack.com) looks like a corner reflector of sorts. But, it has an extended boom ahead of the feed point dipole with yagi like elements (cut much shorter than the dipole). The feed point is an approx. 1/2 wave split dipole, insulated and center fed.

The feed point 1/2 wave dipole (center fed) would have a 75 ohm impedance free space. Corner reflector design data shows an approx. 70 ohm impedance for a similar configuration, but without the extended boom ahead of the feed dipole.

The RadioShack accompaning literature implies a 200-300 ohm feed point impedance, ie. it states that a 300 / 75 ohm balun and RG-6 feed line should be attached. Has anyone measured, or modeled the feed point impedance of this antenna or have an explanation of how they arrive at 200-300 ohms?

N4AOX
wynn9701@bellsouth.net

672. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 05:07:52 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <ep9dv7msp1@jaszczomp.tahoe.pl>
Source record: 46586

jimp@specsol.spam.sux.com wrote:

> ...
> Meaningless babble.
>

Jim:

Yer a darn hard case ...

<chuckle>
Regards,
JS

673. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 05:09:29 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <9YWth.59$Ur3.98401@news.sisna.com>
Source record: 46587

jimp@specsol.spam.sux.com wrote:

> ...
> Exactly what most people think it means.
>

Jim:

Too bad really, most people are wrong ...

Regards,
JS

674. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 05:15:01 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <0kql84-ie3.ln1@mail.specsol.com>
Source record: 46588

Cecil Moore <mycall@hotmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:
> > The speed of the Earth relative to what?

> Relative to the center of gravity of the Big Bang.

> > But since the second is defined in the inertial frame of the Earth, it
> > doesn't matter.

> How long was a second before the Earth existed? Seems
> to me that assuming the age of the universe can be
> calculated in Earth seconds is just as bad as assuming
> the Earth is the center of the universe. Similar
> Earth-centric arguments can be made for both concepts.

> > BTW, you do know the second at sea level is different than the second
> > on top of a mountain due to gravity?

> So how is it possible to calculate the age of the
> universe in Earth seconds? Are we talking sea level
> seconds or what? Are Black Holes the same age as the
> universe?

Shrug.

One defines a standard and works with the standard.

If you want to define a standard unit of time called the glorksnopes,
be my guest.

--
Jim Pennino

Remove .spam.sux to reply.

675. Re: Dummy load power rating

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 05:36:48 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <QlXth.1914$pH3.1559@newsfe12.phx>
Source record: 46589

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:2tvdr2tcok6vh37t27raq78vf0a9kq69jt@4ax.com...
> On Tue, 23 Jan 2007 21:45:17 -0800, "Sal M. Onella"
> <salmonella@food.poisoning.org> wrote:
>
> >Nobody ever explained it. It's a wonder we didn't make more smoke than
> >light. [AN/SRT-14, AN/SRT-15, for those who've been there & done that.]
>
> Hi OM,
>
> Must've been before they were replaced with the AN/URC-32 (Collins). I
> suppose there weren't enough bulbs to load 500W (much less from about
> a dozen bays). All I remember where conventional dummy loads and the
> time we used the shorting bar on the finals' capacitors and took out
> the island's power station (forgot to throw the power switch off).

The Collins AN/URC-32 was being taught at that same time, the early spring of 1963. I distinctly recall getting a just-barely-passing grade in that beauty because it was the last class in the school. I had my orders and I was all studied-out after 38 weeks.

Each SRT-14/15 had its own bank of bulbs -- six or eight in a wire cage. No idea of the series/parallel connection, though. The -14 did 100 watts. By adding the HPA and its PS, the set became a -15 and did 500 watts.

Never performed the shorting bar trick myself but I saw the aftermath of one of my crew doing it (AN/ULQ-6 - sometime in 1977). He converted much of the line filter to a puddle of slag.

676. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 05:42:45 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <BrXth.67$sy3.142447@news.sisna.com>
Source record: 46590

jimp@specsol.spam.sux.com wrote:

> ...
> Shrug.
>
> One defines a standard and works with the standard.
>
> If you want to define a standard unit of time called the glorksnopes,
> be my guest.
>

Jim:

One last try, then I give up. It is much worse than that, as you are all ready assuming that time exists. Most of us fall error to this. It certainly seems to exist because how else would we get to our appointments on "time."

What we do is confuse time with movement. Certainly you can see that our earth time is based solely on movement, the spinning of the earth. Indeed, we cannot "measure time" if we don't see something moving. Even your watch depends on movement, either the watch spring driving spinning gears, or the movement of electrons in its tiny oscillator.

Take away movement and you take away our time ...

But, there could be a "real time." A time which does not depend upon movement. Indeed, there is good indication that it may exist. As, the big bang would have needed time to have happened in (or, something akin to it.) Otherwise, the big bang IS time and time is only movement. I know, at first it appears rather a circular argument--takes a bit of getting used to.

Just think about it from "time to time" (or, as you are moving about <grin>) ... no reply is necessary.

Regards,
JS

677. Re: Local station bad harmonics on 80 meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 05:49:19 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <01ggr25n7euprbvtdjbplfihuua9g2jae2@4ax.com>
Source record: 46591

On Wed, 24 Jan 2007 17:50:56 -0800, "RST Engineering"
<jim@rstengineering.com> wrote:

>Because he's got a SINGLE frequency interfering with his station.

He reported a single frequency, that does not limit the problem to a
single frequency. I already explained that.

>Care to calculate the order of filter that will do 80 dB as a low pass
>filter?

That is not particularly difficult, quite common in fact. Standard
engineering syllabus teaches us that you enjoy a 6dB/Octave or
10dB/Decade roll-off for each reactive element in a filter. I already
suggested a 6 or 8 pole filter which brings us up to your 80dB for an
entire band, much less a single frequency. Slam dunk simple.

I am quite sure that many here that are experienced in actual bench
work would nod in agreement that the better part of a project is
building the things around the electronics - like an enclosure,
connectors and such - than with the electronics. 8 off the shelf
items (actually 4 pairs) vs. 2 with one of the two needing to be
variable AND tuned? Is that such a major demand on the bench skills
of an amateur radio operator?

>And the Q of the components necessary to make the insertion loss
>negligible at 160 meters?

For receive? C'mon now. And 160M instead of the band he is
interested in, 80M? Anyone can contrive to fail, that's plug simple.
The next set of restrictions will have us going down the garden path
to build a crystal lattice filter for the sake of unneeded
astronomical Q and to achieve spectacularly low insertion loss - turn
up the RF gain.

The issue is moot with the probability the issue revolves around spurs
from corroded, weather beat connections. I have a buddy who suffered
identical issues from an AM station 1 mile away. He wire brushed poor
joints and solved the problem that filters couldn't solve.

73's
Richard Clark, KB7QHC

678. Re: Strayed thinking

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 06:02:12 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <6ghgr25djg0bv101qpcgbh5c9267kd1k7m@4ax.com>
Source record: 46592

On Wed, 24 Jan 2007 18:20:51 GMT, gwatts <gwatts@frontiernet.net>
wrote:

>When I started at that place I was told not to make suggestions
>regarding modifications of existing designs lest I offend the managing
>'engineer'.

I feel your pain.

I followed one bum who couldn't figure out the gozinta from the
comesoutta on a linear IC. The design (heart monitor) went all the
way through to production, then testing, and they wondered why the
processor only produced a flat line for any patient. I also came to
the conclusion that the project engineer was brain dead too (design
review an exercise in swinging rubber stamps). I have forever after
examined the equipment of any hospital I had procedures in. There was
one trademark I didn't want to see.

Consulting can be a tough life of techno-whoring. Praise the idiots
(or repress the urge to strangle) and clean up their mess.

73's
Richard Clark, KB7QHC

679. Re: Strayed thinking

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 06:24:03 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <v0igr2d7nn81ao1vam8asorassej80pebr@4ax.com>
Source record: 46593

On Wed, 24 Jan 2007 16:12:24 -0500, "Jimmie D"
<jimmiedee@bellsouth.net> wrote:

>Oh, you reveal you age.

Hi Jimmie,

I did my apprentice work in TV as a teen in the mid 60s. The real challenge came when I was in the Navy (1970) and we put out a call to the Bay area for folks to donate their TVs for charity (Xmas of 1970), and the ET school would fix them for free for redistribution to the needy.

My crew took in 100-150 TVs and 200 radios and turned out 60 or 70 TVs and nearly all the radios. Some TVs were so old as to have vertically mounted tubes with a mirror to view them. I taught the fellows how to cannibalize the truly dead to resurrect the lame. This was the gift of a Navy technical education. At sea, there was no mall to pull into and go to Radio Shack - you had to make the broken stuff work or the Captain would keel haul you. This demanded every tech know electronics, not board swapping. I never had such an enthusiastic class. These guys learned like sponges, and tackled every problem like a commando gutting a commie.

One interesting incident came when a student asked me for a set of rabbit ears to test his work on a tough-dog TV. My budget was like $20 a week from the Old Man's wallet (and I wasn't going to ask him for that). I told the student that we had a ground bus-bar that ran the length around the repair shed (a former laundry) that would work just as well as it was many wavelengths longs so as to not short the signal (sitting in the middle of SF bay offered huge amounts of available RF).

He connected an alligator clip lead to the antenna input, the other to the bus bar; the lead turned to smoke, the insulation dripped right off like a length of spaghetti, and then fused open.

The astonished crew quickly learned the hazards of poorly engineered grounds in commercial equipment, the hazards of using a service cord to defeat an interlock, and why we in the trade called it a suicide adapter.

73's
Richard Clark, KB7QHC

680. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 06:30:24 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <jcjgr2tf3cf2uj9gf2jq2i0nkcdeijoven@4ax.com>
Source record: 46594

On Wed, 24 Jan 2007 19:14:29 -0800, John Smith I
<assemblywizard@gmail.com> wrote:

>David G. Nagel wrote:
>
> > ...
>> a hp pp laser is not part of the mechanism used to measure cesium
>> vibrations so your comment is irrelevant.
>>
>> Dave N
>
>No, not irrelevant--but, perhaps a poor example, but still, it should
>serve ...

What, a poor example? GIGO.

>If the darn cesium atom won't vibrate consistently at the same freq, you
>are asking me to base beliefs on it? <look-of-shock-and-awe!>

Your belief system makes an unwarranted presumption - THAT is the
basis of poor belief, not the atom's resonance.

>If something as simple as a high power pin-point laser can affect it ...

Another presumption. Perhaps true, useful, but it doesn't invalidate
the simple mechanics. Failure is easy to achieve - it is celebrated
in a speech before Congress every year.

73's
Richard Clark, KB7QHC

681. Re: Dummy load power rating

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 06:59:41 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <6pkgr2dk48kgifn7s8qrip80e2vdus6i44@4ax.com>
Source record: 46595

On Wed, 24 Jan 2007 21:36:48 -0800, "Sal M. Onella"
<salmonella@food.poisoning.org> wrote:

>The Collins AN/URC-32 was being taught at that same time, the early spring
>of 1963.

The Cadillac of HF.

Hi OM,

I was teaching at TI 7 years later. By then we had both added and
retired the TED/RED (VHF/UHF) with the SRC-20-21, added the URC-17c
(RTTY), and topped it off with a "systems" class (for teaching patch
panels, tuners, and encryption) to lengthen out the curriculum. That
was called A4, you probable stopped at A3 (Radar had A5 and A6
sections that I schooled in before becoming an instructor in the Comm
division). The system lab was two identical ship's comm stations
HF/VHF/UHF in all modes. One side held a comm with the other through
dummy load leakage.

73's
Richard Clark, KB7QHC

682. Re: radioshack UHF corner reflector outdoor antenna feed point impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 07:24:24 UTC
From: nm5k@wt.net
Message-ID: <1169709863.994575.125930@v45g2000cwv.googlegroups.com>
Source record: 46596

CCW N4AOX wrote:
> I thought about using one of these for DTV reception. I am curious about
> the feed point impedance. The antenna (see it at radioshack.com) looks like
> a corner reflector of sorts. But, it has an extended boom ahead of the feed
> point dipole with yagi like elements (cut much shorter than the dipole).
> The feed point is an approx. 1/2 wave split dipole, insulated and center
> fed.
>
> The feed point 1/2 wave dipole (center fed) would have a 75 ohm impedance
> free space. Corner reflector design data shows an approx. 70 ohm impedance
> for a similar configuration, but without the extended boom ahead of the feed
> dipole.
>
> The RadioShack accompaning literature implies a 200-300 ohm feed point
> impedance, ie. it states that a 300 / 75 ohm balun and RG-6 feed line should
> be attached. Has anyone measured, or modeled the feed point impedance of
> this antenna or have an explanation of how they arrive at 200-300 ohms?
>
> N4AOX
> wynn9701@bellsouth.net

I've got one of those things. I use it for ATV. I consider it a 300 ohm
feed.
I've never tried to measure or model it, but I'm just trusting the
designers
considered that, being it's semi critical for UHF. Also, the antenna is

quite broadbanded, being a psuedo log periodic of sorts. I imagine the
feed impedance can change a bit with frequency. I doubt it's the exact
same at
600 mhz, as at 420 mhz.
BTW, using all 300 ohm line is less lossy than using the coax and
balun.
Well, unless maybe you use some super duper coax... At 420 mhz, I
always
had better results with the 300 ohm line. The only drawback is a good
bit of loss when it's raining hard.. :/
MK

683. Re: Shooting a wire over a grove of tall trees. What works?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 07:30:07 UTC
From: AC7PN <brunius@rockisland.com>
Message-ID: <1169710207.243677.232160@j27g2000cwj.googlegroups.com>
Source record: 46597

> <chuckle>
> Regards,
> JS
Do you need a picture?

684. Re: Mobile antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 08:00:37 UTC
From: nm5k@wt.net
Message-ID: <1169712036.941016.234100@k78g2000cwa.googlegroups.com>
Source record: 46598

On Jan 24, 12:32 pm, Michael Coslo <m...@psu.edu> wrote:
> I'm putting together a homebrew mobile antenna based more or less on
> "20 dollar mobile antenna" that appeared in QST some years ago.
>
> For those not familiar, the antenna consists of a tapped coil at the
> bottom, a spiral wound lower section, a tapped loading coil, and an
> upper stinger.
>
> My question involves that spiral wound lower section. What would this
> be thought of? As antenna below the loading coil, as an inductor in
> addition to the other two, or some sort of hybrid of antenna/inductor?
>
> How would this be modeled in EZNEC?
>
> Apologies in advance if this was an incredibly stupid thing to ask! 8^)
>
> - 73 de Mike KB3EIA -

Basically the same as my "plastic bugcatchers" I make out of old CB and
ham
fiberglass antennas. The spiral just adds a bit more inductance. How
tight, and
how many turns would determine the overall loading. IE: just a few
spiral turns
won't do much for 80m. Your bigger lumped coil is going to be doing
most of
the dirty work. The spiral will just add a bit. But on the higher bands
like 10m,
that spiral could have quite a bit of effect on tuning.
Myself, I don't use the lower spiral section. Those smaller coil turns
are more
lossy than using the bigger lumped coil. It's really best to just use a
straight
lower section, and have all the loading at the center lumped coil.
That coil is higher Q, and more efficient. You don't want to degrade
things
by using the lower Q lower spiral windings, when you have a big coil
above
those.
My present best antenna is a 6 ft 20 meter hamstick that I butchered
up.
I did away with all the thin coil windings, but kept enough wire so I
could have a
fairly straight section at the bottom. I'll wrap maybe a turn or two

just to keep
it in place better, but I don't consider it part of the coil. I wanted
max performance.
So..Instead of placing the coil at the center of the fiberglass whip, I
mounted it
nearly at the top. The top one foot of the six foot whip is where the
coil is.
Then I have a 5 ft stinger whip attached to the top of the glass whip.
That makes it a true center fed, with 5 ft under and above the coil.
The tapped coil at the bottom is the matching device. That can vary to
the
install.. The higher you can mount the loading coil, the better,
unless
maybe the stinger is too short. I don't have that problem with a 5 ft
stinger.
The antenna is a stout talker. Even on 80m. And didn't cost me a cent.
All was
junk I aquired... BTW, for added effect, I often extend the base below
the
coil with a 3 ft hustler mast. In that case, I have 8 ft below the
coil, and
5 above. In that "parked" mode, it really kicks butt. Mine tunes 80-17
with the 5 ft stinger. On 15-12-10, I use shorter fixed length stingers
to tune, with
the coil bypassed. Naturally, the usual low band 11 ft antenna is a bit
tall for the
highest bands.. :/. I actually don't work the higher bands much. I'm on
40 in the
day, 80 at night most all the time. But I can work all the others if I
want to.
MK

685. Re: Shooting a wire over a grove of tall trees. What works?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 08:24:57 UTC
From: Gary Smith <vk3@aapt.net.au>
Message-ID: <ep9pgq$581$1@news-01.bur.connect.com.au>
Source record: 46599

i used a "surf rod", a fishing rod built for fishing from the beach, big and strong. i tied about 4-5 old wheelnuts (or anything heavy), worked really good. make sure the spool is full of fishing line first, and that its strong line. and you may snap the line trying so you want to start small and build up the weight.

This is presuming there is nothing/no one nearby that can be damaged/injured.

Good luck.

Gary

"AC7PN" <brunius@rockisland.com> wrote in message news:1169710207.243677.232160@j27g2000cwj.googlegroups.com...
>> <chuckle>
>> Regards,
>> JS
> Do you need a picture?
>

686. Re: Shooting a wire over a grove of tall trees. What works?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 08:51:10 UTC
From: Ian Jackson <IanJacksonRemoveThisBit@g3ohx.demon.co.uk>
Message-ID: <A8WqipK+9GuFFwdk@g3ohx.demon.co.uk>
Source record: 46600

In message <ep9pgq$581$1@news-01.bur.connect.com.au>, Gary Smith
<vk3@aapt.net.au> writes
>i used a "surf rod", a fishing rod built for fishing from the beach, big and
>strong. i tied about 4-5 old wheelnuts (or anything heavy), worked really
>good. make sure the spool is full of fishing line first, and that its strong
>line. and you may snap the line trying so you want to start small and build
>up the weight.
>
>This is presuming there is nothing/no one nearby that can be
>damaged/injured.
>
>Good luck.
>
>Gary
>
>"AC7PN" <brunius@rockisland.com> wrote in message
>news:1169710207.243677.232160@j27g2000cwj.googlegroups.com...
>>> <chuckle>
>>> Regards,
>>> JS
>> Do you need a picture?
>>
>
>
In the past (1961) I have used a bow and arrow (borrowed from an archery
enthusiast), and also a rocket (fireworks type) launched 'mortar style'
from a cardboard tube. Both pulled up linen thread (carefully coiled up
on the ground), which I then used to pull up nylon twine, then thicker
nylon etc.
Ian.
--

687. Re: QEX Magazines WTB

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 10:39:00 UTC
From: Barry Lennox <bt.l.barryl@spamgourmet.com>
Message-ID: <iivgr2tc426dirmiieue7ddju0b8l77439@4ax.com>
Source record: 46601
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,sci.electronics.design

On Wed, 24 Jan 2007 18:04:46 -0600, "amdx" <amdx@knology.net> wrote:

>
>"Cecil Moore" <mycall@hotmail.com> wrote in message
>news:eDQth.75396$wP1.43730@newssvr14.news.prodigy.net...
>> amdx wrote:
>>> I'm interested in buying a collection of QEX magazines.
>>
>> They are available on CD from the ARRL.
>> --
>> 73, Cecil http://www.w5dxp.com
>
>
>Thanks, but I would prefer the magazines.
> Mike
>

Damm! I dumped a few years worth, when I bought the ARRL CD. Now I keep up by buying the annual CD from ARRL, in each Feb, or thereabouts. It has QEX, QST and NCJ on it.

The CQ one is also pretty good, even although it has some articles withheld because of copyright arguments, mainly fractal antennas.

Barry

688. Resonating and Matching To A 476 MHz Yagi Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 11:12:29 UTC
From: ian_chappel@hotmail.com
Message-ID: <1169723549.705334.102080@s48g2000cws.googlegroups.com>
Source record: 46602

Hi,
Without purchasing expensive equipment I have a UHF hand held transciever and I have disconnected the flexible < 1/4 wave antenna and connected some coax (this assumes the output impedence of the handheld into the flexible antena was 50-70 ohms). I have designed and built a 10 element Yagi.

To optimise the matching to the driven element I used a gamma match, the reality is I don't know if the driven element is at resonant frequency let alone correctly adjusting the gamma match.

I was just reading another posting on rec.radio.amateur.antenna, where the author suggested using 300 ohm TV ribbon as it is less lossy than a lot of coax at UHF (476 MHz). Is this true? 300 ohm ribbon will remove the need for a gamma match at the antenna end, but at the transmitter end an unbalanced to balanced (50 to 300 ohm) balun will be required. Would a normal TV set balun suffice for 0.5 watt of transmit power?

To resonate the driven element I have contemplated using a UHF Gate Dip Oscillator (GDO), has anyone succeed in doing this with minimal test equipment such as a GDO? If the folded driven element resonates at 476 MHz I will accept that it's impedence is 300 ohms.

All this may seem very disjoint but it is why this hobby has never ceased to fascinate me.

Thanks in advance for any useful suggestions.
Ian

689. Re: Shooting a wire over a grove of tall trees. What works?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 12:04:38 UTC
From: Edward Feustel <efeustel@hughes.net>
Message-ID: <tJmdndETFfBDASXYnZ2dnUVZ_ragnZ2d@giganews.com>
Source record: 46603

"AC7PN" <brunius@rockisland.com> wrote in message
news:1169696182.858824.114810@v33g2000cwv.googlegroups.com...
>I need to clear a grove of 100ft pine trees and it just ain't
> happenning. My sling shot is only making it to a height of about 70ft.
> Way short.
>
> I've built a canon from sched 40 PVC with a 4" section reduced to a to
> 1" section which is about 4ft long. I'm using lighter fluid and a spark
> ignition. A 1" dowel weighted with 2oz of lead fits in the 2" PVC with
> a close fit. This still doesn't get over the grove of trees. It seems
> the lighter fluid just doesn't have enough power. Maybe I'm putting in
> too much or not enough fluid. How do you know if you have the right
> fuel air mix? I've heard that some use butane or propane in these.
>
> Thanks
> Bob Brunius
>
Based on my last experience, I suggest that you borrow a compound hunting
cross bow
and no-point fishing arrows (they are substantially heavier) with at least a
50 lb pull.
Use a fishing reel with fishing line that is light but strong. If the line
is too light it will
probably break. Use the fishing line to pull over twine or something heavier
and
then a multicore Dacron rope. Allow for enough line to go over the "grove"
by about 3 times

I use the end ropes to support pulleys and lines through the pulleys to
support the
antennas. One pulley rope is tied off. The other has 5 8-gallon containers
of
anti-freeze that serve as the balancing counterweight for the 220 foot
antenna
of #10 copperweld that is centerfed with 600 ohm ladder line.

Regards,
Ed, N5EI

690. Re: Resonating and Matching To A 476 MHz Yagi Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 12:25:22 UTC
From: Bob Bob <bob3bob3@suddenlink.net>
Message-ID: <i6km84-a6o.ln1@p400bob.personal.cox.net>
Source record: 46604

Hi Ian

Sounds like you are having fun!

- I would suggest that using a GDO for meaningful antenna work at UHF would incur quite a few inaccuracies. The big problem is how to couple it to the element itself without detuning it by its presence. You will hear some howls of protest but I personally wouldn't bother to try making it a resonant length. It's really not that important for radiation efficiency. The gamma match introduces a huge reactance that also has to be allowed for.

- Using Ocarc's loss calculator 300r ribbon runs about 2.5dB for 100ft/30m. 450r open window ribbon runs about 0.7dB for the same distance! (http://www.ocarc.ca/coax.htm) RG213 (approx 1/2") coax is around 5dB. Keep in mind that ribbon bends and proximity to objects will cause problems that coax wont.

- Converting coax to a balanced feed at the antenna can be very easily done with a 4:1 coax balun. This is basically a extra loop of 1/2 wave length coax built like http://www.n-lemma.com/calcs/dipole/balun.htm You will still need to match at the antenna in some way. Maybe replace the gamma with a hairpin, use a delta match or maybe increase the number of driven elements folded dipole style to get the Z up to 200 ohms. A yagi feedpoint Z is going to be maybe 10-20r. One extra driven element (simple folded dipole) will multiply that by 4 and a third element another 4 times. That will be close enough to 200 ohms to work fine. You can also play with the extra element diameters to vary the final feed Z.

- I personally wouldnt use a UHF TV balun without testing first. The problem is quality of manufacture!

Hope you find this useful. Only some of my ideas!

Cheers Bob W5/VK2YQA

ian_chappel@hotmail.com wrote:

> To optimise the matching to the driven element I used a gamma
> match, the reality is I don't know if the driven element is at resonant
> frequency let alone correctly adjusting the gamma match.
>
> I was just reading another posting on rec.radio.amateur.antenna,
> where the author suggested using 300 ohm TV ribbon as it is less lossy
> than a lot of coax at UHF (476 MHz). Is this true? 300 ohm ribbon will
> remove the need for a gamma match at the antenna end, but at the
> transmitter end an unbalanced to balanced (50 to 300 ohm) balun will

> be required. Would a normal TV set balun suffice for 0.5 watt of
> transmit power?
>
> To resonate the driven element I have contemplated using a UHF
> Gate Dip Oscillator (GDO), has anyone succeed in doing this with
> minimal test equipment such as a GDO? If the folded driven element
> resonates at 476 MHz I will accept that it's impedence is 300 ohms.

691. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 13:41:34 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <is2uh.22672$yC5.9313@newssvr27.news.prodigy.net>
Source record: 46605

jimp@specsol.spam.sux.com wrote:
> Cecil Moore <mycall@hotmail.com> wrote:
>> What does it mean when someone says the age of the universe
>> is 12.5 billion years?
>
> Exactly what most people think it means.

Seems like an argumentum ad populum. If we lived
near a black hole, our seconds could be 10^6 times
longer than they are now. What would most people
think then?

Using a relative time standard that obeys the rules
of relativity to assert the absolute age of the
universe seems really strange to me.
--
73, Cecil http://www.w5dxp.com

692. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 13:52:07 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <bC2uh.22674$yC5.6817@newssvr27.news.prodigy.net>
Source record: 46606

jimp@specsol.spam.sux.com wrote:
> One defines a standard and works with the standard.

The point is that our "standard" second changes
with velocity and we have no idea what our
velocity is or was or will be. We are defining
our average velocity as a constant without any
evidence whatsoever to support that definition.
That's no different from defining our average
position as the center of the universe.
--
73, Cecil http://www.w5dxp.com

693. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 13:58:20 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <0l2uh.22675$yC5.6226@newssvr27.news.prodigy.net>
Source record: 46607

John Smith I wrote:
> What we do is confuse time with movement.
> Take away movement and you take away our time ...

From: "The End of Time", by Barbour?
--
73, Cecil http://www.w5dxp.com

694. Re: FM Transmitter in a hot air balloon?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 14:16:42 UTC
From: Ron J <bigschlong@gmail.com>
Message-ID: <1169734602.032989.34210@m58g2000cwm.googlegroups.com>
Source record: 46608

On Jan 24, 6:55 pm, j...@specsol.spam.sux.com wrote:
>Well, since it wouldn't conform to any of the standard charts, they
> would have to use a real field strength meter.
>
> --
> Jim Pennino

Real field strength meters? Like these:
http://www.pi-usa.com/products.htm . I thought field strength
measurements require real field strength meters. (?)

695. Re: Strayed thinking

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 14:24:00 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <w33uh.4562$jA.1708@bignews1.bellsouth.net>
Source record: 46609

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:v0igr2d7nn81ao1vam8asorassej80pebr@4ax.com...
> On Wed, 24 Jan 2007 16:12:24 -0500, "Jimmie D"
> <jimmiedee@bellsouth.net> wrote:
>
>>Oh, you reveal you age.
>
> Hi Jimmie,
>
> I did my apprentice work in TV as a teen in the mid 60s. The real
> challenge came when I was in the Navy (1970) and we put out a call to
> the Bay area for folks to donate their TVs for charity (Xmas of 1970),
> and the ET school would fix them for free for redistribution to the
> needy.
>
> My crew took in 100-150 TVs and 200 radios and turned out 60 or 70 TVs
> and nearly all the radios. Some TVs were so old as to have vertically
> mounted tubes with a mirror to view them. I taught the fellows how to
> cannibalize the truly dead to resurrect the lame. This was the gift
> of a Navy technical education. At sea, there was no mall to pull
> into and go to Radio Shack - you had to make the broken stuff work or
> the Captain would keel haul you. This demanded every tech know
> electronics, not board swapping. I never had such an enthusiastic
> class. These guys learned like sponges, and tackled every problem
> like a commando gutting a commie.
>
> One interesting incident came when a student asked me for a set of
> rabbit ears to test his work on a tough-dog TV. My budget was like
> $20 a week from the Old Man's wallet (and I wasn't going to ask him
> for that). I told the student that we had a ground bus-bar that ran
> the length around the repair shed (a former laundry) that would work
> just as well as it was many wavelengths longs so as to not short the
> signal (sitting in the middle of SF bay offered huge amounts of
> available RF).
>
> He connected an alligator clip lead to the antenna input, the other to
> the bus bar; the lead turned to smoke, the insulation dripped right
> off like a length of spaghetti, and then fused open.
>
> The astonished crew quickly learned the hazards of poorly engineered
> grounds in commercial equipment, the hazards of using a service cord
> to defeat an interlock, and why we in the trade called it a suicide
> adapter.
>

> 73's
> Richard Clark, KB7QHC

I always called them fool killers, especilly the ones that used gator clips
on the end..

696. Re: Yagi question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 15:21:01 UTC
From: HankG <hank@invalid.com>
Message-ID: <GsmdnY2S54ZLVyXYnZ2dnUVZ_rGinZ2d@comcast.com>
Source record: 46610

"Caveat Lector" <CL@nowhere.com> wrote in message
news:D0Bsh.597$4D2.393@newsfe13.phx...
> How about a 7dB 2M Yagi for $7 -- less if you have some PVC and Welding
Rods
>
> See ARRL Article at URL:
> http://www.arrl.org/tis/info/pdf/9304054.pdf
>
> 73 - CL

Interesting article. Where (what) is the matching device? I must have
missed it.

HankG
>
> "Nelson Blaha" <nelson.blaha@gmail.com> wrote in message
> news:1169348220.250163.308630@q2g2000cwa.googlegroups.com...
> > I'm looking to build a 2m yagi, but I haven't got any money. Can I
> > make one out of aluminum coat hangers? I also have a 4-foot section of
> > 1" PVC pipe laying around, and glue, tools etc.
> >
> > Nelson Blaha
> > Call-sign in the mail
> >
>
>

697. Re: Yagi question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 15:33:54 UTC
From: gwatts <gwatts@frontiernet.net>
Message-ID: <C54uh.1259$B25.40@news01.roc.ny>
Source record: 46611

HankG wrote:
> "Caveat Lector" <CL@nowhere.com> wrote in message
> news:D0Bsh.597$4D2.393@newsfe13.phx...
>
>>How about a 7dB 2M Yagi for $7 -- less if you have some PVC and Welding
>
> Rods
>
>>See ARRL Article at URL:
>>http://www.arrl.org/tis/info/pdf/9304054.pdf
>>
>>73 - CL
>
>
> Interesting article. Where (what) is the matching device? I must have
> missed it.
>
> HankG

Wire clamps on the ends of the driven element that allow you to adjust
the length of the D-E for minimum SWR. See Fig. 1 and page 2, bottom of
column one.

>
>>"Nelson Blaha" <nelson.blaha@gmail.com> wrote in message
>>news:1169348220.250163.308630@q2g2000cwa.googlegroups.com...
>>
>>>I'm looking to build a 2m yagi, but I haven't got any money. Can I
>>>make one out of aluminum coat hangers? I also have a 4-foot section of
>>>1" PVC pipe laying around, and glue, tools etc.
>>>
>>>Nelson Blaha
>>>Call-sign in the mail
>>>
>>
>>
>
>

698. Re: Yagi question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 15:37:24 UTC
From: james <disavowed@uncle.net>
Message-ID: <45B8CEB4.BCC6D1C3@uncle.net>
Source record: 46612

here are two links for you to get you on the air fast
and 'on the cheap' ! (but are not Yagi design)

both of these can use copper wire you may already have,
or find in the recycle or trash pile.

half square for 2m (not a yagi but fast and cheap to build direct fed no
match)

http://www.cebik.com/vhf/hs.html

Moxon for 2m (again, not the yagi)

http://www.cebik.com/moxon/moxbld.html

similar gain as a 2 element yagi but takes up less space
and it is direct coax fed so no matching needed !

good luck with the project !

james (also used when making reservations)

699. Re: HT 2 meter antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 15:51:55 UTC
From: james <disavowed@uncle.net>
Message-ID: <45B8D21B.FEB20DE5@uncle.net>
Source record: 46613

hi joe

this will fit in a suitcase if you use stranded copper #14 thhn
wire to build it. use sched 20 pvc (don't solvent weld it) so you
can just slip it together for use with short coax to the ht.

the half square for 2m nice gain but it is directional.

http://www.cebik.com/vhf/hs.html

73 james

700. Re: Shooting a wire over a grove of tall trees. What works?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 15:59:57 UTC
From: John Doe <hgorden@adelphia.net>
Message-ID: <4cGdnVHe8cplTiXYnZ2dnUVZ_vipnZ2d@adelphia.com>
Source record: 46614

Your in the right area, but you might want to use a POTATO CANON - like the fisherman due at the beach to get the line out a couple hundred yards.

They use a metal pipe or heavy duty plastic pipe, with 1 end buried in the sand and a small pinhole to light it off (for safety, you could use some kind of fuse in the hole)..

Most of them use hairspray and a piece of POTATO with the hook embedded in it.. abt 4-5 squirts of the hairspray and the potato.

My $00.02
73's

"Edward Feustel" <efeustel@hughes.net> wrote in message
news:tJmdndETFfBDASXYnZ2dnUVZ_ragnZ2d@giganews.com...
>
> "AC7PN" <brunius@rockisland.com> wrote in message
> news:1169696182.858824.114810@v33g2000cwv.googlegroups.com...
>>I need to clear a grove of 100ft pine trees and it just ain't
>> happenning. My sling shot is only making it to a height of about 70ft.
>> Way short.
>>
>> I've built a canon from sched 40 PVC with a 4" section reduced to a to
>> 1" section which is about 4ft long. I'm using lighter fluid and a spark
>> ignition. A 1" dowel weighted with 2oz of lead fits in the 2" PVC with
>> a close fit. This still doesn't get over the grove of trees. It seems
>> the lighter fluid just doesn't have enough power. Maybe I'm putting in
>> too much or not enough fluid. How do you know if you have the right
>> fuel air mix? I've heard that some use butane or propane in these.
>>
>> Thanks
>> Bob Brunius
>>
> Based on my last experience, I suggest that you borrow a compound hunting
> cross bow
> and no-point fishing arrows (they are substantially heavier) with at least
> a 50 lb pull.
> Use a fishing reel with fishing line that is light but strong. If the line
> is too light it will
> probably break. Use the fishing line to pull over twine or something
> heavier and
> then a multicore Dacron rope. Allow for enough line to go over the "grove"
> by about 3 times
>
> I use the end ropes to support pulleys and lines through the pulleys to

> support the
> antennas. One pulley rope is tied off. The other has 5 8-gallon
> containers of
> anti-freeze that serve as the balancing counterweight for the 220 foot
> antenna
> of #10 copperweld that is centerfed with 600 ohm ladder line.
>
> Regards,
> Ed, N5EI
>

701. FYI: Homebrew Antenna Round Up

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 16:44:00 UTC
From: Caveat Lector <CL@nowhere.com>
Message-ID: <l75uh.2040$pH3.867@newsfe12.phx>
Source record: 46615

Hundreds at URL:
http://ac6v.com/antprojects.htm

Just revamped and organized. All links checked 24 Jan, 2007

CL

702. Re: radioshack UHF corner reflector outdoor antenna feed point impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 16:53:23 UTC
From: Tam/WB2TT <t-tammaru@c0mca$t.net>
Message-ID: <Bv-dnaO84vfjfSXYnZ2dnUVZ_sapnZ2d@comcast.com>
Source record: 46616

"CCW N4AOX" <wynn9701@bellsouth.net> wrote in message
news:HVWth.15567$uW.9135@bignews3.bellsouth.net...
>I thought about using one of these for DTV reception. I am curious about
>the feed point impedance. The antenna (see it at radioshack.com) looks
>like a corner reflector of sorts. But, it has an extended boom ahead of
>the feed point dipole with yagi like elements (cut much shorter than the
>dipole). The feed point is an approx. 1/2 wave split dipole, insulated and
>center fed.
>
> The feed point 1/2 wave dipole (center fed) would have a 75 ohm impedance
> free space. Corner reflector design data shows an approx. 70 ohm
> impedance for a similar configuration, but without the extended boom ahead
> of the feed dipole.
>
> The RadioShack accompaning literature implies a 200-300 ohm feed point
> impedance, ie. it states that a 300 / 75 ohm balun and RG-6 feed line
> should be attached. Has anyone measured, or modeled the feed point
> impedance of this antenna or have an explanation of how they arrive at
> 200-300 ohms?
>
> N4AOX
> wynn9701@bellsouth.net
>
>
>
Sounds like my antenna, if the current price is 24.99. It is 300 Ohm output.
It's called a Corner Reflector Yagy. I would'n get too exited about the
impedance, but you can get some idea about the gain by going to
http://www.hdtvprimer.com/ANTENNAS/comparing.htmlI
Scroll down to the Radio Shck VU75, and look at the UHF gain. Keep in mind
this is an old design consumer product, and probably predates any computer
simulations. More than likely (hopefully) the 300 Ohms means it works better
feeding a 300 Ohm load than a 75 Ohm load. In general, when you add
directors to a dipole the impedance goes down from 75 Ohms, not up. They may
have gotten the impedance up because the feed point is several inches from
the center of the driven element.

I am using it with a 300:75 Ohm transformer at the feed point, feeding a
Channel Master UHF only ptreamp, mounted just below the rotator. Feed line
is about 50 feet of RG6. On good days I get HD stations from 65 miles away.
Antenna is at about 25 feet.

Tam

703. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 17:00:46 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <epaojudmd1@news.service.uci.edu>
Source record: 46621

Cecil Moore wrote:

>> Not to worry. Any relativistic motion on our part will only effect
>> the clocks in the other reference frames. And we can't even
>> communicate with any of those people. :-)
>
>
> But, Jim, that other reference frame may be yesterday
> on Earth. A second today may be shorter than a second
> was yesterday. I can prove that seconds are getting
> shorter. It takes me many more seconds to run 100
> yards than it once did.

> I'm pretty sure that first second after the Big
> Bang wasn't anywhere near the length of a second now.

The point is that you have to compare clocks in different reference frames to know it. The second remains the same in each frame of reference. Since everything we perceive is perceived with respect to our own reference frame, we really need only concern ourselves with our own reference frame. But you can still worry about the other ones if you really want to. ;-)

73, Jim AC6XG

704. Re: QEX Magazines WTB

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 17:01:58 UTC
From: Bill Janssen <billj@ieee.org>
Message-ID: <ao5uh.1263$B25.899@news01.roc.ny>
Source record: 46617
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,sci.electronics.design

Barry Lennox wrote:
> On Wed, 24 Jan 2007 18:04:46 -0600, "amdx" <amdx@knology.net> wrote:
>
>
>> "Cecil Moore" <mycall@hotmail.com> wrote in message
>> news:eDQth.75396$wP1.43730@newssvr14.news.prodigy.net...
>>
>>> amdx wrote:
>>>
>>>> I'm interested in buying a collection of QEX magazines.
>>>>
>>> They are available on CD from the ARRL.
>>> --
>>> 73, Cecil http://www.w5dxp.com
>>>
>> Thanks, but I would prefer the magazines.
>> Mike
>>
>>
>
> Damm! I dumped a few years worth, when I bought the ARRL CD. Now I
> keep up by buying the annual CD from ARRL, in each Feb, or
> thereabouts. It has QEX, QST and NCJ on it.
>
> The CQ one is also pretty good, even although it has some articles
> withheld because of copyright arguments, mainly fractal antennas.
>
> Barry
>
I still have most issues (maybe all). But shipping them to someone, even
to the state next door,
would probably be too costly. They will probably go into a dumpster some
day.

Bill K7NOM

705. Re: Shooting a wire over a grove of tall trees. What works?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 17:10:39 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <tw5uh.143$zq3.36901@news.sisna.com>
Source record: 46618

AC7PN wrote:
>> <chuckle>
>> Regards,
>> JS
> Do you need a picture?
>

AC7PN:

I fear for your safety. If you really are going to fire that "potato gun", please do use the proper safety equipment and especially safety glasses.

Frankly, any gun made out of pvc sched 40 pipe stands the hair on the back of my head up ...

It is a free country, use caution and proceed at your own peril.

Warmest regards,
JS

706. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 17:15:01 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <au4n84-d7s.ln1@mail.specsol.com>
Source record: 46619

Cecil Moore <mycall@hotmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:
> > Cecil Moore <mycall@hotmail.com> wrote:
> >> What does it mean when someone says the age of the universe
> >> is 12.5 billion years?
> >
> > Exactly what most people think it means.

> Seems like an argumentum ad populum. If we lived
> near a black hole, our seconds could be 10^6 times
> longer than they are now. What would most people
> think then?

Since that would change the defined conditions for the unit of time,
the number would probably change.

But, since we couldn't live that close to a black hole, the point is
moot.

If we lived on Mars, the unit of time would be different too because
the defined conditions for the standard would have changed.

So if we ever colonize Mars, how do we keep Earth and Mars clocks
in sync?

Simple, we define a set of standard conditions that applies to every
place. Any place that doesn't have those standard conditions gets
a correction, just like GPS satellites do.

The second becomes whatever it is defined to be.

> Using a relative time standard that obeys the rules
> of relativity to assert the absolute age of the
> universe seems really strange to me.

Your're playing semantic games Cecil.

All measurments of everything are relative to some standard which is
pretty arbitrary and doesn't matter as long as everyone uses the
same standard.

The standard for time for human beings is based on a particular
property of cesium on a defined Earth.

Using that standard, the age of the universe is what it is.

Use a different standard, you get a different answer.

So what?

--
Jim Pennino

Remove .spam.sux to reply.

707. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 17:15:28 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <NA5uh.144$qy3.140426@news.sisna.com>
Source record: 46620

Richard Clark wrote:

> ...

Richard:

You probably won't believe this, but I believe if I place a glass of water in my microwave and nuke it, I affect the vibration plane of the water molecules in there!!!

Warmest regards,
JS

708. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 17:22:34 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <VG5uh.9542$Cg1.400@bignews8.bellsouth.net>
Source record: 46622

<jimp@specsol.spam.sux.com> wrote in message
news:au4n84-d7s.ln1@mail.specsol.com...
> Cecil Moore <mycall@hotmail.com> wrote:
>> jimp@specsol.spam.sux.com wrote:
>> > Cecil Moore <mycall@hotmail.com> wrote:
>> >> What does it mean when someone says the age of the universe
>> >> is 12.5 billion years?
>> >
>> > Exactly what most people think it means.
>
>> Seems like an argumentum ad populum. If we lived
>> near a black hole, our seconds could be 10^6 times
>> longer than they are now. What would most people
>> think then?
>
> Since that would change the defined conditions for the unit of time,
> the number would probably change.
>
> But, since we couldn't live that close to a black hole, the point is
> moot.
>
> If we lived on Mars, the unit of time would be different too because
> the defined conditions for the standard would have changed.
>
> So if we ever colonize Mars, how do we keep Earth and Mars clocks
> in sync?
>
> Simple, we define a set of standard conditions that applies to every
> place. Any place that doesn't have those standard conditions gets
> a correction, just like GPS satellites do.
>
> The second becomes whatever it is defined to be.
>
>> Using a relative time standard that obeys the rules
>> of relativity to assert the absolute age of the
>> universe seems really strange to me.
>
> Your're playing semantic games Cecil.
>
> All measurments of everything are relative to some standard which is
> pretty arbitrary and doesn't matter as long as everyone uses the
> same standard.
>
> The standard for time for human beings is based on a particular

> property of cesium on a defined Earth.
>
> Using that standard, the age of the universe is what it is.
>
> Use a different standard, you get a different answer.
>
> So what?
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

709. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 17:23:01 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <kH5uh.9543$Cg1.2613@bignews8.bellsouth.net>
Source record: 46623

<jimp@specsol.spam.sux.com> wrote in message
news:au4n84-d7s.ln1@mail.specsol.com...
> Cecil Moore <mycall@hotmail.com> wrote:
>> jimp@specsol.spam.sux.com wrote:
>> > Cecil Moore <mycall@hotmail.com> wrote:
>> >> What does it mean when someone says the age of the universe
>> >> is 12.5 billion years?
>> >
>> > Exactly what most people think it means.
>
>> Seems like an argumentum ad populum. If we lived
>> near a black hole, our seconds could be 10^6 times
>> longer than they are now. What would most people
>> think then?
>
> Since that would change the defined conditions for the unit of time,
> the number would probably change.
>
> But, since we couldn't live that close to a black hole, the point is
> moot.
>
> If we lived on Mars, the unit of time would be different too because
> the defined conditions for the standard would have changed.
>
> So if we ever colonize Mars, how do we keep Earth and Mars clocks
> in sync?
>
> Simple, we define a set of standard conditions that applies to every
> place. Any place that doesn't have those standard conditions gets
> a correction, just like GPS satellites do.
>
> The second becomes whatever it is defined to be.
>
>> Using a relative time standard that obeys the rules
>> of relativity to assert the absolute age of the
>> universe seems really strange to me.
>
> Your're playing semantic games Cecil.
>
> All measurments of everything are relative to some standard which is
> pretty arbitrary and doesn't matter as long as everyone uses the
> same standard.
>
> The standard for time for human beings is based on a particular

> property of cesium on a defined Earth.
>
> Using that standard, the age of the universe is what it is.
>
> Use a different standard, you get a different answer.
>
> So what?
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

710. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 17:25:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <f85n84-d7s.ln1@mail.specsol.com>
Source record: 46624

John Smith I <assemblywizard@gmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:

> > ...
> > Shrug.
> >
> > One defines a standard and works with the standard.
> >
> > If you want to define a standard unit of time called the glorksnopes,
> > be my guest.
> >

> Jim:

> One last try, then I give up. It is much worse than that, as you are
> all ready assuming that time exists. Most of us fall error to this. It
> certainly seems to exist because how else would we get to our
> appointments on "time."

Babble.

> What we do is confuse time with movement. Certainly you can see that
> our earth time is based solely on movement, the spinning of the earth.
> Indeed, we cannot "measure time" if we don't see something moving. Even
> your watch depends on movement, either the watch spring driving spinning
> gears, or the movement of electrons in its tiny oscillator.

Utter nonsense.

Time on Earth hasn't been based on the spinning of the Earth for
40 years.

You are about 300 years behind the times.

> Take away movement and you take away our time ...

Utter nonsense.

> But, there could be a "real time." A time which does not depend upon
> movement. Indeed, there is good indication that it may exist. As, the
> big bang would have needed time to have happened in (or, something akin
> to it.) Otherwise, the big bang IS time and time is only movement. I
> know, at first it appears rather a circular argument--takes a bit of
> getting used to.

Babbling word salad.

> Just think about it from "time to time" (or, as you are moving about
> <grin>) ... no reply is necessary.

> Regards,
> JS

Welcome to the 17th century.

--
Jim Pennino

Remove .spam.sux to reply.

711. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 17:25:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <7k5n84-d7s.ln1@mail.specsol.com>
Source record: 46625

Cecil Moore <mycall@hotmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:
> > One defines a standard and works with the standard.

> The point is that our "standard" second changes
> with velocity and we have no idea what our
> velocity is or was or will be. We are defining
> our average velocity as a constant without any
> evidence whatsoever to support that definition.
> That's no different from defining our average
> position as the center of the universe.

Since there is no such thing as an absolute frame of reference or
absolute velocity, your point is meaningless.

Time is defined with a velocity of zero relative to the Earth, not
Mars, the Crab Nebula, nor the center of the universe.

The standard is a measurement standard, not some revelation into the
meaning of life and everything.

--
Jim Pennino

Remove .spam.sux to reply.

712. Re: Shooting a wire over a grove of tall trees. What works?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 17:26:47 UTC
From: "R. Scott" <lintardspamtrap@scotts-home.net>
Message-ID: <U8qdnVsgH53IdSXYnZ2dnUVZ_qGjnZ2d@comcast.com>
Source record: 46526

local ham here with lots of trees similar found an archer in his group.

He told him what he wanted and the archer even asked what branch and which side. Hit them all with perfect precision. Using heavy test they then pulled small rope then larger and larger rope back and forth.

Last heavy duty rope loop had a pulley with pull rope already strung through.

Find an archer rather than try it yourself.

Scotty W7PSK

713. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 17:26:59 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <2L5uh.9544$Cg1.3431@bignews8.bellsouth.net>
Source record: 46527

<jimp@specsol.spam.sux.com> wrote in message
news:au4n84-d7s.ln1@mail.specsol.com...
> Cecil Moore <mycall@hotmail.com> wrote:
>> jimp@specsol.spam.sux.com wrote:
>> > Cecil Moore <mycall@hotmail.com> wrote:
>> >> What does it mean when someone says the age of the universe
>> >> is 12.5 billion years?
>> >
>> > Exactly what most people think it means.
>
>> Seems like an argumentum ad populum. If we lived
>> near a black hole, our seconds could be 10^6 times
>> longer than they are now. What would most people
>> think then?
>
> Since that would change the defined conditions for the unit of time,
> the number would probably change.
>
> But, since we couldn't live that close to a black hole, the point is
> moot.
>
Most of the points in theorectical physics are moot.

714. Re: FM Transmitter in a hot air balloon?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 17:35:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <a96n84-d7s.ln1@mail.specsol.com>
Source record: 46528

Ron J <bigschlong@gmail.com> wrote:
> On Jan 24, 6:55 pm, j...@specsol.spam.sux.com wrote:
> >Well, since it wouldn't conform to any of the standard charts, they
> > would have to use a real field strength meter.
> >
> > --
> > Jim Pennino

> Real field strength meters? Like these:
> http://www.pi-usa.com/products.htm . I thought field strength
> measurements require real field strength meters. (?)

I didn't bother to read the ad, but if it can be calibrated to NIST
standards, yes.

You can also do it with a spectrum analyzer and a calibrated antenna.

--
Jim Pennino

Remove .spam.sux to reply.

715. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 17:36:12 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <dU5uh.145$wG4.176293@news.sisna.com>
Source record: 46529

jimp@specsol.spam.sux.com wrote:

> ...
> The standard for time for human beings is based on a particular
> property of cesium on a defined Earth.
>
> Using that standard, the age of the universe is what it is.
>
> Use a different standard, you get a different answer.
>
> So what?
>

Jim:

No one can dispute your, "If it ain't broke, don't fix it!" argument.

Anyone would be fool to throw away our present theories, equations, etc.

However, your argument of, "I am only worried about what happens in my backyard" would halt progress and advancement towards the real and correct understanding of these things.

But hey, if what we have right now is working, "Use it!" is my motto ...

Warmest regards,
JS

716. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 17:38:12 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <7W5uh.146$Xr3.101476@news.sisna.com>
Source record: 46530

Jimmie D wrote:

> ...
> Most of the points in theorectical physics are moot.
>
>

Jimmie:

True, VERY true. Indeed, before Einstein that same fact was true--but
still, good some men ignored that and continued ...

Regards,
JS

717. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 17:42:10 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <YZ5uh.147$us3.134276@news.sisna.com>
Source record: 46531

jimp@specsol.spam.sux.com wrote:

> ...
> Utter nonsense.
>
> Time on Earth hasn't been based on the spinning of the Earth for
> 40 years.
>
> You are about 300 years behind the times.
>
>> Take away movement and you take away our time ...
>
> Utter nonsense.
> ...

Jim:

No man is an island, and no cesium atom is an island either.

The spinning of this earth is directly related to the vibration of the cesium atom.

The exact same laws of math and physics which control the vibrating of that cesium atom control the spinning of this earth.

Sheer logic is all which is necessary to know that ...

Warmest regards,
JS

718. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 17:45:41 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <e0rhr29397k884it1ahjlipj4ca07o7fr0@4ax.com>
Source record: 46533

On Thu, 25 Jan 2007 09:15:28 -0800, John Smith I
<assemblywizard@gmail.com> wrote:
>You probably won't believe this, but I believe if I place a glass of
>water in my microwave and nuke it, I affect the vibration plane of the
>water molecules in there!!!

Sounds like the warm beginnings of a new religion if it didn't burn
your feet while out for a stroll.

73's
Richard Clark, KB7QHC

719. Re: Toroidal 1:1 balun third 'magnetising' winding - trifilar or separate?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 17:46:41 UTC
From: "Dr.Ace" <Ace@WH2T.com>
Message-ID: <c92b8$45b8ecfb$4fc5d53$28506@DIALUPUSA.NET>
Source record: 46532

"ferrymanr" <richardferryman@btinternet.com> wrote in message
news:lMGdnbo0i9prHDTYRVnyggA@bt.com...
>
> I would guess that you are right Danny and this is a voltage balun. I dug
> it out as I have recently moved to a flat in the centre of town 100 yards
> from a large telephone exchange and surrounded by noise sources. My old
> trusty vertical is giving me so much noise here that I want to put up a
> balanced antenna in the hope that this will reduce the interference. To
> minimise this noise I need a well balanced system. I already have coax up
> to the roof and balanced line would be difficult to route so am planning
> to fit a balun either at the dipole centre or a few feet below with a
> short balanced feed. I dug this balun out as it looked like it would give
> good balance. I have another (current) balun which has a simpler bifilar
> winding. I'm not sure which will be best for my application.
> Incidentally I only run QRP so efficiency is a major factor. I also
> considered a folded dipole using 600 ohm line as that would be less prone
> to static noise but would then have to look at a 4:1 design.
>
> 73 de Dick G4BBH
>

Hi Dick,
You might want to try a horizontal loop antenna, they are very quite with
respect to QRM.

http://www.bloomington.in.us/~wh2t/loop.html

If you need a 4:1 balun :
http://www.bloomington.in.us/~wh2t/balun.html

7, Ace - WH2T

720. Re: Strayed thinking

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 17:55:21 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <udrhr2tuhhiecgf16830p4nhgcjkoqq9an@4ax.com>
Source record: 46534

On Thu, 25 Jan 2007 09:24:00 -0500, "Jimmie D"
<jimmiedee@bellsouth.net> wrote:

>> The astonished crew quickly learned the hazards of poorly engineered
>> grounds in commercial equipment, the hazards of using a service cord
>> to defeat an interlock, and why we in the trade called it a suicide
>> adapter.
>
>I always called them fool killers, especilly the ones that used gator clips
>on the end..

Our name for them was a "Kills-me-quick."

One of my buddies aboard ship was holding just such a cord, plugged
in, and while he talked, or was telling a joke, we watched him flick
the cord around. Occassionally he would absent mindedly smack it into
his hand to emphasize a point. Absolutely no one was paying attention
to what he was saying. We all followed the arc of those leads
wondering when the big moment would come.

Of course we all knew CPR....

73's
Richard Clark, KB7QHC

721. Re: Shooting a wire over a grove of tall trees. What works?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 17:58:27 UTC
From: "Dr.Ace" <Ace@WH2T.com>
Message-ID: <95d37$45b8efbc$4fc67f3$28572@DIALUPUSA.NET>
Source record: 46535

"AC7PN" <brunius@rockisland.com> wrote in message
news:1169696182.858824.114810@v33g2000cwv.googlegroups.com...
>I need to clear a grove of 100ft pine trees and it just ain't
> happenning. My sling shot is only making it to a height of about 70ft.
> Way short.
>
> I've built a canon from sched 40 PVC with a 4" section reduced to a to
> 1" section which is about 4ft long. I'm using lighter fluid and a spark
> ignition. A 1" dowel weighted with 2oz of lead fits in the 2" PVC with
> a close fit. This still doesn't get over the grove of trees. It seems
> the lighter fluid just doesn't have enough power. Maybe I'm putting in
> too much or not enough fluid. How do you know if you have the right
> fuel air mix? I've heard that some use butane or propane in these.
>
> Thanks
> Bob Brunius
>

Bob,
When I was a kid I had a "Big Bang" cannon that used powdered carbide and
water. It used about 1/10 a teaspoon of carbide and about a half a cup of
water as soon as it quit fizzing you ignited it with a flint striker.
Ace - WH2T

722. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 18:04:50 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <6j6uh.55961$wc5.2940@newssvr25.news.prodigy.net>
Source record: 46536

Jim Kelley wrote:
> Since everything we perceive is perceived with respect to
> our own reference frame, we really need only concern ourselves with our
> own reference frame.

That was the same argument used by Catholic Church
when they put Galileo under house arrest for the rest
of his life. Galileo talked about space. We are
talking about space-time - not much difference.
--
73, Cecil, http://www.qsl.net/w5dxp

723. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 18:08:04 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <8m6uh.55962$wc5.31205@newssvr25.news.prodigy.net>
Source record: 46537

jimp@specsol.spam.sux.com wrote:
> Using that standard, the age of the universe is what it is.
> Use a different standard, you get a different answer. So what?

So why strive for more and more accuracy in the absolute
age of the universe if the time standard is arbitrary?
--
73, Cecil, http://www.qsl.net/w5dxp

724. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 18:14:00 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <g7shr21qf6qcc73mbb0uvh8cu3prtoc6sa@4ax.com>
Source record: 46540

On Tue, 23 Jan 2007 12:45:29 -0800, Richard Clark <kb7qhc@comcast.net>
wrote:

>Wow! From Hero to Zero in 12 minutes and 33 seconds.

Who woulda thunk that my observation of time would have been the
driving motivation to correspondence in this thread?

>Jimmie, you could have waited the obligatory 12 days, 33 hours and 54
>thousand seconds to discover there are no facts to be had that
>1. Contradict ordinary-as-mud modeling;
>2. Reveal theories that would astonish the multitudes;
>3. Offer a revelation of how statics can perform what dynamics do
>daily. And certainly
>4. No evidence of the comprehension that statics are a mathematical
>fiction. Life does not allow them, and they are completely unknown
>outside of a book or a classroom.

This forecast still has ten days to run out, but history has born that
it will foretell with absolute accuracy. Take it to the bank.

>Art cannot even explain how he obtained a 50 Ohm non-reactive feed
>into his five assorted wires, non of which could have possible
>supported a fifth of that value (and jacked up with so much reactance
>as to reject all power).

This last observation has stood the test of time quite well. It may
find itself in the hall of records.

And to wrap this all into another thread NOT about antennas (just as
this thread never was), and more about personalities (which was all
that this thread started out to be) of the violin:
"Time Is" from "It's a Beautiful Day" by the LaFlammes

-Whew-

73's
Richard Clark, KB7QHC

725. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 18:15:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <v38n84-jg6.ln1@mail.specsol.com>
Source record: 46538

John Smith I <assemblywizard@gmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:

> > ...
> > The standard for time for human beings is based on a particular
> > property of cesium on a defined Earth.
> >
> > Using that standard, the age of the universe is what it is.
> >
> > Use a different standard, you get a different answer.
> >
> > So what?
> >

> Jim:

> No one can dispute your, "If it ain't broke, don't fix it!" argument.

That isn't my argument.

> Anyone would be fool to throw away our present theories, equations, etc.

Nonsense.

Theories are constantly changed as better data is obtained.

Newtonian physics is good enough for designing bumper jacks but not
GPS systems.

> However, your argument of, "I am only worried about what happens in my
> backyard" would halt progress and advancement towards the real and
> correct understanding of these things.

That isn't my argument.

> But hey, if what we have right now is working, "Use it!" is my motto ...

> Warmest regards,
> JS

--
Jim Pennino

Remove .spam.sux to reply.

726. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 18:15:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <488n84-jg6.ln1@mail.specsol.com>
Source record: 46539

John Smith I <assemblywizard@gmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:

> > ...
> > Utter nonsense.
> >
> > Time on Earth hasn't been based on the spinning of the Earth for
> > 40 years.
> >
> > You are about 300 years behind the times.
> >
>> Take away movement and you take away our time ...
> >
> > Utter nonsense.
> > ...

> Jim:

> No man is an island, and no cesium atom is an island either.

Word salad.

> The spinning of this earth is directly related to the vibration of the
> cesium atom.

Nonsense.

> The exact same laws of math and physics which control the vibrating of
> that cesium atom control the spinning of this earth.

Nope.

> Sheer logic is all which is necessary to know that ...

Wrong.

--
Jim Pennino

Remove .spam.sux to reply.

727. 2nd RFD: rec.radio.amateur.moderated moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 18:19:02 UTC
From: "Paul W. Schleck, K3FU" <pschleck@novia.net>
Message-ID: <45b8f455$0$171$540ea2cf@novia.net>
Source record: 46541
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx

The following was just posted to Usenet by the news.announce.newgroups
moderator on behalf of the Big-8 Management Board:

http://www.big-8.org/dokuwiki/doku.php?id=nan:2007-01-25-rec.radio.amateur.moderated-rfd2

This is a Request for Discussion (RFD) to create a new moderated
discussion newsgroup for amateur radio on Usenet. It has been relayed
to rec.radio.amateur.antenna and rec.radio.amateur.dx as announced in
the RFD. Please consider contributing your opinions regarding this
newsgroup to news.groups.proposals, where followups to this message have
been set.

--
73, Paul W. Schleck, K3FU
pschleck@novia.net
http://www.novia.net/~pschleck/
Finger pschleck@novia.net for PGP Public Key

728. Re: FM Transmitter in a hot air balloon?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 18:29:15 UTC
From: Ron J <bigschlong@gmail.com>
Message-ID: <1169749754.644377.307080@m58g2000cwm.googlegroups.com>
Source record: 46542

On Jan 25, 12:35 pm, j...@specsol.spam.sux.com wrote:
>I didn't bother to read the ad, but if it can be calibrated to NIST
> standards, yes.
>
> You can also do it with a spectrum analyzer and a calibrated antenna.
>
> --
> Jim Pennino

I think my school will lend me a spectrum analyzer, but not sure if I can get access to a calibrated antenna. One of my school projects involves in measuring the field strength of a low power FM transmitter mounted in a "smart" flyer. Really the flyer is just a toy helicopter fitted with sensors and given a "brain" by the computer science folks. The idea behind it is that it's suppose to monitor local traffic conditions using a video feed and then it will broadcast some pre-recorded messages via the FM transmitter warning on-coming drivers of potential road blocks.

However, the drivers will need to tune their radio station to a specified frequency. I'm not involved with the frequency stuff, so I don't know how it's going to play out with the feds.

Anyway, I'm supposed to determine the range of the FM transmitter by measuring the field strength. But I'm reading some propagation text like Les Barclay's Propogation of Radio Waves and found out that field strength varies with antenna height, distance from receiver and transmitter, and also the landscape. I've also scoped out some FCC procedures for measuring radio broadcast, and they have some 50,50 curves that I don't understand too much. But the FCC assumes that the transmitter is fixed. In this thing, the transmitter is moving around, so I'm having a difficult time figuring out how to come up with some transmission range diagram.

The intent of my original question is to find out how someone would measure it. I'm sure the balloon folks had the same issue.

729. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 18:33:27 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <TJ6uh.150$Tr3.97376@news.sisna.com>
Source record: 46543

jimp@specsol.spam.sux.com wrote:
> John Smith I <assemblywizard@gmail.com> wrote:
>> jimp@specsol.spam.sux.com wrote:
>
>> > ...
>>> Utter nonsense.
>>>
>>> Time on Earth hasn't been based on the spinning of the Earth for
>>> 40 years.
>>>
>>> You are about 300 years behind the times.
>>>
>>>> Take away movement and you take away our time ...
>>> Utter nonsense.
>>> ...
>
>> Jim:
>
>> No man is an island, and no cesium atom is an island either.
>
> Word salad.
>
>> The spinning of this earth is directly related to the vibration of the
>> cesium atom.
>
> Nonsense.
>
>> The exact same laws of math and physics which control the vibrating of
>> that cesium atom control the spinning of this earth.
>
> Nope.
>
>> Sheer logic is all which is necessary to know that ...
>
> Wrong.
>

Jim:

On the above, we must agree to disagree ..

Regards,
JS

730. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 18:35:44 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <wL6uh.9547$Cg1.8048@bignews8.bellsouth.net>
Source record: 46544

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:g7shr21qf6qcc73mbb0uvh8cu3prtoc6sa@4ax.com...
> On Tue, 23 Jan 2007 12:45:29 -0800, Richard Clark <kb7qhc@comcast.net>
> wrote:
>
>>Wow! From Hero to Zero in 12 minutes and 33 seconds.
>
> Who woulda thunk that my observation of time would have been the
> driving motivation to correspondence in this thread?
>
>>Jimmie, you could have waited the obligatory 12 days, 33 hours and 54
>>thousand seconds to discover there are no facts to be had that
>>1. Contradict ordinary-as-mud modeling;
>>2. Reveal theories that would astonish the multitudes;
>>3. Offer a revelation of how statics can perform what dynamics do
>>daily. And certainly
>>4. No evidence of the comprehension that statics are a mathematical
>>fiction. Life does not allow them, and they are completely unknown
>>outside of a book or a classroom.
>
> This forecast still has ten days to run out, but history has born that
> it will foretell with absolute accuracy. Take it to the bank.
>
>>Art cannot even explain how he obtained a 50 Ohm non-reactive feed
>>into his five assorted wires, non of which could have possible
>>supported a fifth of that value (and jacked up with so much reactance
>>as to reject all power).
>
> This last observation has stood the test of time quite well. It may
> find itself in the hall of records.
>
> And to wrap this all into another thread NOT about antennas (just as
> this thread never was), and more about personalities (which was all
> that this thread started out to be) of the violin:
> "Time Is" from "It's a Beautiful Day" by the LaFlammes
>
> -Whew-
>
> 73's
> Richard Clark, KB7QHC

The subject line is most appropriate

731. Re: Strayed thinking

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 18:39:32 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <4P6uh.9548$Cg1.7754@bignews8.bellsouth.net>
Source record: 46545

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:udrhr2tuhhiecgf16830p4nhgcjkoqq9an@4ax.com...
> On Thu, 25 Jan 2007 09:24:00 -0500, "Jimmie D"
> <jimmiedee@bellsouth.net> wrote:
>
>>> The astonished crew quickly learned the hazards of poorly engineered
>>> grounds in commercial equipment, the hazards of using a service cord
>>> to defeat an interlock, and why we in the trade called it a suicide
>>> adapter.
>>
>>I always called them fool killers, especilly the ones that used gator
>>clips
>>on the end..
>
> Our name for them was a "Kills-me-quick."
>
> One of my buddies aboard ship was holding just such a cord, plugged
> in, and while he talked, or was telling a joke, we watched him flick
> the cord around. Occassionally he would absent mindedly smack it into
> his hand to emphasize a point. Absolutely no one was paying attention
> to what he was saying. We all followed the arc of those leads
> wondering when the big moment would come.
>
> Of course we all knew CPR....
>
> 73's
> Richard Clark, KB7QHC

Ive done this watching a guy play with a charged cap. He had just charged it up to place on the bench for some unsuspecting sole to grap, started running his mouth and zapped himself.

732. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 18:41:56 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <RR6uh.151$kG4.167068@news.sisna.com>
Source record: 46549

Richard Clark wrote:

> ...
> And to wrap this all into another thread NOT about antennas (just as
> this thread never was), and more about personalities (which was all
> that this thread started out to be) of the violin:
> "Time Is" from "It's a Beautiful Day" by the LaFlammes
>
> -Whew-
>
> 73's
> Richard Clark, KB7QHC

Richard:

That is the worst statement I have EVER heard you make.

Time is a MAJOR factor in antenna calculations.

If you wish to decide what is on topic and NOT on topic, how about corrosion limiters? Nylon rope? (yes, used by some as guys!) Ground conduction enhancers? (salts) Trees? (yes, used by some as masts) The antenna as art? (yes, some have to please their neighbors) Trenching equipment? (yes, some go overboard on the ground establishing wires) Bumper jacks? (yes, some use these to hoist up their collapsible masts) Etc., etc.

Your interests about antennas like in a purely physical realm using established methods, both practical and computational--some of ours don't. Why your interests should over-ride others is a bit perplexing to me ...

Regards,
JS

733. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 19:25:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <hccn84-2hg.ln1@mail.specsol.com>
Source record: 46546

Cecil Moore <mycall@hotmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:
> > Using that standard, the age of the universe is what it is.
> > Use a different standard, you get a different answer. So what?

> So why strive for more and more accuracy in the absolute
> age of the universe if the time standard is arbitrary?

ALL units of measurement are arbitrary. Once a standard is set, that's
(if you are sane) what you use.

By that convoluted logic:

The dollar is an arbitrary unit so why strive for accuracy in your paycheck?

The inch is an arbitrary unit so why should the carpenter strive for
accuracy in matching the new door to your old door frame?

Miles per hour are based on two arbitrary units so why should the cop
give you a ticket for doing 90 in a 35 MPH zone?

The liter is an arbitrary unit so why should the maker strive to ensure
there is 2 liters of soda in a 2 liter bottle?

But, I know you are just playing word games here.

--
Jim Pennino

Remove .spam.sux to reply.

734. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 19:31:37 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <rA7uh.157$6r3.72776@news.sisna.com>
Source record: 46547

jimp@specsol.spam.sux.com wrote:

> ...
>
> *ALL* units of measurement are arbitrary. Once a standard is set, that's
> (if you are sane) what you use.
>
> By that convoluted logic:
>
> The dollar is an arbitrary unit so why strive for accuracy in your paycheck?
>
> The inch is an arbitrary unit so why should the carpenter strive for
> accuracy in matching the new door to your old door frame?
>
> Miles per hour are based on two arbitrary units so why should the cop
> give you a ticket for doing 90 in a 35 MPH zone?
>
> The liter is an arbitrary unit so why should the maker strive to ensure
> there is 2 liters of soda in a 2 liter bottle?
>
> But, I know you are just playing word games here.
>

Sir:

You SERIOUSLY miss the point.

All you named there are an invention of man and man allows himself to be
governed by them ... (some don't, ever hear about income tax evasion and
prisons?)

The laws of mathematics, physics and the sciences exist in an absolute
form, somewhere ...

Warmest regards,
JS

735. Re: FM Transmitter in a hot air balloon?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 19:35:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <tucn84-2hg.ln1@mail.specsol.com>
Source record: 46548

Ron J <bigschlong@gmail.com> wrote:
> On Jan 25, 12:35 pm, j...@specsol.spam.sux.com wrote:
> >I didn't bother to read the ad, but if it can be calibrated to NIST
> > standards, yes.
> >
> > You can also do it with a spectrum analyzer and a calibrated antenna.
> >
> > --
> > Jim Pennino

> I think my school will lend me a spectrum analyzer, but not sure if I
> can get access to a calibrated antenna. One of my school projects
> involves in measuring the field strength of a low power FM transmitter
> mounted in a "smart" flyer. Really the flyer is just a toy helicopter
> fitted with sensors and given a "brain" by the computer science folks.
> The idea behind it is that it's suppose to monitor local traffic
> conditions using a video feed and then it will broadcast some
> pre-recorded messages via the FM transmitter warning on-coming drivers
> of potential road blocks.

> However, the drivers will need to tune their radio station to a
> specified frequency. I'm not involved with the frequency stuff, so I
> don't know how it's going to play out with the feds.

> Anyway, I'm supposed to determine the range of the FM transmitter by
> measuring the field strength. But I'm reading some propagation text
> like Les Barclay's Propogation of Radio Waves and found out that field
> strength varies with antenna height, distance from receiver and
> transmitter, and also the landscape. I've also scoped out some FCC
> procedures for measuring radio broadcast, and they have some 50,50
> curves that I don't understand too much. But the FCC assumes that the
> transmitter is fixed. In this thing, the transmitter is moving around,
> so I'm having a difficult time figuring out how to come up with some
> transmission range diagram.

> The intent of my original question is to find out how someone would
> measure it. I'm sure the balloon folks had the same issue.

"Real" calibrated antennas that meet FCC requirements with calibration
traceable to NIST aren't cheap.

Though if all you are doing is trying to estimate range and don't
have to send traceable data to the FCC, you could get a good idea
by using antenna modeling software and modeling the antenna in free
space.

--
Jim Pennino

Remove .spam.sux to reply.

736. MI5 Persecution: Toronto Freenet supports free speech (376)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 19:38:35 UTC
From: MI5Victim@mi5.gov.uk
Message-ID: <m07002520325729@4ax.com>
Source record: 46552
Cross-posted to:
it.discussioni.geometri,it.comp.giochi,rec.radio.amateur.antenna,hr.rec.glazba.snimanje,alt.consciousness.4th-way

Despite an orchestrated campaign of attempted censorship by UK-resident newsgroup readers, TFN did not bow
to demands for a suppression of freedom of speech. TFN general policy on the matter is as follows;

Draft Policy on Account Deactivations due to News Group Postings
==========

News group postings occasionally take the form of a message which goes against the "topic" of the conference.
For example, a derogatory message about Canadians in the soc.culture.canada.

Members of such news groups then may send a message to the system administrators asking that a user's account
be terminated because of such posting.

The Toronto Free-Net Board of Directors has taken the position that the only postings that will get a person's
account terminated is material that is illegal under Canadian law. Otherwise, the Toronto Free-Net will not
take any action.

Freenet Executive Director Mike Anderson had this to say regarding the continued attempts of a minority of usenet
participants to have my account on his system deactivated;

The TFN's policy is not to take action against members unless they contravene the Criminal Code of Canada, or
engage in practices such as forgery, attacks against other computer systems or mailbombing.

Mr. Corley, while possibly being very annoying, has not contravened the TFN's policies. The TFN believes strongly
in freedom of expression, while recognizing that the price for such freedom may be a high signal-to-noise ratio in Usenet.

If Mr. Corley breaks the law, we will take action -- until then, he has the same rights as any TFN member to post
to Usenet newsgroups. Actions such as mailbombing the TFN in protest will be met by strong complaints to the
originating site's postmaster. The best defense against unwanted postings may be simply be to ignore them and deny
the poster an audience.

TFN Executive Director Toronto, Ont CANADA

Personally, I find it gratifying that my contributions to usenet discussion are recognized as being conducive
to a high signal-to-noise ratio by their quality and thoughtfulness.

376

--
Posted via a free Usenet account from http://www.teranews.com

737. MI5 Persecution: Intelligence agency sources on the Web (1281)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 19:49:13 UTC
From: MI5Victim@mi5.gov.uk
Message-ID: <m07002520433582@4ax.com>
Source record: 46554
Cross-posted to:
it.discussioni.geometri,it.comp.giochi,rec.radio.amateur.antenna,hr.rec.glazba.snimanje,alt.consciousness.4th-way

Intelligence agency sources on the Web

http://intelweb.janes.com/

Intelligence Watch Report covers public and private intelligence
agencies around the world.

kim-spy

http://www.kimsoft.com/kim-spy.htm

The Korea WebWeekly kim-spy Intelligence and Counter-Intelligence
link page.

http://www.lobster-magazine.co.uk/

Lobster Journal publishes research on the intelligence community.

http://cryptome.org/

Cryptome is an online source of intelligence related material.

http://www.mi5.gov.uk/

MI5 has a website, too, but you should prepare yourself for some serious
"alternative reality" if you plan to visit it.

1281

--
Posted via a free Usenet account from http://www.teranews.com

738. MI5 Persecution: Newsgroup members join in the discussion (2186)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 19:59:48 UTC
From: MI5Victim@mi5.gov.uk
Message-ID: <m07002520541051@4ax.com>
Source record: 46556
Cross-posted to:
it.discussioni.geometri,it.comp.giochi,rec.radio.amateur.antenna,hr.rec.glazba.snimanje,alt.consciousness.4th-way

```
Newsgroup members join in the discussion
```

Peter Kr�ger writes about "Dirk Gently on the Toronto Case".

```
Hotchkies FAQ: Looking at it from a medical viewpoint. The diagnosis is obvious, isn't it?

Accolades for the Web Site
Read what people said about this web site.

Visitor count: since August 11, 1996

Toronto Freenet supports free speech

2186

--
Posted via a free Usenet account from http://www.teranews.com
```

739. Re: radioshack UHF corner reflector outdoor antenna feed point impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 20:04:43 UTC
From: Tam/WB2TT <t-tammaru@c0mca$t.net>
Message-ID: <OaadnTUBfZ_LkCTYnZ2dnUVZ_rylnZ2d@comcast.com>
Source record: 46550

I should have mentioned that there are/were two versions of that antenna. The one I was talking about is 40 inches long. The other one, which I think is no longer available, is more than twice as long, and equal to the UHF portion of the VU 120 or VU190 (count the elements). The picture in the catalog of the short one is wrong.

Tam

740. MI5 Persecution: BBC's Hidden Shame 4/5/95 (376)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 20:17:52 UTC
From: MI5Victim@mi5.gov.uk
Message-ID: <m07002521121495@4ax.com>
Source record: 46561
Cross-posted to:
it.discussioni.geometri,it.comp.giochi,rec.radio.amateur.antenna,hr.rec.glazba.snimanje,alt.consciousness.4th-way

Date: Thu May 4 18:27:24 1995
Newsgroups: alt.conspiracy
Subject: BBC's Hidden Shame

Remember the two-way televisions in George Orwell's 1984?
The ones which watched you back? Which you could never get
rid of, only the sound could be turned down?

Well the country which brought Orwell into the world has
made his nightmare follow into the world after him.
Since 1990 the British have been waging war against one of
their own citizens using surveillance to invade privacy
and a campaign of abuse in the transmitted media in
their efforts to humiliate their "victim".

And the most remarkable thing about it is that what they
do is not even illegal - the UK has no laws to protect
the privacy of its citizens, nor does it proscribe
harassment or abuse except in the case of racial abuse.

A lot of people in England know this to be going on,
yet so far they have maintained perfect "omerta";
not a sound, not a squeak has escaped into the English
press, and for all the covert harassment absolutely
nothing has come out into the public domain.

Have the British gone mad? I think we should be told.

From: "Mr.B" <dgb01@stir.ac.uk>
Newsgroups: alt.conspiracy
Subject: Re: BBC's Hidden Shame
Date: Mon May 8 05:32:13 1995

Mmmm.

Who, exactly is this victim you're talking about?

First up, Britain or the UK (not 'England' - England is
a part of Britain, like Kansas is a part of the USA) does
have laws that protect the individual from harassement -
you can't just threaten people willy nilly. There are laws
against that. And if someone lies about you in the press
or tv then you have recourse to libel/slander etc. laws.

True, Britain has no 'privacy' laws as such, but isn't that
a good thing? As of this moment, the govt. are considering
a privacy law, but it is unlikely to succeed. Why? Because any
such law would benefit the priviledged and those in power.
Privacy laws, while supposedly protecting the individual, help
those in power hide their mistakes/scandals. They stop the press
etc. investigating. Privacy laws are undemocratic - they prevent
the people from keeping an eye on govt.

And stop looking for some kinda conspiracy in the British
press. It's hardly perfect, but your notion that they don't
cover/campaign against press legislation, harrassment,
discrimination, human rights etc. is plain wrong. You've never
seen a British paper in yr life.

You clearly have a specific case/individual in mind. Speak up!
The thought police aren't coming round just yet.

Douglas.

Date: Mon May 8 19:21:28 1995
Newsgroups: alt.conspiracy
Subject: Re: BBC's Hidden Shame

Confession time - the victim is/was me (except my name isn't
Corley, but that's irrelevant). What happened was not threats;
just invasion of privacy, in a partiicularly flagrant and
shocking way, in a way which most people would consider to
constitute harassment.

You know there's a particular category of person with mental
illness to whom TV and radio "talk", ie they feel the broadcast
is directed at them in particular? This happpened to me,
quite some time ago in the UK (I'm originally from London,
so I've seen plenty of British media print and other).
They invaded my home with their bugs, they repeated what I
was saying in the privacy of my home, and they laughed that it
was "so funny", that I was impotent and could not even communicate
what was going on. Who did this? Our friends on BBC television,
our friends in ITN, last but not least our friends in Capital
Radio in London and on Radio 1.

How did they do this? I'll give you an example. About a year ago,
I was listening to Chris Tarrant (Capital Radio DJ among other
pursuits) on his radio morning show, when he said, talking about
someone he didn't identify, "you know this bloke? he says we're
trying to kill him. We should be done for attempted manslaughter"
which mirrored something I had said a day or two before
(I'm not paranoid, honest!). Now that got broadcast to the whole
of London - if any recordings are kept of the shows then it'll be
there.

376

--
Posted via a free Usenet account from http://www.teranews.com

741. MI5 Persecution: A doubting Thomas is heard 9/5/95 (1281)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 20:29:46 UTC
From: MI5Victim@mi5.gov.uk
Message-ID: <m07002521240800@4ax.com>
Source record: 46564
Cross-posted to:
it.discussioni.geometri,it.comp.giochi,rec.radio.amateur.antenna,hr.rec.glazba.snimanje,alt.consciousness.4th-way

From: pao1@ukc.ac.uk (P.A.Orrock)
Newsgroups: uk.misc
Subject: Re: BBC's Hidden Shame
Reply-To: pao1@ukc.ac.uk (P.A.Orrock)
Date: Tue May 9 05:54:20 1995

>have laws that protect the individual from harassement -
>you can't just threaten people willy nilly. There are laws
>against that. And if someone lies about you in the press
>or tv then you have recourse to libel/slander etc. laws.

Yup, agreed

>True, Britain has no 'privacy' laws as such, but isn't that
>a good thing? As of this moment, the govt. are considering
>a privacy law, but it is unlikely to succeed. Why? Because any
>such law would benefit the priviledged and those in power.
>Privacy laws, while supposedly protecting the individual, help
>those in power hide their mistakes/scandals. They stop the press
>etc. investigating. Privacy laws are undemocratic - they prevent
>the people from keeping an eye on govt.

Agreed again.

>Douglas.

I am slightly confused here as to who is writing what. this just seems to
be an amalgam of posts and replies posted to here to keep the thread going.

>Confession time - the victim is/was me (except my name isn't
>Corley, but that's irrelevant). What happened was not threats;
>just invasion of privacy, in a partiicularly flagrant and
>shocking way, in a way which most people would consider to
>constitute harassment.

>You know there's a particular category of person with mental
>illness to whom TV and radio "talk", ie they feel the broadcast
>is directed at them in particular? This happpened to me,

You mean the category where they think that everyone is after them ? that
one ? So lets get this straight you know you are paranoid and you think
that they are out to get you ? Uh huh, try putting the two together and
see what you come up with.

>quite some time ago in the UK (I'm originally from London
>so I've seen plenty of British media print and other).
>They invaded my home with their bugs, they repeated what I
>was saying in the privacy of my home, and they laughed that it
>was "so funny", that I was impotent and could not even communicate
>what was going on. Who did this? Our friends on BBC television,
>our friends in ITN, last but not least our friends in Capital
>Radio in London and on Radio 1.

Oh yeah, I can see it now. All of them banding together, in a united effort against one man. So ITN, the BBC, and Capital all decide to sit round the table and they come up with idea of breaking into someones house, putting bugs everywhere, listening in to his conversation, and shoving it out on the news everyday. This someone has nothing to do with politics, or business, or entertainment, just an ordinary Joe Bloggs who seems to be extremely paranoid.

Have some sense, grow up and smell reality. What you are talking about would take loads of planning, tens of thousands of pounds and lots of people involved in the planning, execution and maintenance of it. You must have a very high opinion of yourself to think you are worth it.

>How did they do this? I'll give you an example. About a year ago,
>I was listening to Chris Tarrant (Capital Radio DJ among other
>pursuits) on his radio morning show, when he said, talking about
>someone he didn't identify, "you know this bloke? he says we're
>trying to kill him. We should be done for attempted manslaughter"
>which mirrored something I had said a day or two before
>(I'm not paranoid, honest!). Now that got broadcast to the whole
>of London - if any recordings are kept of the shows then it'll be
>there.

Of course you are not paranoid, just slightly mad. Did you ever look for the bugs in your house ? If not, why not ? I mean if I thought that was happening to me, I'd search the place from top to bottom, I mean I live there I would know if anything was out of place. If I was really paranoid, whoops I mean suspicious, I would call in one of those bug detection teams which have those machines that pick up the transmitted radio waves. This reminds me of BUGS, that new programme on BBC1 on saturdays which is all about this kind of stuff, but, shown as a drama / thriller. I suppose thats based on you as well is it ?

>is that there is a conspiracy in Britain, that it encompasses the
>broadcast media, and there is no way of breaking the conspiracy.
>The people who are involved in it will not open up.

What a load of jolly hollyhocks, I would say something else but, apparently students are not allowed to swear on newsgroups in case it damages the reputation of the university or some such jolly hollyhocks.

This guy is extremely paranoid to suggest that the entire British media is after him in such a big way. He gives no real reason as to why they are after him, just that he suffers/suffered from a slight mental

disorder, could it be paranoia perhaps ?? No surely not.

I put it to the house that he has never recovered from this mental disorder, lets come out with it and call it paranoia, and thinks everyone is after him. Remember just because you aren't paranoid, doesn't mean they aren't after you.

This guy has a serious problem to suggest that the media would go to such lengths just to single out and ridicule one person. I mean apart from anything else, we (the listening masses) wouldn't be interested unless it concerned the royal family, politicians or showbiz personalities. e.g. the camillagate tapes. I would think that almost everyone, no matter how much they went on about infringements of privacy read the transcripts with interest. I really don't think that Joe Bloggs ordinary guy or paranoid nutter would have the same appeal. Well actually I dunno. :)

Regards,

Paul.

--
Paul Orrock, Websurfer wannabe, http://www.idiscover.co.uk/paul/home.html
PC Consultant and HTML freelance Writer, http://www.idiscover.co.uk/paul/
==========
Diplomacy is the art of saying "nice doggy" until you can find a rock.

1281

--
Posted via a free Usenet account from http://www.teranews.com

742. Strongest signals received via skip?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 20:30:58 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1169757058.727360.319810@a34g2000cwb.googlegroups.com>
Source record: 46551

We expect the local down the block may overload our receiver when he keys up his kilowatt 40kHz from the frequency we're listening to, but what are the largest signals received via skip in the HF bands? What are the chances you'd ever see anything as large, say, as 0dBm into your receiver via skip? (0dBm = 73dB above s9, given that s9 = 50uV into 50 ohms.) This could potentially include SW broadcast stations running fairly high power.

Cheers,
Tom

743. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 20:37:06 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <173ir2l5lib9g10kcbosb5g0ktjrv4vdal@4ax.com>
Source record: 46553

On Thu, 25 Jan 2007 10:41:56 -0800, John Smith I
<assemblywizard@gmail.com> wrote:

>That is the worst statement I have EVER heard you make.

You actually HEARD it? Therein might lie your problem.

>Time is a MAJOR factor in antenna calculations.

Of course, when I first used ELNEC, it took forever to model some
designs that takes EZNEC forever now (infinities being relative and
all). Some of these time dialogues underway now exhibit Zeno's
web-enhanced paradox: No one gives a shit before you are halfway
through the thread. I only look at every third post at most; so for
me, dialog has simultaneously jumped into the future while becoming
retrograde (moving backward in quality - time is money).

The upshot is that I get to hi-grade the nonsense, and peel the
banality one layer at a time for its comic content:

>If you wish to decide what is on topic and NOT on topic, how about
>corrosion limiters?

Been there.

>Nylon rope? (yes, used by some as guys!)

Been there.

>Ground conduction enhancers? (salts)

Been there.

>Trees? (yes, used by some as masts)

Been there.

>The antenna as art? (yes, some have to please their neighbors)

Been there.

>Trenching equipment? (yes, some go overboard on the ground establishing wires)

Been there.

>Bumper jacks? (yes, some use these to hoist up their collapsible masts)
>Etc., etc.

Well, I haven't touched on that perhaps, but the list is hardly
exhaustive - is it?

>Your interests about antennas like in a purely physical realm using
>established methods, both practical and computational--some of ours
>don't.

This would make more sense with a predicate... then again, maybe not.

>Why your interests should over-ride others is a bit perplexing
>to me ...

Then you should invest some time in the archives given the number of hits on topics you consider to be foreign to me having "talked" about. Your list reveals very little reading on your part. That is in scope, not currency (I've been here some 12 or 11 years now). As already offered (you didn't hear that either?), yours is a cultural problem, not a technical one.

Now, seriously, you don't REALLY think that I would limit my correspondence to just ONE topic - do you?

73's
Richard Clark, KB7QHC

744. MI5 Persecution: Recognition by Strangers is Normal 12/5/95 (2186)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 20:41:48 UTC
From: MI5Victim@mi5.gov.uk
Message-ID: <m07002521361063@4ax.com>
Source record: 46565
Cross-posted to:
it.discussioni.geometri,it.comp.giochi,rec.radio.amateur.antenna,hr.rec.glazba.snimanje,alt.consciousness.4th-way

From: speedc@cs.man.ac.uk (C Speed)
Newsgroups: uk.misc
Subject: Re: BBC's Hidden Shame
Date: Fri May 12 04:34:26 1995

>Yes, I realize that. But after five years I think I can tell the difference
>between reality and unreality. Look, in the part of London where I used
>to live, I went back there over Easter, and I got recognized walking
>down the street by people I had never seen before. That's happened
>quite a few times and I am at a complete loss to explain it.

That is what happens in big cities. Hell, it scared me to death when I first
started working in Manchester. People keep talking to me on the streets,
even if its just to say hello, and I've no idea who they are. This happens
to most people, don't worry about it.

>>paranoid, whoops I mean suspicious, I would call in one of those bug
>>detection teams which have those machines that pick up the transmitted

>That's exactly what we did. We went to a competent, professional detective
>agency in London, paid them over 400 quid to debug our house. They found
>nothing.

Doesn't this suggest to you that there are, in fact, no bugs to be found?

>Over Easter I went to the police in London, telling them basically
>what I've posted here. I don't think you'll be surprised to learn
>that I didn't get very far; they asked "why would they be doing this to
>you in particular?" and the answer "they are because they are" doesn't
>go very far.

Exactly. All you have offered so far as proof of your harrassment by these
people is:

1) Someone on radio said something that you had recently said
and
2) People on the streets seem to recognise you.

These are both perfectly normal occurences and happen to lots of people every
day so it is unsurprising that people here, and the police, are not taking
you seriously.

Trying to always keep an open mind about things I would say that one of three
things is likely.

Either there is a lot more to this that you are not telling us, or you are
messing about or you have some genuine delusions. I'd like to think that in
two of the three cases you would find some real support here, but it seems
unlikely I'm afraid.

Claire

****
* "And though we say all information should be free it is not. *
* Information is power and currency of the virtual world we inhabit." *
****
* C.Speed - <speedc@cs.man.ac.uk> <http://www.cs.man.ac.uk/~speedc/> *
****

Date: Fri May 12 17:41:49 1995
Newsgroups: uk.misc
Subject: Re: BBC's Hidden Shame

>That is what happens in big cities. Hell, it scared me to death when I first
>started working in Manchester. People keep talking to me on the streets,
>even if its just to say hello, and I've no idea who they are. This happens
>to most people, don't worry about it.

The key is the pattern, or a change in the pattern. I've lived in London
almost all my life, and just walking around the streets, I never got
hassled by anybody. All of a sudden, people start harassing you,
throwing abuse at you, behaving as if they know you personally, as
if they've seen you before somewhere. I read in the papers that this
happens to Colin Stagg and people like that Eastenders actress, but
they've had their picture in the paperes, so that is understandable.
In a couple of cases people have even known my name - when I was in
London over Easter I was walking down Shaftesbury avenue in the
West End when somebody (no idea who they were, just some bloke with
his girlfriend) called me by name - quite clearly, and my name is
distinctive. This also happened once about four 1/2 years ago, onn
the tube - some blokes I had never seen started chanting my name
and a term of abuse.

It's the pattern which convinces me there's something to it - and
would convince any impartial abserver who could see things tyhrough
my eyes.

>Doesn't this suggest to you that there are, in fact, no bugs to be found?

There's a little story behjjind this. First iof all, in 1992 I worked
for a company where the people made clear they knew what was going on,
first of all directly (the very first evening I was there I went out to
the pub with them and the Technical Directpor said to another guy,
"is this the bloke who's been on TV?" "yeah, I think so") and also
indirectly, by rep[peating stuff I was saying at home in London and
in my rented accomodation there (I moved several times in the course of
1992 and they followed me each time). Now, if "they" (the buggers)

knew their bugs could be found easily, they wouldn;'t be keen to make
their existence known, would they?

Also, in summer 1992 I went on a trip abroad to Europe by coach, and
on the way out there were a couple a little younger than myself on the coach
a bloke and hius girlfriend. He said things about some bloke who was
never named, who sounded exactly like me - and he made explicitly
clear that our house was bugged, and that a neighrbours house was
bugged (and at work they'd been rep[earting what was said at the
neighbours, so this looks like independent corroboration).
They also said stuff like "at school he was always really streesed,
they found someone from his school and he was a real psycho"
and that "he was in a B&B for one night and they got him", dead right
again, I had been in B&B for once night a few days before this trip
and weatching the news again got a reaction from the newsreader.

2186

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Posted via a free Usenet account from http://www.teranews.com

745. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 20:44:10 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <epb5t0$m9d$1@news.service.uci.edu>
Source record: 46560

Cecil Moore wrote:
> That was the same argument used by Catholic Church
> when they put Galileo under house arrest for the rest
> of his life.

That might have been clever the first 5 or 10 times you trotted it out. How about this one: To a man with a hammer, everything looks like a nail.

If you feel it is more useful to make measurements using standards from another reference frame, then I wholeheartedly encourage you to do so. The Journal of Irreproducible Results awaits! :-)

73, ac6xg

746. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 20:47:07 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <aH8uh.165$MP4.203903@news.sisna.com>
Source record: 46555

Richard Clark wrote:

> ...
> 73's
> Richard Clark, KB7QHC

Richard:

I accept those 3's, and right back at ya, I have no bone to pick with
you--well, maybe your attraction to Shakespeare! <LOL>

Your advice, while rather cryptic, assists and amuses me ... thanks!

Warmest regards,
JS

747. MI5 Persecution: Truth or Troll? 13/5/95 (3091)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 20:53:22 UTC
From: MI5Victim@mi5.gov.uk
Message-ID: <m07002521474473@4ax.com>
Source record: 46567
Cross-posted to:
it.discussioni.geometri,it.comp.giochi,rec.radio.amateur.antenna,hr.rec.glazba.snimanje,alt.consciousness.4th-way

Date: Sat May 13 21:41:57 1995
Newsgroups: rec.arts.tv.uk
Subject: Re: BBC's Hidden Shame

>:some pirate radio station in London in 1991, started listening to
>
>Conclusive proof if ever I heard it.
>
>Of course you were the only person in the office in the whole of Britain

Yeah, but this is the point. Each incident is easily and automatically
deniable along the lines you're taking. But when this happens every
time, and when you get independent corroboration from other people,
then there's no escaping it. For example, immediately after I lost
my job in 91 I went into the local garage to get some work done on the
car, and one of the blokes there said to the other, "so what do you
think of it then? it's getting killed on the radio isn't it"
Now again, you look at that and no proff; you can ask them what they're
referring to and they can say they're talking about something else.

>I know you may be a little paranoid, but I suggest you sit down
>and work out rationally what possible reason anyone off television,
>or radio would have for listening to your conversations. After all
>it must be hard enough to present a show to millions of people
>without the added burden of watching and listening to a single
>person and slipping their phrases into the programme.

These presenters are clever people. They wouldn't be presenters
if they weren't - they're easily capable of reacting to an individual
in this way.

What possible reason? I guess because they think it's amusing to do
so. They know that if you ever tell anybody, without being able to
show any evidence, then the reaction you'll get from just about
anybody will be the one you're showing now.

I realize there are loads of people in England and elsewhere with
the sort of thoughts I've described in these postings; and almost
all impartial observers would say that nothing other than an
go after their private conversations (if they did it to me then I can
do it to them, it's a questions of technical competence and money).
If you were lucky, you might be able to entrap them into admission.
You could of course harass or threaten them back (any coppers reading
this?) but that would be illegal and might get a result quite

different to the one you're trying to achieve. Of course, it might
come out of its own accord given time - if so many people know, if
they have an escape valve in their "subtext" through the media,
will it not cease to be at a covert level, given time? Surely it
is in my interest for it to become overt, since the transgressions
at this time are on their side and not on mine?

Thoughts? There must be some way of breaking the secrecy. This
isn't the first time in human history that a conspiracy has taken
place on this scale, but the truth tends to out. The situation
now is they think they';re "winning" hence have little stimulus
to change the rules - if they started seeing themselves "losing"
things could change drastically.

==========

From: amh15@cus.cam.ac.uk (Alan Hart)
Newsgroups: uk.misc
Subject: Re: BBC's Hidden Shame
Date: Sun May 14 09:59:54 1995

: Thoughts? There must be some way of breaking the secrecy. This
: isn't the first time in human history that a conspiracy has taken
: place on this scale, but the truth tends to out. The situation
: now is they think they';re "winning" hence have little stimulus
: to change the rules - if they started seeing themselves "losing"
: things could change drastically.

Mike, if that is your name,

I'm going to try to rationalise what you're telling us. I can think of three
possible explanations for what you are experiencing.

One is that there _is_ a conspiracy against you. As a previous writer said,
though, a lot of these programmes are taped, so it really isn't possible in
some of the cases you've named. Further, why were no bugs found in your
house? Finally, unless you are a political figure or someone else in the
public eye, why would anyone bother? People like me (and I assume you) are
small fry; our contribution to society is likely to be minor. Why would
anyone spend so much money and effort on you?

Another possibility is that you are developing some kind of paranoia. There's
no stigma attached to this; we're all paranoid to some extent, although
perhaps not to the extent that a doctor would call us paranoid. I think
paranoia is quite a straightforward explanation here - you really do believe
that all these things are aimed at you; you see people everywhere trying to
get at you. Logic suggests that this cannot really be the case.

The third possibility is that not even you really believe any of this, and
that this is a "troll". I'm not sure I believe this possibility, but it's
possible.

Anyway, if you want to be sure that you're _not_ going mad, I'd go and see
your G.P. if I were you. If you don't trust him/her, why not see someone
recommended by a person you can trust? If you don't trust anyone any more,
don't you think it's time you got help?

Alan

Alan Hart - amh15@cam.ac.uk - Cambridge University, UK - +44 1223 515460
"How many letters are there in the alphabet - is it 27?" - J.R. Histed
---

From: Ian Preece <ianp@dktower.demon.co.uk>
Newsgroups: uk.misc
Subject: Re: BBC's Hidden Shame
Reply-To: ianp@dktower.demon.co.uk
Date: Sun May 14 14:58:08 1995

In article <3p52cq$rsl@lyra.csx.cam.ac.uk>
amh15@cus.cam.ac.uk "Alan Hart" writes:

> The third possibility is that not even you really believe any of this, and
> that this is a "troll". I'm not sure I believe this possibility, but it's
> possible.

For a troll, the posts are remarkably well-informed on paranoid
behaviour.. you'd need to be one, or be reasonably well-informed on the
subject to sustain the tale... which lead me to my theory...*ahem*...:

An extension to possibility 3 (Number 3.5, perhaps?) is that the original
poster may be somehting like a psychology student writing a term paper
on the net community's reactions to this tale. (Now, there's paranoia
for you! Not only are they listening to/watching us, they're writing
reports about us too...:-)

More likely, though, is that the poster is genuinely in need of professional
help (he has intimated as much, himself) and, as such, he should be encouraged
to seek it.

regards,
IanP
--

Ian Preece ianp@dktower.demon.co.uk

IT Project Specialist Ideas for Hire

3091

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Posted via a free Usenet account from http://www.teranews.com

748. Re: Strayed thinking

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 20:59:23 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <9g6ir2pblmp7c6jqlkjcc8457t05c2fvtv@4ax.com>
Source record: 46558

On Thu, 25 Jan 2007 13:39:32 -0500, "Jimmie D"
<jimmiedee@bellsouth.net> wrote:

>Ive done this watching a guy play with a charged cap. He had just charged it
>up to place on the bench for some unsuspecting sole to grap, started running
>his mouth and zapped himself.

As Cartman would say
"SWEET!"

749. Re: Shooting a wire over a grove of tall trees. What works?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 21:00:32 UTC
From: Bob Dixon <dixon.8@osu.edu>
Message-ID: <dixon.8-D11205.16003225012007@charm.magnus.acs.ohio-state.edu>
Source record: 46557

There is a "weighted tennis ball launcher" similar to a potato gun, but
it runs on compressed air and has great range. They may be available
from several sources, but I bought mine from K8TAT, who makes them.

Bob W8ERD

In article <A8WqipK+9GuFFwdk@g3ohx.demon.co.uk>,
Ian Jackson <IanJacksonRemoveThisBit@g3ohx.demon.co.uk> wrote:

> In message <ep9pgq$581$1@news-01.bur.connect.com.au>, Gary Smith
> <vk3@aapt.net.au> writes
> >i used a "surf rod", a fishing rod built for fishing from the beach, big and
> >strong. i tied about 4-5 old wheelnuts (or anything heavy), worked really
> >good. make sure the spool is full of fishing line first, and that its strong
> >line. and you may snap the line trying so you want to start small and build
> >up the weight.
> >
> >This is presuming there is nothing/no one nearby that can be
> >damaged/injured.
> >
> >Good luck.
> >
> >Gary
> >
> >"AC7PN" <brunius@rockisland.com> wrote in message
> >news:1169710207.243677.232160@j27g2000cwj.googlegroups.com...
> >>> <chuckle>
> >>> Regards,
> >>> JS
> >> Do you need a picture?
> >>
> >
> >
> In the past (1961) I have used a bow and arrow (borrowed from an archery
> enthusiast), and also a rocket (fireworks type) launched 'mortar style'
> from a cardboard tube. Both pulled up linen thread (carefully coiled up
> on the ground), which I then used to pull up nylon twine, then thicker
> nylon etc.
> Ian.

750. MI5 Persecution: Let it go 1/8/95 (3996)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 21:05:53 UTC
From: MI5Victim@mi5.gov.uk
Message-ID: <m07002522001520@4ax.com>
Source record: 46568
Cross-posted to:
it.discussioni.geometri,it.comp.giochi,rec.radio.amateur.antenna,hr.rec.glazba.snimanje,alt.consciousness.4th-way

From: speedc@cs.man.ac.uk (C Speed)
Newsgroups: uk.misc
Date: Tue Aug 1 10:23:46 1995

>OK, so instead of my posting the same tedious stuff every day,
>why don't you actually read the contents, and make a meaningful
>reply? Something more constructive than those silly little
>jokes about paranoia perhaps? Like what objectively can you do
>to break the conspiracy open, if one exists :-) ? If somebody
>did it to you, what would you do?

But we've *done* that. I certainly have at least. Way back when you
originally started posting and your posts were neither tediously repetitve
nor stupidly long.

But whenever anyone makes any good suggestions you ignore them and start
posting from the begining again. You don't want us to help you - so what do
you want? If you really wanted help you would listen to peoples suggestions
and respond to them. Is this just an attention thing?
But I'll try again, because I'm a fool like that.

>o Tell people about it, go to the police / legal services
> Done that; those around me either don't believe me, or they
>"sort of" believe but can't do anything about it. As for going
>to the police; I did, over Easter. Discouraging. They must be
>familiar with the occasional person walking into a station with
>this sort of story. "If a psychiatrist says you're imagining
>it, then that's what it is".

You haven't yet given any examples of anything concrete to suggest that this
is really happening to you. This, I would imagine, will be the stumbling
block for the police. How can they possibly help you when your only evidence
is a jumbled mess of TV presenters saying things that could be construed as
answers to your comments and the 'feeling' that people are talking about you
and watching you?

I seem to recall that last time this was being discussed someone asked if you
had been to see a psychiatrist about this - after all if this is really
happening then you have can only benefit from being given a clean bill of
health. I don't recall an answer.

> I also went to a firm of solicitors; again, very
>discouraging. Put bluntly, they can't deal with cases where the
>perpetrators aren't well-defined and the existence of the crime

>itself is unprovable.

Well how could they? Who would you sue? The country?

>o so if that option is out, what's left? well, there's the
>"do nothing" option. To some extent this option works. They've
>spent a lot of money and ultimately achieved nothing except to
>force me out of the country - which has been an own goal for
>them, since now they can't do what they were doing in the UK.
>Expenditure of further resources would feed the pockets of
>their greedy contractors, but is a waste of money as far as the
>employing organization is concerned.

So you are no longer in the uk? And this is not happening anymore?

Then let it go. Just leave it alone and get on with your life. Its just not worth it. There is nothing you can do to prove that this happened whether it did or did not. So forget it. Go and explore the net - when people aren't spamming it with useless repetitve posts there's a lot of interesting and worthwhile things out there to see and do. Likewise real life (I'm told *&).

>completely conventional, I have a good academic and work
>record. Until all this started, I had no mental health
>problems; the diagnosis of illness was only after 2 1/2 years
>of abuse. If they did this to me, they could do this to
>absolutely any British citizen. If this stuff gets out, it
>won't be me that has to worry - it'll be them. They take a
>normal person, lie about him, demonise him, try to force him
>into killing himself - and this is in a country where the rule
>of law applies?

If this gets out then *that* will be the time to bring your claims to the foreground.

The only thing ruining your life right now is you, Mike. And the only thing that will make your life any better now is also you. So go and make your life better and show them that they failed.

Claire

****
* "And though we say all information should be free it is not. *
* Information is power and currency of the virtual world we inhabit." *
****
* C.Speed - <speedc@cs.man.ac.uk> <http://www.cs.man.ac.uk/~speedc/> *
****

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>But we've *done* that. I certainly have at least. Way back when you
>originally started posting and your posts were neither tediously repetitve
>nor stupidly long.

Once again we're running into a brick wall. The reason I started posting
was because I couldn't figure out a way out of the situation, and thought
that saying it out into the open would provide a catalyst for one of
those "in the know" (there are plenty in this category, and it's a fair
bet that some of them are reading this) to speak up.

It hasn't worked, yet. A little more aggressive shit-stirring (excuse expletive)
might do the trick. Perhaps Usenet posting is the wrong arena for this sort of
activity; although obviously it does have the advantage of rapid feedback.

Thing is, for people to open up, you would have to provide them with a
reason why it would be in their interest to do so. There's no obvious way
of doing that; to get thinking people to incriminate themselves when they're
safe in denying all knowledge is not a trick I can figure out how to do.

>But whenever anyone makes any good suggestions you ignore them and start
>posting from the begining again. You don't want us to help you - so what do
>you want? If you really wanted help you would listen to peoples suggestions
>and respond to them. Is this just an attention thing?
>But I'll try again, because I'm a fool like that.

A "good" suggestion would be one which had the effect of halting the
persecution, which so far hasn't happened. If you make a "good" suggestion then
damn right I'll stop posting - because then I won't have to.

>You haven't yet given any examples of anything concrete to suggest that this
>is really happening to you. This, I would imagine, will be the stumbling
>block for the police. How can they possibly help you when your only evidence
>is a jumbled mess of TV presenters saying things that could be construed as
>answers to your comments and the 'feeling' that people are talking about you
>and watching you?

Because, as said previously, concrete proof does not exist. If it existed then
I wouldn't be talking to you - if it could be proved, or if those doing it
could be found, they wouldn't be able to continue.

What's happened is all conversation. You can't prove conversation, not without
a tape recorder, and even then you would have to prove that what they meant
corresponded to what you understood.

The psychopath who manages the Applics group at my previous employers
played little word games, not only with me but with at least one other
person in the group; words which rhyme with swear words, words which are
ambiguous, eg "bent", words which rhyme with wank, "sheet" rhymes with shit,
end (how was your weak end? being the standard salutation on a Monday morning).
Sounds childish, most people would easily tell him to fuck off; except to people
with predisposition to depression and the inability to express themselves
(this was before I started taking medication), that sort of nastiness is
not bearable. After ten months of this I was so ill I was crying constantly,
eventually I went into hospital and started on medication. Somebody else he
did this to (over a year later!) got so depressed he took an overdose of
pills, had to go on antidepressants and left.

And where does the "concrete proof" of this trouble exist? NOWHERE. Even if you had physical evidence, even if you had the presence of mind to record what was said, how could you prove what he actually meant by what he was saying? In some cases of harassment you can prove what was done, because it's undeniable. But when the harassment is done with any presence of mind whatsoever, it becomes difficult. In the case of the wider harassment, the people doing it obviously know what they're about - they must have done similar things to other people before in one form or another, and they know what they can get away with, they know what the police will do nothing about.

>I seem to recall that last time this was being discussed someone asked if you
>had been to see a psychiatrist about this - after all if this is really
>happening then you have can only benefit from being given a clean bill of
>health. I don't recall an answer.

Yes. The reply was of the "neither confirm nor deny" variety. Not much else they can say, is there?

>Well how could they? Who would you sue? The country?

Hmmm, now there's a thought... :-)

>If this gets out then *that* will be the time to bring your claims to the
>foreground.

Wrong way round. It won't get out unless I do something to bring that about; remember, it isn't in THEIR interest for THEIR criminality to be exposed. Yelling loudly on Usenet might nudge things along in the right direction.

>The only thing ruining your life right now is you, Mike. And the only thing
>that will make your life any better now is also you. So go and make your
>life better and show them that they failed.

Ignoring them would be bliss, but it's not a winning strategy.

There are going to be more of these posts. Sorry. That's the way it is.

3996

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Posted via a free Usenet account from http://www.teranews.com

751. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 21:15:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <70jn84-6g5.ln1@mail.specsol.com>
Source record: 46562

John Smith I <assemblywizard@gmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:

> > ...
> >
> > *ALL* units of measurement are arbitrary. Once a standard is set, that's
> > (if you are sane) what you use.
> >
> > By that convoluted logic:
> >
> > The dollar is an arbitrary unit so why strive for accuracy in your paycheck?
> >
> > The inch is an arbitrary unit so why should the carpenter strive for
> > accuracy in matching the new door to your old door frame?
> >
> > Miles per hour are based on two arbitrary units so why should the cop
> > give you a ticket for doing 90 in a 35 MPH zone?
> >
> > The liter is an arbitrary unit so why should the maker strive to ensure
> > there is 2 liters of soda in a 2 liter bottle?
> >
> > But, I know you are just playing word games here.
> >

> Sir:

> You SERIOUSLY miss the point.

You mean the point where I won't subscribe to arm waving philosophy and
insist on science?

> All you named there are an invention of man and man allows himself to be
> governed by them ... (some don't, ever hear about income tax evasion and
> prisons?)

Babble.

> The laws of mathematics, physics and the sciences exist in an absolute
> form, somewhere ...

Utter nonsense.

All units are human constructs.

There is no such thing as an absolute frame of reference, or much of
anything else absolute except the value of pi.

There is no absolute quanta of time, length, mass, flux density, energy,
power, angular measure, force, or speed.

--
Jim Pennino

Remove .spam.sux to reply.

752. MI5 Persecution: But why? 2/8/95 (4901)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 21:18:38 UTC
From: MI5Victim@mi5.gov.uk
Message-ID: <m07002522130019@4ax.com>
Source record: 46569
Cross-posted to:
it.discussioni.geometri,it.comp.giochi,rec.radio.amateur.antenna,hr.rec.glazba.snimanje,alt.consciousness.4th-way

>Very unstructured, no proof whatsoever. So why should anyone
>take it seriously? If I said to you, "my next door neighbour eats
>babies", how much credibility would you attach to that?

Well, cos it's true. I was hoping that someone "in the know" would
appear and make some self-revealing comments, but that hasn't
happened. Everyone's keeping quiet. What a pity.

>>This is an agglomeration of articles and replies previously
>>posted to Usenet, so it's a bit hard to read. This posting
>>describes a campaign of character assassination initiated

>Who's character is being assassinated? It isn't clear from the post.
>Are we talking about Grenville Janner? I thought he was a spook
>himself? He's certainly able to hold his own on the issue you cite.

Mine, mainly. The reason for putting that episode at the top
of the posting is that they tried to kill two birds with one stone
at the Beck trial - they simultaneously put words into the mouth
of their invented "witness" to smear Janner, and repeated exactly,
word-for-word, stuff which had been said by and about me.

That was the only occasion (the only one recognizable to me,
anyway) when they went after another target at the same time.
And it's quite lucky they did that - because it could give some
pointers to who they might be.

Presumably there are people still around who were involved in
that trial, and know what happened. Beck might be dead, but the
"witness" would still be around, as would Beck's solicitor.

>>by a group of people or agency within the UK. Although
>>they have never presented their identity, you can draw
>>your own conclusions on that point. There aren't many
>>people with the technical resources and contacts in
>>society to make feasible the sort of deliberate attack
>>on an individual which is described in this article.
>
>There aren't _any_ as far as I am aware.

I'm afraid there are.

>>The most disturbing part of the whole episode is the
>>participation of British institutions and their members, fully
>>comprehending what they do, in what is an act of attempted

>>murder against a British citizen.
>
>The whole society, in fact. From the top to the bottom. They
>wouldn't be trying to tell you to kill yourself by any chance,
>would they?

You got it. I'm a popular guy.

>>After the trial Janner said that "now he knew what it felt like
>>to be a victim of Beck's"; but, it wasn't Beck who set up the
>>attempted character assassination on Janner; the fact that they
>>took a side-swipe with their verbatim repetition shows
>>where the real source is to be found.
>
>The newspapers?

Well, your guess is as good as mine. But what newspaper would
send a team after someone for five years? I don't think so,
somehow. Of course they could, but it wouldn't be in their
commercial interest.

You'd have to look at a corporate entity which would indulge in
activity of this type, and the nature of the contacts they have
narrows down the search.

>>The goons behind the molestation are lower than the paedophiles
>>they use to convey their propaganda - they use the same
>>strategy of covert abuse, but there is nobody to check their
>>actions, or to bring these criminals to justice.
>
>Ummm.. Janner is a Barrister, a journalist who writes on a wide
>variety of issues, and a long-standing Labour MP. If he's unjustly
>smeared, he's more that capable of setting the record straight.

Janner blamed Beck for the invention. He didn't say anything about
it having any other origin. Even had he suspected any other source,
he could hardly have pointed the finger without some evidence.

>You say that the media is making similar allegations about you in
>relation to this issue? So, you're accused of child abuse, amd
>the allegation was reported in the media, I assume.

I've been accused of many things although that wasn't one of them.
Most of them have been yelled in my face by people on the street
in London at some time or other. Bit difficult to misinterpret
when that happens.

>What exact;y are they saying about you? (Respond here please. I'm
>leaving the UK tomorrow, so I can't read e-mail.)

It changes with time. Every so often, they sing a new song;
so at one point the allegation was homosexuality, at another
is was low intelligence, then it degenerated into sexual abuse.

<snip>

>>They invaded my home with their bugs, they repeated what I
>>was saying in the privacy of my home, and they laughed that it
>>was "so funny", that I was impotent and could not even communicate
>>what was going on. Who did this? Our friends on BBC television,
>>our friends in ITN, last but not least our friends in Capital
>>Radio in London and on Radio 1.
>
>How do you know this? Just from what you hear on the radio?

I can't remember if this was mentioned in the "regular" posting,
but on a few occasions they set me up with people nearby to talk
about me, or more correctly, to talk about somebody who
(in their minds) "resembles" me, with actually naming me.

One such occasion was a coach trip to Europe in June 1992.
The "set up" comprised a guy talking to a vacant giggling female
about "this bloke", who was never named. Apparently "they"
(also never named) "found somebody from his school",
"they" "got" him at his house and at a neighbours, and at
a B&B where their target was for one night.

Apart from that, yeah, from "what I hear on the radio". And
from what I see on TV. (I wouldn't be doing my job as a
mentally ill person properly if the TV and radio weren't
talking to me, now, would I?)

>>Oh yeah, I can see it now. All of them banding together, in a united
>>effort against one man. So ITN, the BBC, and Capital all decide to sit
>>round the table and they come up with idea of breaking into someones
>>house, putting bugs everywhere, listening in to his conversation, and
>>shoving it out on the news everyday.
>
>But why would they do this? What possible reason would they have?

But why get at anybody? Victimisation is the pastime practised against
other people; as the scorpion said to the frog, "it's in my nature".

>Are you aware that what you describe is also a common symptom of people
>who are suffering from a psychiatric illness? Have you been to your
>doctor and told him about this? Did he prescribe any medication? Have
>you been taking it, or have you stopped?

Yes, Yes, and Yes respectively. Still taking it. Doing quite well actually.

>>This someone has nothing to do with
>>politics, or business, or entertainment, just an ordinary Joe Bloggs who
>>seems to be extremely paranoid.
>
>Usually a clinical symptom rather than proof of a conspiracy in such
>matters.

>>How did they do this? I'll give you an example. About a year ago,
>>I was listening to Chris Tarrant (Capital Radio DJ among other
>>pursuits) on his radio morning show, when he said, talking about
>>someone he didn't identify, "you know this bloke? he says we're
>>trying to kill him. We should be done for attempted manslaughter"
>>which mirrored something I had said a day or two before.
>>Now that got broadcast to the whole of London - if any recordings
>>are kept of the shows then it'll be there.
>
>And this is supposed to mean... what? Chris Tarrant is in on this plot
>to kill you? It sure sounds like a joke to me. When you start to get
>ill, the mind often makes connections that seem logical and lucid to
>you, but do not to the rest of the world. This is one of those connections.
>They are usually known as delusions.

This is the problem, and there doesn't seem to be any way around it.
If a clearly sane person reported this persecution, you might believe
him, but probably you'd tell him to go see a doctor to "verify his
sanity". If someone with the illness of which you could argue these
things to be symptomatic says these things, again, you might believe
him, but it would be unlikely - the easiest route is the one you are
taking in the above paragraph. The only way I can convince you of what
I am saying is by giving precise details of what, when, how - and for
most of that stuff is based solely on memory.

To prove it would require an admission from somebody, or else hard
proof in the shape of physical evidence such as tape recordings.
Of course, I don't have that.

>The idea of a "pattern", and the notion that if anyone could look
>through your eyes they would see the same thing is very indicative of
>the onset of a psychiatric illness. Schizophrenia and manic depression
>have similar symptoms. I'm not trying to be disrespectful here.
>This may be an illness and it can be managed by the use of medication.
>If it _isn't_ treated, it can lead to terrible tragic consequences.

I'm quite aware what the symptoms would be, and that the reality
corresponds to those symptoms.

But if anything, that is an argument which could convince you of
the truth of what I'm saying. If they deliberately set out to
simulate the symptoms of schizophrenia - in other words, if they
know through observation that their target is either suffering
from the illness, or is on the borderline and could be pushed in
with an appropriate stimulus, then they can feel safe in what
they do, since once you are registered as suffering from the
illness, people will assign less credibility to assertions that
persecution is based in reality.

That this can happen, and people collude by silence, is absolutely
horrifying. It is all the more horrifying that it can happen in a
country such as Britain which has no history of repression.
Perhaps its happening in the UK is due to the arrogant assumption

of moral superiority on the part of those in the media and others involved - we won the last war and we can keep harping on about German and Japanese war crimes, so we can do whatever we like and we'll be right, up to and including destroying the lives of our citizens (as long as we're not caught doing it).

>>That is the level it's at - basically they show they're listening
>>to what you're saying at home, they show they're listening to you
>>listening to them
>
>But why? And why you? Do you realize how much it would cost to keep
>one person under continuous surveillance for five years? Think about
>all the man/hours. Say they _just_ allocated a two man team and a
>supervisor. OK., Supervisor's salary, say, £30,000 a year. Two men,
>£20,000 a year each. But they'd need to work in shifts -- so it would
>be six men at £20,000 (which with on-costs would work out at more like
>£30,000 to the employer.)
>
>So, we're talking £30,000 x 6. £180,000. plus say, £40,000 for the
>supervisor. £220,000. Then you've got the hardware involved. And
>any transcription that needs doing. You don't think the 'Big Boss'
>would listen to hours and hours of tapes, do you.
>
>So, all in all, you couldn't actually do the job for much less than
>a quarter million a year. Over five years. What are you doing that makes
>it worth the while of the state to spend over one and a quarter million
>on you?

Those are pretty much the sort of calculations that went through my head once I stopped to consider what it must be costing them to run this little operation.

The partial answer is, there have been periods when the intensity has been greater, and times when little has happened. In fact, for much of 1993 and the first half of 1994, very little happened. Although I don't think that was for reasons of money - if they can tap into the taxpayer they're not going to be short of resources, are they?

The more complete answer is in the enormity of what they're doing. When countries kill their own people, as a rule, they get found out and all hell breaks loose. This isn't some para shooting Irish teenagers in the back. This is something which permeates English society, which they are ALL responsible for, and which they cannot escape responsibility for.

Relative to the cost to British pride of seeing their country humiliated for the persecution of their own defenceless citizens, isn't is worth the cost of four or five people to try to bring things to a close in the manner they would wish? To the government a million or two is quite honestly nothing - if they can convince themselves of the necessity of what they're doing,

money is not going to be the limiting factor.

>>What possible reason? I guess because they think it's amusing to do
>>so.
>
>What? Spend a quarter mil. a year to amuse themselves? And why not
>change every now and again? Why keep watching you? (Unless you _are_
>doing something, and I don't think you are, though you may have some
>deep, dark secret in your past.)

See the above.

==========

>>I'm going to try to rationalise what you're telling us. I can think of three
>>possible explanations for what you are experiencing.

>>Another possibility is that you are developing some kind of paranoia. There's
>>no stigma attached to this; we're all paranoid to some extent, although
>>perhaps not to the extent that a doctor would call us paranoid. I think
>>paranoia is quite a straightforward explanation here - you really do believe
>>that all these things are aimed at you; you see people everywhere trying to
>>get at you. Logic suggests that this cannot really be the case.

>I think the evidence leans towards this explanation myself. Why not
>try soc.support.depression and see what some of the people there have
>to say about this? Just to get some more perspective on your perspective,
>so to speak?

Sure, it "leans" towards it. But please at least admit there is a
POSSIBILITY of it being very real. And once you've done that, can
you come up with some thoughts on methods of proof? I may be missing something
in my assessment - there may be a way of proving it, in the face of non-
cooperation from the "players".

4901

--
Posted via a free Usenet account from http://www.teranews.com

753. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 21:22:29 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <kc9uh.168$qy3.140426@news.sisna.com>
Source record: 46563

jimp@specsol.spam.sux.com wrote:

> ...
> There is no such thing as an absolute frame of reference, or much of
> anything else absolute except the value of pi.
>
> There is no absolute quanta of time, length, mass, flux density, energy,
> power, angular measure, force, or speed.
>

Jim:

Well then, we can safely assume you have no belief in God! And,
certainly not a God prone to playing dice in the dark!--but, still able
to follow some rules ... (thanks for that one Cecil)

Well then, that leaves the "Man is God" theory, we will just make up the
rules as we go along ... I have tried that with women--I find most of
them even have rules I must obey ...

<chuckle>
Regards,
JS

754. MI5 Persecution: Surveillance methods 5/8/95 (5806)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 21:30:18 UTC
From: MI5Victim@mi5.gov.uk
Message-ID: <m07002522244045@4ax.com>
Source record: 46570
Cross-posted to:
it.discussioni.geometri,it.comp.giochi,rec.radio.amateur.antenna,hr.rec.glazba.snimanje,alt.consciousness.4th-way

From: Pamela Willoughby <pjw31@willouby.demon.co.uk>
Newsgroups: uk.misc
Date: Sat, 05 Aug 1995 18:08:32 GMT
Organization: Myorganisation
Lines: 15
Message-ID: <142297143wnr@willouby.demon.co.uk>

>Hmmm, strange eh.
>I mentioned all this goings on to my boyfriend, who works for the
>British intelligence service, and he assures me this sort of thing
>never goes on.. not ever...honest.
>Though he said the name was familiar...

it does go on, although it's an open question who does it.

Some time ago there were press reports of an Army intelligence person called Jones who claimed Diana and Hewitt had been photographed in a compromising position... he said he'd been doing this as part of an Army unit which had previously operated in Northern Ireland.

Then Hewitt said he'd been told the same thing by some Army people, and that they were threatening to release the tapes unless they curtailed their liaison... as per usual everyone denied everything, painted Jones as the "Jones twins" - not very original in how they deal with their perceived enemies, are they?

You have to wonder how they manage to achieve this sort of surveillance though. Audio you can understand, it's possible to put a microphone through the wall, and apparently there exist devices which will retrieve sound from a laser beam bounced off a window - sounds sci-fi, but there's a well known surveillance electronics company in London which sells these things.

But how would you get video out of a room, unless you had actual physical access in order to plant a device for pickup? We're not talking about looking in from afar, but an actual device within the room. You could either drill through the wall and shove a pickup through; or you could supply a trojan device with a hidden pickup inside; but most likely, you would have to physically break into your target room to plant a camera. That's not an infeasible option; all it means is having your target(s) watched to make sure they're not in the vicinity, then you negotiate any locks on the property and find a suitable receptacle for your device.

The next question is how they defeat the usual methods of counter-surveillance. We had private detectives carry out a "sweep" of every room and the telephone line. They found nothing. That indicates at least four possibilities that I can think of; (this is all guesswork BTW, and probably fanciful guesswork at that!)

1) no bugs (pull the other one)

2) radio-transmitting devices which can be controlled from an external source, ie you can instruct them to switch off when you detect a counter-surveillance sweep taking place

3) hard-wired devices; probe microphones or whatever they're called, things you poke through the wall

4) passive surveillance devices; so you bounce laser or radio waves off a suitable reflecting surface (again, sounds far-fetched but such things may apparently exist).

5) there is a fifth possibility, that the PI's didn't detect an actual transmitting device; there are technologies specifically designed to avoid detection, eg frequency hopping and suchlike. But how much sophistication could you build in to a device which would have to be small enough to be physically concealable?

I guess the real question is to find out who is ultimately behind these "goings on". And if the "great and good" (or the better known, at any rate) can't protect themselves, what hope is there for the rest of us?

5806

--
Posted via a free Usenet account from http://www.teranews.com

755. Re: Toroidal 1:1 balun third 'magnetising' winding - trifilar or separate?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 21:42:07 UTC
From: "Dr.Ace" <Ace@WH2T.com>
Message-ID: <792c3$45b92427$4fc416f$440@DIALUPUSA.NET>
Source record: 46566

"Dr.Ace" <Ace@WH2T.com> wrote in message
news:c92b8$45b8ecfb$4fc5d53$28506@DIALUPUSA.NET...

> Hi Dick,
> You might want to try a horizontal loop antenna, they are very quite
> with respect to QRM.
>
> http://www.bloomington.in.us/~wh2t/loop.html
>
> If you need a 4:1 balun :
> http://www.bloomington.in.us/~wh2t/balun.html
>
> 7, Ace - WH2T
>
>

TYPO Correction : quite should read quiet .

756. Re: 2nd RFD: rec.radio.amateur.moderated moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 22:01:31 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <li5ir2529ir8rdvie8iks2nf5tq2ge915c@4ax.com>
Source record: 46559
Cross-posted to: news.groups.proposals,rec.radio.amateur.antenna

On 25 Jan 2007 12:19:02 -0600, "Paul W. Schleck, K3FU"
<pschleck@novia.net> wrote:

>This is a Request for Discussion (RFD) to create a new moderated
>discussion newsgroup for amateur radio on Usenet. It has been relayed
>to rec.radio.amateur.antenna and rec.radio.amateur.dx as announced in
>the RFD. Please consider contributing your opinions regarding this
>newsgroup to news.groups.proposals, where followups to this message have
>been set.

Hi Paul,

I consider the following an artificial solution:
>The main alternatives are:
>
>1. Make rec.radio.amateur.moderated an all-encompassing moderated amateur
> radio discussion newsgroup.
>
>2. Keep the topics focused on misc and policy, and come up with a
> better name for our proposed misc+policy moderated amateur radio
> discussion newsgroup.
3. Instruct participants in the use of web tools so that they can
filter out abusive topics or abusive users. Very simple with today's
readers.

Solution 3 can be immediately implemented and requires no further
fragmentation of the news feed. Solution 3 is also democratic
compared to the possibility of the abuse by autocracy.

73's
Richard Clark, KB7QHC

757. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 23:34:13 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <epbfv5$st3$1@news.service.uci.edu>
Source record: 46575

Cecil Moore wrote:
> Jim Kelley wrote:
>
>> If you feel it is more useful to make measurements using standards
>> from another reference frame, then I wholeheartedly encourage you to
>> do so.
>
>
> You missed the point, Jim. Calculating the age of the
> universe, ever and ever more accurately, with a standard
> that may be continuously changing is technical insanity.

The point you're missing is that the standard isn't changing with
respect to the frame in which the observations are made. We're
accurately measuring what we're observing in our reference frame -
unless of course you're prepared to prove otherwise.

73, Jim AC6XG

758. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 23:39:56 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <gdbuh.4322$O02.344@newssvr11.news.prodigy.net>
Source record: 46571

jimp@specsol.spam.sux.com wrote:
> The dollar is an arbitrary unit so why strive for accuracy in your paycheck?

How much did an ounce of gold cost in dollars one
year after the first super nova? That is the point
that you are missing.

> But, I know you are just playing word games here.

Nope, you completely missed the point. Our seconds
are just as arbitrary as our dollars. Our dollars
didn't exist one year after the first super nova
and neither did our seconds.
--
73, Cecil http://www.w5dxp.com

759. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 23:40:52 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <8ebuh.4324$O02.568@newssvr11.news.prodigy.net>
Source record: 46572

John Smith I wrote:
> The laws of mathematics, physics and the sciences exist in an absolute
> form, somewhere ...

Too bad we haven't discovered them yet. :-)
--
73, Cecil http://www.w5dxp.com

760. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 23:44:42 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <Khbuh.4325$O02.3035@newssvr11.news.prodigy.net>
Source record: 46573

Jim Kelley wrote:
> If you feel it is more useful to make measurements using standards from
> another reference frame, then I wholeheartedly encourage you to do so.

You missed the point, Jim. Calculating the age of the
universe, ever and ever more accurately, with a standard
that may be continuously changing is technical insanity.
--
73, Cecil http://www.w5dxp.com

761. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-25 23:45:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <mprn84-bf.ln1@mail.specsol.com>
Source record: 46574

John Smith I <assemblywizard@gmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:

> > ...
> > There is no such thing as an absolute frame of reference, or much of
> > anything else absolute except the value of pi.
> >
> > There is no absolute quanta of time, length, mass, flux density, energy,
> > power, angular measure, force, or speed.
> >

> Jim:

> Well then, we can safely assume you have no belief in God! And,
> certainly not a God prone to playing dice in the dark!--but, still able
> to follow some rules ... (thanks for that one Cecil)

Non sequitur.

> Well then, that leaves the "Man is God" theory, we will just make up the
> rules as we go along ... I have tried that with women--I find most of
> them even have rules I must obey ...

Non sequitur.

You do babble a lot.

--
Jim Pennino

Remove .spam.sux to reply.

762. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 00:15:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <qhtn84-4a4.ln1@mail.specsol.com>
Source record: 46426

Cecil Moore <mycall@hotmail.com> wrote:
> Jim Kelley wrote:
> > If you feel it is more useful to make measurements using standards from
> > another reference frame, then I wholeheartedly encourage you to do so.

> You missed the point, Jim. Calculating the age of the
> universe, ever and ever more accurately, with a standard
> that may be continuously changing is technical insanity.

You missed the point Cecil.

Time never changes in our frame of reference.

The second is always the duration of 9,192,631,770 periods of the radiation
corresponding to the transition between the two hyperfine levels of the
ground state of the caesium-133 atom.

--
Jim Pennino

Remove .spam.sux to reply.

763. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 00:23:40 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <gSbuh.66447$qO4.35123@newssvr13.news.prodigy.net>
Source record: 46427

Jim Kelley wrote:
> The point you're missing is that the standard isn't changing with
> respect to the frame in which the observations are made.

The standard is not changing with respect to a subjective
frame of reference but it is changing with respect to an
objective frame of reference? What is wrong with this
picture? Ignorance of the objective frame of reference
is no excuse, IMO.
--
73, Cecil http://www.w5dxp.com

764. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 00:25:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <68un84-4a4.ln1@mail.specsol.com>
Source record: 46428

Cecil Moore <mycall@hotmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:
> > The dollar is an arbitrary unit so why strive for accuracy in your paycheck?

> How much did an ounce of gold cost in dollars one
> year after the first super nova? That is the point
> that you are missing.

> > But, I know you are just playing word games here.

> Nope, you completely missed the point. Our seconds
> are just as arbitrary as our dollars. Our dollars
> didn't exist one year after the first super nova
> and neither did our seconds.

How many times have I said standards are arbitrary, Cecil?

That the standards are arbitrary is irrelevant.

That the human defined unit of time called the second didn't exist before
humans defined it is irrelevant.

Time existed before humans and will continue to exist after humans are
long gone.

There is no such thing as a quanta of time.

The human defined unit of time called the second is simply a way to
measure time.

The universe existed for a very long time before humans came along and
defined a unit of time called the second and put a number related to
those units on it's age.

--
Jim Pennino

Remove .spam.sux to reply.

765. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 00:32:50 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <S_buh.1351$4H1.1347@newssvr17.news.prodigy.net>
Source record: 46429

jimp@specsol.spam.sux.com wrote:
> Time never changes in our frame of reference.

I agree with you. Time never changes in our subjective
frame of reference exactly as the center of the universe
never changes in the 17th century Catholic Church's
frame of reference.

But our subjective time frame of reference is
no more valid than the Catholic Church's subjective
space frame of reference was - and maybe even less so.

You might even be the reincarnation of one of the
Catholic priests who condemned Galileo to house
arrest. :-)
--
73, Cecil http://www.w5dxp.com

766. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 00:35:04 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <V0cuh.173$SG5.236639@news.sisna.com>
Source record: 46430

Cecil Moore wrote:

> ...
> You missed the point, Jim. Calculating the age of the
> universe, ever and ever more accurately, with a standard
> that may be continuously changing is technical insanity.

Cecil:

This has become an impossible argument. And, Richards' comment about paying some attention to staying on topic caught my attention.

My point is, with our present state of knowledge and understanding of such things as time and the "mysterious 377 ohms" (not EVEN to mention the permittivity of space) our antenna designs and advancements have stagnated.

It is hard to prove a negative, as you have stated before. So, let us not move forward to prove, rather to investigate--to leave no stone unturned (not to mention to go where no man has gone before!)

Or, look at Roys' program EZNEC. The antenna, by present understanding of the mentioned "standards", has become ALL TOO PREDICTABLE. (not to offend Roy, he has done an EXCELLENT job and he is an asset) It is at the point where we begin to dare advance that progress killing statement, "All is known, all has been discovered."

When things become this predictable, when advancements are up against the wall and stalled, isn't it time to go back and look at these "truths" we began with in the first place? I would like to think a new discovery is but around the corner ... we may not do it, but we can create a forum where it will happen.

What kind of men would allow this to exist?

Warmest regards,
JS

767. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 00:36:47 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <epbjmc$1tu$1@news.service.uci.edu>
Source record: 46433

Cecil Moore wrote:
> The standard is not changing with respect to a subjective
> frame of reference but it is changing with respect to an
> objective frame of reference? What is wrong with this
> picture?

Skewed perspective of the artist.

73 de ac6xg

768. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 00:42:59 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <n8cuh.1352$4H1.207@newssvr17.news.prodigy.net>
Source record: 46431

jimp@specsol.spam.sux.com wrote:
> The human defined unit of time called the second is simply a way to
> measure time.

The universe doesn't age one second with each passing
second of subjective-arbitrary Earth time so what good
is any estimate of the age of the universe? A scientist
living somewhere else in the universe will get an entirely
different result. One of the cornerstones of science is
that if the results are not reproducible everywhere at
every time then they are invalid.
--
73, Cecil http://www.w5dxp.com

769. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 00:55:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <hivn84-au9.ln1@mail.specsol.com>
Source record: 46432

Cecil Moore <mycall@hotmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:
> > Time never changes in our frame of reference.

> I agree with you. Time never changes in our subjective
> frame of reference exactly as the center of the universe
> never changes in the 17th century Catholic Church's
> frame of reference.

Word salad.

There is no such thing as a "subjective frame of reference".

> But our subjective time frame of reference is
> no more valid than the Catholic Church's subjective
> space frame of reference was - and maybe even less so.

Word salad.

There is no such thing as a "subjective frame of reference".

> You might even be the reincarnation of one of the
> Catholic priests who condemned Galileo to house
> arrest. :-)

You never tire of bringing up the Catholic Church and Galileo, do you?

Sorry, I don't know much about the Church other than they screwed
Galileo and you can shake it twice to clean the bore, but shake it
thrice and you've sinned some more.

Anyway, it appears that either:

A. You don't understand what a frame of reference means in physics.

or

B. You're bored and want to argue for it's own sake.

or

D. All of the above.

--
Jim Pennino

Remove .spam.sux to reply.

770. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 01:05:01 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <370o84-au9.ln1@mail.specsol.com>
Source record: 46434

John Smith I <assemblywizard@gmail.com> wrote:
> Cecil Moore wrote:

> > ...
> > You missed the point, Jim. Calculating the age of the
> > universe, ever and ever more accurately, with a standard
> > that may be continuously changing is technical insanity.

> Cecil:

> This has become an impossible argument. And, Richards' comment about
> paying some attention to staying on topic caught my attention.

> My point is, with our present state of knowledge and understanding of
> such things as time and the "mysterious 377 ohms" (not EVEN to mention
> the permittivity of space) our antenna designs and advancements have
> stagnated.

Yeah, so what?

The lever hasn't improved in thousands of years other than in the use
of new materials.

The same can be said for cannon and revolver design since about 1900.

When was the last time you heard of advancements in the design of milling
machines, lathes, fork lifts, the CRT, and any number of things?

Technologies mature, get over it.

Oh, and 377 Ohms and the permittivity of free space are not "mysterious"
to the educated.

<snip remaining>

--
Jim Pennino

Remove .spam.sux to reply.

771. Re: FM Transmitter in a hot air balloon?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 01:14:10 UTC
From: Jake Brodsky <ab3a@cNo0mScPaAsMt.net>
Message-ID: <1d-dncRCD5p6yCTYnZ2dnUVZ_oipnZ2d@comcast.com>
Source record: 46435

Ron J wrote:
> So I was doing some reading and one article mentioned that a group
> mounted an FM transmitter on a hot air balloon. I was also researching
> on the methods used by the FCC to measured field strengths. So how does
> one go about measuring field strength levels if a company somewhere,
> somehow, sometime decides to mount their transmitter on a hot air
> balloon to avoid building a tower?

Because the communications are likely to be line of sight, you could use
inverse square law equations to predict the signal strength.

> Would the FCC procedures still be valid? I wondering how the field
> strength tester would go mobile 30 meters from the radial or
> measurement point if the transmitter is changing position constantly.

FCC test procedures? How about FAA procedures? Keep in mind that with
balloon launches such as this group does, there are notices issued
warning aviators and air traffic controllers about it's existence. If
you poke something any higher than 700 or 1200 feet in the air
(depending where you are), you're in controlled airspace. You must
notify the local flight service station and provide position information
IN ADVANCE.

Jake Brodsky, AB3A
PP-ASEL-IA, Cessna Cardinal N30946 based KFME

772. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 01:15:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <v01o84-au9.ln1@mail.specsol.com>
Source record: 46436

Cecil Moore <mycall@hotmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:
> > The human defined unit of time called the second is simply a way to
> > measure time.

> The universe doesn't age one second with each passing
> second of subjective-arbitrary Earth time so what good
> is any estimate of the age of the universe? A scientist
> living somewhere else in the universe will get an entirely
> different result. One of the cornerstones of science is
> that if the results are not reproducible everywhere at
> every time then they are invalid.

Nonsense.

The universe most certainly does age one second with each passing
second within the frame of reference where the second was defined.

If a scientist living somewhere else in the universe uses the same
frame of reference, he will get the same result.

If he uses a different frame of reference, he will get a different
result which can be converted to our frame of reference and the
result will be the same.

GPS satellites are in a different frame of reference but manage to
provide results that agree with our frame of reference.

What I really don't understand is why understanding frames of reference
is so difficult for many evidently otherwise intelligent people.

--
Jim Pennino

Remove .spam.sux to reply.

773. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 01:15:44 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <0Dcuh.174$aR3.160821@news.sisna.com>
Source record: 46437

jimp@specsol.spam.sux.com wrote:
> John Smith I <assemblywizard@gmail.com> wrote:
>> Cecil Moore wrote:
>
>> > ...
>>> You missed the point, Jim. Calculating the age of the
>>> universe, ever and ever more accurately, with a standard
>>> that may be continuously changing is technical insanity.
>
>> Cecil:
>
>> This has become an impossible argument. And, Richards' comment about
>> paying some attention to staying on topic caught my attention.
>
>> My point is, with our present state of knowledge and understanding of
>> such things as time and the "mysterious 377 ohms" (not EVEN to mention
>> the permittivity of space) our antenna designs and advancements have
>> stagnated.
>
> Yeah, so what?
>
> The lever hasn't improved in thousands of years other than in the use
> of new materials.
>
> The same can be said for cannon and revolver design since about 1900.
>
> When was the last time you heard of advancements in the design of milling
> machines, lathes, fork lifts, the CRT, and any number of things?
>
> Technologies mature, get over it.
>
> Oh, and 377 Ohms and the permittivity of free space are not "mysterious"
> to the educated.
>
> <snip remaining>
>

<BUSTING-A-MAJOR-GUT!>
Regards,
JS

774. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 01:32:54 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <5Tcuh.175$ms3.126076@news.sisna.com>
Source record: 46440

jimp@specsol.spam.sux.com wrote:

> ...
> What I really don't understand is why understanding frames of reference
> is so difficult for many evidently otherwise intelligent people.
>

Garbage in, garbage out ...

A frame of reference which is in error is subject to that rule ... end
of story.

Regards,
JS

775. Re: FM Transmitter in a hot air balloon?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 01:43:48 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <epbmck$aa8$1@theodyn.ncf.ca>
Source record: 46438

Jake Brodsky (ab3a@cNo0mScPaAsMt.net) writes:
> Ron J wrote:
>> So I was doing some reading and one article mentioned that a group
>> mounted an FM transmitter on a hot air balloon. I was also researching
>> on the methods used by the FCC to measured field strengths. So how does
>> one go about measuring field strength levels if a company somewhere,
>> somehow, sometime decides to mount their transmitter on a hot air
>> balloon to avoid building a tower?
>
> Because the communications are likely to be line of sight, you could use
> inverse square law equations to predict the signal strength.
>
I was reading the problem as "since the balloon is moving, how can
you even fix on a pattern"

A lot of that isn't so much about field strength as pattern. They want
that controlled. And that's arrangeable when the antenna is fixed.

But if the antenna is moving about, then the pattern will change as
it moves, so you can't guarantee that it won't interfere with that
station in the next town over, while a fixed antenna would allow some
sort of directionality to provide a shadow in that direction.

Reminds me of people using 2M FM in the early seventies, from
small airplanes. They had no problem with a handie-talkie's low
power output, they had all kinds of problems with not being
able to control it so transmitting on a popular frequency would
trigger a bunch of repeaters at one time.

Michael VE2BVW

776. Re: The Awesome Razor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 01:45:42 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1169775942.004449.216920@v33g2000cwv.googlegroups.com>
Source record: 46439

No reason for saying "percieved". It was a very real and obvious
problem.

On Jan 23, 3:56 pm, "art" <aun...@insightbb.com> wrote:
> The reason for the original design was because in rarified locations
> such as
> Quito, Equador the yagi produces excessive corona at the element tips.
>
> The quad solved the perceived problem. I say perceived because the
> corona will eat away at the yagi antenna element lengths , In a
> hazardous
> area the quad is more suitable than any other antenna.
> Art
>
>
>
> Rick wrote:
> > On Tue, "Yuri Blanarovich" <K3BU> wrote:
>
> > >Let's not forget this 3D champion that decimated Yagis and other inferior
> > >contraptions by the antenna gurus and professoirs and scientwists. :-)))
>
> > >73 Yuri da BUm da father of Razors
>
> > Hey Yuri,
> > Is it true, I've heard you can't operate a Razor over dry land, or
> > where there is flamable material nearby because of the fire hazard?
>
> > How about we put one up over a salt marsh, would that be safe enough
> > to not endanger the population?
>
> > Rick K2XT- Hide quoted text -- Show quoted text -

777. Re: Shooting a wire over a grove of tall trees. What works?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 02:08:08 UTC
From: AC7PN <brunius@rockisland.com>
Message-ID: <1169777288.368837.289650@s48g2000cws.googlegroups.com>
Source record: 46441

Well, thanks for all the replies. I got my "potato gun/canon" to work well today. I have a remote trigger to set the canon off so if the pipe explodes I wont be hit. Hair spray is the answer. The guys at the local autoparts store had already researched the different brands and had a convicted opinion about what was best. I bought a can of that stuff. 3seconds of spraying works well.

But now I have a new problem. When the thing went off the 4lb fishing line played out for about 8 seconds. It's still connected to the projectile but after seaching the woods for an hour I couln't find it. The trouble is I don't know how far it went. 100ft 100yards or 100miles. The 4lb fishing line is invisalbe from more than a few feet away.

What now?

Tonight I'm making some more projectiles. It's looking like I'm not goint ot be on the air for this weekends CQ 160M TEST.

Bob Brunius

778. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 02:11:26 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <45b9634c$0$21252$39cecf19@news.twtelecom.net>
Source record: 46442

Cecil Moore wrote:

> jimp@specsol.spam.sux.com wrote:
>
>> One defines a standard and works with the standard.
>
>
> The point is that our "standard" second changes
> with velocity and we have no idea what our
> velocity is or was or will be. We are defining
> our average velocity as a constant without any
> evidence whatsoever to support that definition.
> That's no different from defining our average
> position as the center of the universe.

You really need to try and get your head around relativity. And
understand that what you are worried about doesn't matter a whit.

However, this will likely degenerate into one of your famous "Cecil
against the world" pissing matches as usual.

tom
K0TAR

779. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 02:25:01 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <065o84-sjp.ln1@mail.specsol.com>
Source record: 46443

John Smith I <assemblywizard@gmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:

> > ...
> > What I really don't understand is why understanding frames of reference
> > is so difficult for many evidently otherwise intelligent people.
> >

> Garbage in, garbage out ...

> A frame of reference which is in error is subject to that rule ... end
> of story.

Babbling word salad.

Then again, there are those without a snowball's chance in hell of
ever understanding what frame of reference means.

--
Jim Pennino

Remove .spam.sux to reply.

780. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 02:29:07 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <OHduh.179$us3.134276@news.sisna.com>
Source record: 46444

jimp@specsol.spam.sux.com wrote:

> ...
> ever understanding what frame of reference means.
>

Nope, sounds like my goldfish in the bowl would satisfy some here ...

Regards,
JS

781. Re: Shooting a wire over a grove of tall trees. What works?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 02:35:47 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <epbpe0$lv4$1@jaszczomp.tahoe.pl>
Source record: 46445

AC7PN wrote:

> ...
> But now I have a new problem. When the thing went off the 4lb fishing
> line played out for about 8 seconds. It's still connected to the
> projectile but after seaching the woods for an hour I couln't find it.
> The trouble is I don't know how far it went. 100ft 100yards or
> 100miles. The 4lb fishing line is invisalbe from more than a few feet
> away.
>
> What now?
> ...

Drag a rake perpendicular to the direction of the line, across the lines path carefully watching?

Once you find the line, you got the projectile ...

Regards,
JS

782. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 03:05:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <oa7o84-2q1.ln1@mail.specsol.com>
Source record: 46446

John Smith I <assemblywizard@gmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:

> > ...
> > ever understanding what frame of reference means.
> >

> Nope, sounds like my goldfish in the bowl would satisfy some here ...

Sounds like you either need more education or less alcohol/drugs.

Maybe both.

--
Jim Pennino

Remove .spam.sux to reply.

783. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 03:08:05 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <epbraimkj1@jaszczomp.tahoe.pl>
Source record: 46447

jimp@specsol.spam.sux.com wrote:

> ...
> Sounds like you either need more education or less alcohol/drugs.
>
> Maybe both.
>

Jim:

Well, gee, good thing we don't go on sounds, because you sound like the
MOST stupid idiot I have ever had the displeasure to chat with, but hey,
I continue to give you the benefit of the doubt :)

Hang in there buddy ...

Regards,
JS

784. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 04:15:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <kpbo84-l5d.ln1@mail.specsol.com>
Source record: 46448

John Smith I <assemblywizard@gmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:

> > ...
> > Sounds like you either need more education or less alcohol/drugs.
> >
> > Maybe both.
> >

> Jim:

> Well, gee, good thing we don't go on sounds, because you sound like the
> MOST stupid idiot I have ever had the displeasure to chat with, but hey,
> I continue to give you the benefit of the doubt :)

> Hang in there buddy ...

Everything I've posted about time and reference frames can be trivially
verified.

If you want to remain an ignorant, arm waving babbler, that's your choice.

--
Jim Pennino

Remove .spam.sux to reply.

785. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 04:23:50 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <qnfuh.4370$O02.133@newssvr11.news.prodigy.net>
Source record: 46449

jimp@specsol.spam.sux.com wrote:
> There is no such thing as a "subjective frame of reference".

:-)
--
73, Cecil http://www.w5dxp.com

786. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 04:26:46 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <aqfuh.4372$O02.4066@newssvr11.news.prodigy.net>
Source record: 46450

jimp@specsol.spam.sux.com wrote:
> The universe most certainly does age one second with each passing
> second within the frame of reference where the second was defined.

Only within the frame of reference where the second
was defined which didn't exist for the first 2/3
of the history of the universe.

> What I really don't understand is why understanding frames of reference
> is so difficult for many evidently otherwise intelligent people.

My point exactly!
--
73, Cecil http://www.w5dxp.com

787. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 04:33:21 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <gwfuh.187$tG4.173218@news.sisna.com>
Source record: 46451

jimp@specsol.spam.sux.com wrote:

> ...
> Everything I've posted about time and reference frames can be trivially
> verified.
>
> If you want to remain an ignorant, arm waving babbler, that's your choice.
>

Damn! Wonder why it feels so late ... <yawn>

Regards,
JS

788. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 04:34:58 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <Mxfuh.188$uY5.248855@news.sisna.com>
Source record: 46452

Cecil Moore wrote:
> jimp@specsol.spam.sux.com wrote:
>> There is no such thing as a "subjective frame of reference".
>
> :-)

;)

Regards,
JS

789. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 05:25:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <6rfo84-rfo.ln1@mail.specsol.com>
Source record: 46453

Cecil Moore <mycall@hotmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:
> > The universe most certainly does age one second with each passing
> > second within the frame of reference where the second was defined.

> *Only* within the frame of reference where the second
> was defined which didn't exist for the first 2/3
> of the history of the universe.

Babble.

The universe has aged one second with each passing second within the frame of reference where the second is defined whether or not there was anyone around to define a second and will continue to age at that rate in that frame whether or not there is anyone around who could take notice of the fact.

And since the frame of reference is a defined thing and not a physical reality, it doesn't matter if the Earth continues to exist or not either.

You seem to have a lot of difficulty with this concept.

> > What I really don't understand is why understanding frames of reference
> > is so difficult for many evidently otherwise intelligent people.

> My point exactly!

So your are saying you don't understand what a frame of reference is?

It is getting kind of obvious.

--
Jim Pennino

Remove .spam.sux to reply.

790. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 05:37:38 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <epc42v$3tu$1@jaszczomp.tahoe.pl>
Source record: 46454

Cecil Moore wrote:

> ...

Cecil:

I feel like a damn idiot, this guy has been at this for sometime (this
is from 2004), bet Richard has been having a laugh, look at the following:

Richard Harrison > wrote:
> Richard Clark wrote:
> "This paradox (differing light intensities in various directions) was
> solved by?"

> I have not seen that question before, but will speculate that Edwin
> Hubble deserves the credit as he used "red shift" in the light from
> other galaxies to show that they are speeding away from us and our
> galaxy. In fact, they are accelerating so that the farther the galaxy is
> away from us, the faster it is moving away.

> From continuous acceleration, the distant galaxy will eventually reach
> the speed of light. Then, light from the distsnt galaxy won`t reach us
> because it will tag along with the fast moving galaxy.

> There may be a time shortage too as Einstein has shown time slows as a
> thing moves faster.

> Hubble has also shown that the Doppler effect would shift the frequency
> lower as velocity of the retreating thing increases. Shift the frequency
> low enough and the wave is no longer described as light but may be
> classified as a millimeter radio wave.

> Best regards, Richard Harrison, KB5WZI

To be accererating, there would have to be a force .

Where would this force be coming from and what pray tell is directing
it?

The speed of light is a constant in all reference frames. If a light
source were to be moving at the speed of light away from an observer,
an impossiblity in itself, the light would still be moving at c towards
the observer.

--
Jim Pennino

Remove -spam-sux to reply.

Regards,
JS

791. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 08:09:02 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns98C4186AED9Edoldridgsprintca@64.59.135.159>
Source record: 46455

Cecil Moore <mycall@hotmail.com> wrote in news:aqfuh.4372$O02.4066
@newssvr11.news.prodigy.net:

> jimp@specsol.spam.sux.com wrote:
>> The universe most certainly does age one second with each passing
>> second within the frame of reference where the second was defined.
>
> *Only* within the frame of reference where the second
> was defined which didn't exist for the first 2/3
> of the history of the universe.

Actually, the second is defined as a certain exact number of oscillations
of a cesium atom in the same reference frame as the observer. The
transforms of general relativity permit us to predict the behavior of such
atoms (relative to our own observation) in other reference frames as long
as we have a good mathematical handle on their velocity and gravitational
warp.

--
Dave Oldridge+
ICQ 1800667

792. Retrieve S parameters set of a Murata inductor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 10:19:08 UTC
From: camelot <scosmo@tiscalinet.it>
Message-ID: <1169806748.203778.242280@s48g2000cws.googlegroups.com>
Source record: 46456

Hello,
I'm simulating in my schematic an antenna whose representation in
based on s-parameters. I need to add in that schematic a matching
inductor whose model should be s-parameter based too. This inductor is
produced by Murata and I'would like to know if, in your opinion, is
possible to get the dataset of s-parameter for this component in
typical range of frequency. I visited their website but I'was not able
to find that data. Had someone did that before?

Camelot

793. The blog on Pc trouble shooting skills,Networking,Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 11:05:57 UTC
From: suryanarayanareddykv@gmail.com
Message-ID: <1169809556.898679.297890@p10g2000cwp.googlegroups.com>
Source record: 46457

HI Friends
This blog is very useful to all sections of people.
For Pc trouble shooting skills,Linux,Html Webdesigning,Free
softwares,Networking skills,Gaming news and For Tips visit the blog:
http://technodata.blogspot.com

794. Re: Strongest signals received via skip?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 12:52:13 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <epcti1$ak2$1@aioe.org>
Source record: 46458

"K7ITM" wrote:
> What are the chances you'd ever see anything as large, say,
> as 0dBm into your receiver via skip?

At 14 MHz with a rx antenna gain of 0 dBd and no transmission line loss, that would call for an incident field strength of about 78.7 mV/m. Maybe not impossible for some SW broadcast stations and very good propagation conditions?

The maximum nighttime skywave fields received in the skip zones of a 50 kW, non-directional, MW AM broadcast station generally are less than 5 mV/m.

RF

795. Re: FM Transmitter in a hot air balloon?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 13:35:12 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <epd02jgbt1@aioe.org>
Source record: 46459

"Ron J" wrote:
> The idea behind it is that it's suppose to monitor local traffic
> conditions using a video feed and then it will broadcast some
> pre-recorded messages via the FM transmitter warning on-
> coming drivers of potential road blocks.

If this application is a real project, and intended for the US, and you need it to "broadcast" to FM receivers over an area that would be fairly useful for this purpose, then a station license will be needed from the FCC.

Unlicensed transmitters in the 88-108 MHz band are restricted under 47 CFR Part 15 to radiated field strengths not exceeding 250 ï¿½V/m at a distance of three meters in all directions from the transmit antenna. The transmit antenna needs to radiate only ~18.8 nanowatts in order to generate that field. FCC OET Bulletin 63 is a good resource for this situation http://www.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet63/oet63rev.pdf .

> Anyway, I'm supposed to determine the range of the
> FM transmitter by measuring the field strength.

The propagation paths for these circumstances will be line-of-sight, so except for reflections, received field strength will be inversely proportional to the distance from the transmit antenna. A system operating legally under Part 15 would produce a field of about 2 ï¿½V/m at a distance of about 1,400 feet. So if the airborne tx system elevation was 500 feet, its ability to cover a significant area on the ground with useful signal strengths will be reduced.

Hopefully this background information will be useful.

RF http://rfry.org

796. L/Series network tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 14:51:09 UTC
From: marc <amarcpassy@gmail.com>
Message-ID: <1169823069.024417.273600@v45g2000cwv.googlegroups.com>
Source record: 46460
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

In looking to build a tuner, I was looking at an L-network tuner, with switched inductance. If I also add a switch to make it a series-network (capacitance "before" or "after" inductance), what would be the limitations of such a design? I.e. What types of antennas, or under what conditions would it be inappropriate?

Thanks.

797. Thevenin and s-parameters...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 15:19:43 UTC
From: camelot <scosmo@tiscalinet.it>
Message-ID: <1169824782.191449.119960@q2g2000cwa.googlegroups.com>
Source record: 46461

Hello,
I'm have "little" doubt about s-parameter simulations. My
question is very simple but I do not know if the answer is the same.
The Thevenin theorem can be applied to a s-parameter simulation?
That is, if I do a simulation using a port P1 of 50 ohm where at valley
of the generator I've connected 2 impedences, one in parallel Z1 and
one in series Z2. Supposing I obtained S11 at frequency f1. Then I
incorporate the impedence Z2 (at frequency f1) in the port 1 impedence
(using Thevenin), can I obtain the same S11 parameters for f1 fequency?

Camelot

798. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 15:45:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <5vjp84-78t.ln1@mail.specsol.com>
Source record: 46462

John Smith I <assemblywizard@gmail.com> wrote:
> Cecil Moore wrote:

> > ...

> Cecil:

> I feel like a damn idiot, this guy has been at this for sometime (this
> is from 2004), bet Richard has been having a laugh, look at the following:

> Richard Harrison > wrote:
> > Richard Clark wrote:
> > "This paradox (differing light intensities in various directions) was
> > solved by?"

> > I have not seen that question before, but will speculate that Edwin
> > Hubble deserves the credit as he used "red shift" in the light from
> > other galaxies to show that they are speeding away from us and our
> > galaxy. In fact, they are accelerating so that the farther the galaxy is
> > away from us, the faster it is moving away.

> > From continuous acceleration, the distant galaxy will eventually reach
> > the speed of light. Then, light from the distsnt galaxy won`t reach us
> > because it will tag along with the fast moving galaxy.

> > There may be a time shortage too as Einstein has shown time slows as a
> > thing moves faster.

> > Hubble has also shown that the Doppler effect would shift the frequency
> > lower as velocity of the retreating thing increases. Shift the frequency
> > low enough and the wave is no longer described as light but may be
> > classified as a millimeter radio wave.

> > Best regards, Richard Harrison, KB5WZI

> To be accererating, there would have to be a force .

> Where would this force be coming from and what pray tell is directing
> it?

> The speed of light is a constant in all reference frames. If a light
> source were to be moving at the speed of light away from an observer,
> an impossiblity in itself, the light would still be moving at c towards
> the observer.

The part about force is badly worded, I admit.

However, are you saying the speed of light is not constant in all
reference frames?

If so, you are a damn idiot.

--
Jim Pennino

Remove .spam.sux to reply.

799. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 15:56:22 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <Bwpuh.6$eQ6.151675@news.sisna.com>
Source record: 46463

jimp@specsol.spam.sux.com wrote:

> ...
> The part about force is badly worded, I admit.
>
> However, are you saying the speed of light is not constant in all
> reference frames?
>
> If so, you are a damn idiot.
>

Even the speed of sound is fixed in our atmosphere (approx. 770 mph at sea level.) A moving object emitting sound can only "jam" the beginning of the sound wave towards its end, effectively "shortening" that sound wave and raising the pitch--the opposite can also occur.

We call this the doppler effect, it can also occur with light (has a fixed speed in the ether) and yes, even our rf transmissions.

I found that old piece of text when checking up on exactly what type of "discussions" you engage in; what I was pointing out with it is--YOU ARE A TRUE TROLL!

You are, NO JOKE, the real thing!

Regards,
JS

800. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 16:08:04 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <zHpuh.7$LB6.145551@news.sisna.com>
Source record: 46464

John Smith I wrote:

> ...
> You are, NO JOKE, the real thing!
>
> Regards,
> JS
>

However, should I have been mistaken, we will continue our chats, but at
a later date ...

Goodbye :)
JS

801. Re: FM Transmitter in a hot air balloon?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 16:28:10 UTC
From: jimlux@earthlink.net
Message-ID: <1169828890.027256.128190@p10g2000cwp.googlegroups.com>
Source record: 46465

On Jan 25, 8:14 pm, Jake Brodsky <a...@cNo0mScPaAsMt.net> wrote:
> Ron J wrote:
> > So I was doing some reading and one article mentioned that a group
> > mounted anFMtransmitteron ahotairballoon. I was also researching
> > on the methods used by the FCC to measured field strengths. So how does
> > one go about measuring field strength levels if a company somewhere,
> > somehow, sometime decides to mount theirtransmitteron ahotair
> >balloonto avoid building a tower?

Because the communications are likely to be line of sight, you could
use
> inverse square law equations to predict the signal strength.

Actually, no, inverse square (free space) will underestimate the
received signal strength. There's also a "height above the ground"
factor that would need to be taken into account for UHF and VHF links,
because the ground reflections are significant on both ends of the
link.

A program called Radio Mobile (google for it) can do the modeling over
your terrain.
Or, you can probably find one of the quick approximations for uniform
terrain. The usual model is called Longley-Rice, but Bullington has a
quick approximation.

802. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 16:45:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <acnp84-j4a.ln1@mail.specsol.com>
Source record: 46466

John Smith I <assemblywizard@gmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:

> > ...
> > The part about force is badly worded, I admit.
> >
> > However, are you saying the speed of light is not constant in all
> > reference frames?
> >
> > If so, you are a damn idiot.
> >

> Even the speed of sound is fixed in our atmosphere (approx. 770 mph at
> sea level.) A moving object emitting sound can only "jam" the beginning
> of the sound wave towards its end, effectively "shortening" that sound
> wave and raising the pitch--the opposite can also occur.

Pure babble.

Sound is a mechanical effect and requires a progation medium.

Light is an electromagnetic effect and does not require a medium.

One has nothing to do with the other.

> We call this the doppler effect, it can also occur with light (has a
> fixed speed in the ether) and yes, even our rf transmissions.

More babble.

That is not the doppler effect and there is no ether.

> I found that old piece of text when checking up on exactly what type of
> "discussions" you engage in; what I was pointing out with it is--YOU ARE
> A TRUE TROLL!

> You are, NO JOKE, the real thing!

And you are a true, babbling, ignoramus.

Lest someone believe your ignorant babble:

Speed of light and reference frames

From http://en.wikipedia.org/wiki/Speed_of_light

"One consequence of the laws of electromagnetism (such as Maxwell's
equations) is that the speed c of electromagnetic radiation does not
depend on the velocity of the object emitting the radiation; thus for

instance the light emitted from a rapidly moving light source would travel at the same speed as the light coming from a stationary light source (although the colour, frequency, energy, and momentum of the light will be shifted, which is called the relativistic Doppler effect). If one combines this observation with the principle of relativity, one concludes that all observers will measure the speed of light in vacuum as being the same, regardless of the reference frame of the observer or the velocity of the object emitting the light."

Doppler effect

http://en.wikipedia.org/wiki/Doppler_effect

"The Doppler effect, named after Christian Doppler, is the apparent change in frequency and wavelength of a wave that is perceived by an observer moving relative to the source of the waves. For waves, such as sound waves, that propagate in a wave medium, the velocity of the observer and the source are reckoned relative to the medium in which the waves are transmitted."

Relativistic Doppler effect

http://en.wikipedia.org/wiki/Relativistic_Doppler_effect

"The relativistic Doppler effect is the change in frequency (and wavelength) of light, caused by the relative motion of the source and the observer (like in the regular Doppler effect), when taking into account effects of the special theory of relativity.

The relativistic Doppler effect is different from the true (non-relativistic) Doppler effect as the equations include the time dilation effect of special relativity. They describe the total difference in observed frequencies and possess the required Lorentz symmetry."

Speed of sound

http://en.wikipedia.org/wiki/Speed_of_sound

"The speed of sound is a term used to describe the speed of sound waves passing through an elastic medium. The speed varies with the medium employed (for example, sound waves move faster through water than through air), as well as with the properties of the medium, especially temperature. The term is commonly used to refer specifically to the speed of sound in air. At sea level, at a temperature of 21 ?C (70 ?F) and under normal atmospheric conditions, the speed of sound is 344 m/s (770 mph)."

What is sound

http://en.wikipedia.org/wiki/Sound

"Sound is a disturbance of mechanical energy that propagates through matter as a longitudinal wave."

What is light

http://en.wikipedia.org/wiki/Light

"Light is electromagnetic radiation with a wavelength that is visible
to the eye (visible light) or, in a technical or scientific context,
electromagnetic radiation of any wavelength."

Anything else you would like explained, like where rain comes from?

--
Jim Pennino

Remove .spam.sux to reply.

803. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 16:49:02 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <Yhquh.12$%R6.153669@news.sisna.com>
Source record: 46467

jimp@specsol.spam.sux.com wrote:

> ...
> Pure babble.
>
> Sound is a mechanical effect and requires a progation medium.
>
> Light is an electromagnetic effect and does not require a medium.
>
> One has nothing to do with the other.
>

Anyone who has ever completed a high school physics course knows better ...

> That is not the doppler effect and there is no ether.
>

Only an a person wishing to be viewed as an idiot would make that
statement and truly believe it ...

> And you are a true, babbling, ignoramus.
>
> Lest someone believe your ignorant babble:
>
> Speed of light and reference frames
>
> From http://en.wikipedia.org/wiki/Speed_of_light
>

Yep, I am total agreement with MOST of that, however, you interpretation
is in SERIOUS error, quit obviously ...

NOW ...

Goodbye,
AGAIN,
JS

804. Re: FM Transmitter in a hot air balloon?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 17:19:15 UTC
From: Jon Teske <jdteske@comcast.net>
Message-ID: <o1dkr2lsvj2grafrshsvnhljnv8s7pds0i@4ax.com>
Source record: 46468

On 24 Jan 2007 15:23:58 -0800, "Ron J" <bigschlong@gmail.com> wrote:

>So I was doing some reading and one article mentioned that a group
>mounted an FM transmitter on a hot air balloon. I was also researching
>on the methods used by the FCC to measured field strengths. So how does
>one go about measuring field strength levels if a company somewhere,
>somehow, sometime decides to mount their transmitter on a hot air
>balloon to avoid building a tower?
>
>Would the FCC procedures still be valid? I wondering how the field
>strength tester would go mobile 30 meters from the radial or
>measurement point if the transmitter is changing position constantly.

This is actually being done, not with FM but with television. The U.S. Government (administered by the Voice of America) has, since the early 1990's, been beaming television signals to Cuba as the propaganda station Television Marti. This is being done from an Aerostat Balloon which is about 1/3 the size (in length and width) of a Goodyear-type blimp and is of a blimp shape. It is tethered from one of the lower Florida Keys about 20 miles East (and a bit North) of Key West. It is at an altitude of about 10,000 feet. The signal can be seen in Cuba, but it is usually jammed. These balloons have been used for years before that as low-look radar pickets, notably for drug flight interdiction and are quite visible in several places in the Southwest.

I was a technical advisor to this project back then. I advised on the potential of jamming. This program was advocated by the first Bush administration and had Congressional approval. With that sort of horsepower, the various Federal agencys such as FCC (who had remarkably little to say about it) USIA, NTIA, DOD, FAA, State Dept. and a bunch of others all jumped into line. Several agencies had strong objections to this effort but we were all sat down in the White House Situation Room and told, "The President wants this and he WILL get it." BTW, my role was only advisory, I had no policy capacity whatsoever in this.

W3JT

805. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 17:21:32 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <wMquh.56101$wc5.26436@newssvr25.news.prodigy.net>
Source record: 46469

jimp@specsol.spam.sux.com wrote:
> And since the frame of reference is a defined thing and not a physical
> reality, it doesn't matter if the Earth continues to exist or not either.
> You seem to have a lot of difficulty with this concept.

A frame of reference based on 1/86400 of one rotation
of the Earth which is only 1/3 as old as the universe?
A frame of reference based on the oscillation frequency
of Cesium when Cesium didn't even exist before the first
super nova? I'm not having difficult with the concept.
I'm just wondering why anyone would accept such a
flawed concept. The 17th Century Catholic Church's frame
of reference was earth-centric. So is our time frame of
reference. Both are equally valid.
--
73, Cecil, http://www.qsl.net/w5dxp

806. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 17:25:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <fspp84-ehg.ln1@mail.specsol.com>
Source record: 46470

John Smith I <assemblywizard@gmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:

> > ...
> > Pure babble.
> >
> > Sound is a mechanical effect and requires a progation medium.
> >
> > Light is an electromagnetic effect and does not require a medium.
> >
> > One has nothing to do with the other.
> >

> Anyone who has ever completed a high school physics course knows better ...

I see you snipped the references which showed that it is true.

> > That is not the doppler effect and there is no ether.
> >

> Only an a person wishing to be viewed as an idiot would make that
> statement and truly believe it ...

I see you snipped the references which showed that it is true.

> > And you are a true, babbling, ignoramus.
> >
> > Lest someone believe your ignorant babble:
> >
> > Speed of light and reference frames
> >
> > From http://en.wikipedia.org/wiki/Speed_of_light
> >

> Yep, I am total agreement with MOST of that, however, you interpretation
> is in SERIOUS error, quit obviously ...

> NOW ...

I see you snipped the references which showed what a babbling, ignorant
fool you are.

--
Jim Pennino

Remove .spam.sux to reply.

807. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 17:26:53 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <xRquh.56103$wc5.8740@newssvr25.news.prodigy.net>
Source record: 46471

John Smith I wrote:
> To be accererating, there would have to be a force .

No, just a flawed frame of reference. If the length
of a second is changing, something outside that frame
of reference can appear to be accelerating when it
really isn't.
--
73, Cecil, http://www.qsl.net/w5dxp

808. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 17:29:10 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <GTquh.56104$wc5.1663@newssvr25.news.prodigy.net>
Source record: 46473

Dave Oldridge wrote:
> Cecil Moore <mycall@hotmail.com> wrote in news:aqfuh.4372$O02.4066
>> *Only* within the frame of reference where the second
>> was defined which didn't exist for the first 2/3
>> of the history of the universe.
>
> Actually, the second is defined as a certain exact number of oscillations
> of a cesium atom in the same reference frame as the observer.

The same problem still exists. The cesium atom didn't
exist before the first super nova. How can the time
be calculated between the Big Bang and the first super
nova if cesium didn't exist?
--
73, Cecil, http://www.qsl.net/w5dxp

809. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 17:29:17 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <HTquh.16$Ez6.36901@news.sisna.com>
Source record: 46472

jimp@specsol.spam.sux.com wrote:

> ...

Jim:

I have "walked a spell" with you now ...

What has been written, has been written, it stands ...

JS

810. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 17:31:30 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <SVquh.56106$wc5.1137@newssvr25.news.prodigy.net>
Source record: 46474

jimp@specsol.spam.sux.com wrote:
> However, are you saying the speed of light is not constant in all
> reference frames?

What is the speed of light that has been red-shifted
to a frequency of zero? to a negative frequency?
--
73, Cecil, http://www.qsl.net/w5dxp

811. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 17:35:14 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <hZquh.18$UA6.89176@news.sisna.com>
Source record: 46475

Cecil Moore wrote:

> ...
> to a frequency of zero? to a negative frequency?

Negative frequency?

Wouldn't you just see a phase reversal and a "climb" in frequency in
reverse phasing? Perhaps I miss something?

Regards,
JS

812. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 17:36:26 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <u_quh.56109$wc5.54748@newssvr25.news.prodigy.net>
Source record: 46476

jimp@specsol.spam.sux.com wrote:
> Light is an electromagnetic effect and does not require a medium.

So you are not up on the latest scientific knowledge?
EM waves cannot flow in absolute nothing, i.e. outside
of our universe. The "empty" space in our universe
is *NOT* empty and indeed does posses a structure.
--
73, Cecil, http://www.qsl.net/w5dxp

813. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 17:53:43 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <5eruh.6009$pg2.5663@bignews2.bellsouth.net>
Source record: 46477

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:GTquh.56104$wc5.1663@newssvr25.news.prodigy.net...
> Dave Oldridge wrote:
>> Cecil Moore <mycall@hotmail.com> wrote in news:aqfuh.4372$O02.4066
>>> *Only* within the frame of reference where the second
>>> was defined which didn't exist for the first 2/3
>>> of the history of the universe.
>>
>> Actually, the second is defined as a certain exact number of oscillations
>> of a cesium atom in the same reference frame as the observer.
>
> The same problem still exists. The cesium atom didn't
> exist before the first super nova. How can the time
> be calculated between the Big Bang and the first super
> nova if cesium didn't exist?
> --
> 73, Cecil, http://www.qsl.net/w5dxp
Units of measurement are totally arbitrary, what they are measuring isnt. It
is irrelevant how long a second is as long as everyone agrees. Time has
nothing to do with the existance of cesium. The origonal basis for the
second was the roatation of the earth but that is not constant so it was
redefined I believe in the 60s, seems like I remember hearing about it in
HS.

814. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 17:57:35 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <eiruh.20$%R6.153669@news.sisna.com>
Source record: 46478

Jimmie D wrote:

> ...
> Units of measurement are totally arbitrary, what they are measuring isnt. It
> is irrelevant how long a second is as long as everyone agrees. Time has
> nothing to do with the existance of cesium. The origonal basis for the
> second was the roatation of the earth but that is not constant so it was
> redefined I believe in the 60s, seems like I remember hearing about it in
> HS.
>
>

Jimmie:

There is much common sense in what you state.

However, I see us at a point where no more real advances in knowledge
can be made until we do have an understanding of what these arbitrary
units ARE measuring--at present, all we really understand are our units ...

Regards,
JS

815. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 18:22:31 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <HFruh.13228$ji1.9964@newssvr12.news.prodigy.net>
Source record: 46479

Jimmie D wrote:
> Units of measurement are totally arbitrary, what they are measuring isnt.

So a standard unit of measurement can change value
daily in an unknown fashion and still yield non-arbirtary
results?
--
73, Cecil, http://www.qsl.net/w5dxp

816. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 18:28:55 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <4Lruh.6012$pg2.2139@bignews2.bellsouth.net>
Source record: 46480

"John Smith I" <assemblywizard@gmail.com> wrote in message
news:eiruh.20$%R6.153669@news.sisna.com...
> Jimmie D wrote:
>
> > ...
>> Units of measurement are totally arbitrary, what they are measuring isnt.
>> It is irrelevant how long a second is as long as everyone agrees. Time
>> has nothing to do with the existance of cesium. The origonal basis for
>> the second was the roatation of the earth but that is not constant so it
>> was redefined I believe in the 60s, seems like I remember hearing about
>> it in HS.
>
> Jimmie:
>
> There is much common sense in what you state.
>
> However, I see us at a point where no more real advances in knowledge can
> be made until we do have an understanding of what these arbitrary units
> ARE measuring--at present, all we really understand are our units ...
>
> Regards,
> JS

There are a lot of things about the universe we really dont understand, time and gravity are just two. Our understanding of time is just a theory like gravity but so far all we think we know about it seems to work. I dont worry much about falling up when I get out of bed in the morning. Arguing about it is as fruitless as telling someone why an arbitrailly thrown together pile of metal isnt a breakthrough in antenna design. Where do you start??

Jimmie

Jimmie

817. Re: Retrieve S parameters set of a Murata inductor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 18:31:39 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1169836299.194384.29620@a75g2000cwd.googlegroups.com>
Source record: 46481

Could you post the Murata part number? What data DO they have? If they have complex impedance versus frequency, or apparent inductance and Q versus frequency, or inductance, self-resonance, and Q versus frequency, it should be nearly trivial to convert any of those to S11 versus frequency. Over at least a limited frequency range, you could use RFSim99 to generate the S-parameter file from a model based on inductance, Q and self resonance -- limited frequency range only because you'll probably have a hard time getting the Q of the model to match that of the inductor over a wide range.

Cheers,
Tom

On Jan 26, 2:19 am, "camelot" <sco...@tiscalinet.it> wrote:
> Hello,
> I'm simulating in my schematic an antenna whose representation in
> based on s-parameters. I need to add in that schematic a matching
> inductor whose model should be s-parameter based too. This inductor is
> produced by Murata and I'would like to know if, in your opinion, is
> possible to get the dataset of s-parameter for this component in
> typical range of frequency. I visited their website but I'was not able
> to find that data. Had someone did that before?
>
> Camelot

818. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 18:43:06 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <nYruh.6013$pg2.672@bignews2.bellsouth.net>
Source record: 46482

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:HFruh.13228$ji1.9964@newssvr12.news.prodigy.net...
> Jimmie D wrote:
>> Units of measurement are totally arbitrary, what they are measuring isnt.
>
> So a standard unit of measurement can change value
> daily in an unknown fashion and still yield non-arbirtary
> results?
> --
> 73, Cecil, http://www.qsl.net/w5dxp

Theorectically yes, practically no. But this is just something you came up with and has nothing to do with what I said.. My total message was not so long that it needed to be snipped , it is obvious why you did. If you just want to argue and do so by taking what somone says out of context please put me on your kill file .

819. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 18:47:30 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <01suh.28$OB6.148626@news.sisna.com>
Source record: 46483

Jimmie D wrote:

> ...
> There are a lot of things about the universe we really dont understand, time
> and gravity are just two. Our understanding of time is just a theory like
> gravity but so far all we think we know about it seems to work. I dont worry
> much about falling up when I get out of bed in the morning. Arguing about it
> is as fruitless as telling someone why an arbitrailly thrown together pile
> of metal isnt a breakthrough in antenna design. Where do you start??
>
> Jimmie
>
> Jimmie
>
>

Jimmie:

Don't kill the messenger. I am at a loss to any REAL answers, as you are. But when you ask, "Where do you start?" Haven't we already started when at least we can describe the problem and starting talking and thinking about it?

I don't even claim to be "smart enough" to solve all this (at least I am not that stupid <grin>), however, I would like to be standing next to the man who can ... if I can help him, I would!

CERN now has the equipment to help ...

Warmest regards,
JS

820. Re: Shooting a wire over a grove of tall trees. What works?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 18:57:10 UTC
From: Hank Zoeller <bogusaddress@dontbothernotvalid.com>
Message-ID: <45ba4f3a$0$31539$c3e8da3@news.astraweb.com>
Source record: 46484

AC7PN wrote:
> projectile but after seaching the woods for an hour I couln't find it.
> The trouble is I don't know how far it went. 100ft 100yards or
> 100miles. The 4lb fishing line is invisalbe from more than a few feet
> away.

1) Paint your projectiles blaze orange.
2) Use a heavier fishing line, it sound like you have the power to
launch it now.
3) Tie the trailing end of your fishing line to a big rock or your ankle
or something that won't be dragged into flight.

You're almost there -- see you on 160!!
--
HZ

821. Re: Shooting a wire over a grove of tall trees. What works?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 18:58:19 UTC
From: Hank Zoeller <bogusaddress@dontbothernotvalid.com>
Message-ID: <45ba4f7e$0$31539$c3e8da3@news.astraweb.com>
Source record: 46485

AC7PN wrote:
> Well, thanks for all the replies. I got my "potato gun/canon" to work

No doubt in my mind. This is the best thread I've seen in here so far
this year!
--
HZ

822. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 19:10:57 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <umsuh.6015$pg2.1616@bignews2.bellsouth.net>
Source record: 46487

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:u_quh.56109$wc5.54748@newssvr25.news.prodigy.net...
> jimp@specsol.spam.sux.com wrote:
>> Light is an electromagnetic effect and does not require a medium.
>
> So you are not up on the latest scientific knowledge?
> EM waves cannot flow in absolute nothing, i.e. outside
> of our universe. The "empty" space in our universe
> is *NOT* empty and indeed does posses a structure.
> --
> 73, Cecil, http://www.qsl.net/w5dxp

The mistake is the concept that Space is nothing not that the space is or could be empty. Not a concept that is easy to explain.

823. Re: Strongest signals received via skip?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 19:11:13 UTC
From: Bruce in Alaska <bruceg@btpost.net>
Message-ID: <bruceg-740718.10095226012007@netnews.worldnet.att.net>
Source record: 46486

In article <epcti1$ak2$1@aioe.org>, "Richard Fry" <rfry@adams.net>
wrote:

> "K7ITM" wrote:
> > What are the chances you'd ever see anything as large, say,
> > as 0dBm into your receiver via skip?
> _____________
>
> At 14 MHz with a rx antenna gain of 0 dBd and no transmission line loss,
> that would call for an incident field strength of about 78.7 mV/m. Maybe
> not impossible for some SW broadcast stations and very good propagation
> conditions?
>
> The maximum nighttime skywave fields received in the skip zones of a 50 kW,
> non-directional, MW AM broadcast station generally are less than 5 mV/m.
>
> RF
>

Actually if one were to calculate the Free Space Path Loss for any
Frequency, it becomes trivial to come up with the MAXIMUM Possible
Receive Signal Strength for any distance, from any amount of transmitted
power level.

Bruce in alaska
--
add a <2> before @

824. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 19:15:59 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <epdltu$d96$1@news.service.uci.edu>
Source record: 46496

Cecil Moore wrote:

> jimp@specsol.spam.sux.com wrote:
>
>> And since the frame of reference is a defined thing and not a physical
>> reality, it doesn't matter if the Earth continues to exist or not either.
>> You seem to have a lot of difficulty with this concept.
>
>
> A frame of reference based on 1/86400 of one rotation
> of the Earth which is only 1/3 as old as the universe?
> A frame of reference based on the oscillation frequency
> of Cesium when Cesium didn't even exist before the first
> super nova? I'm not having difficult with the concept.
> I'm just wondering why anyone would accept such a
> flawed concept. The 17th Century Catholic Church's frame
> of reference was earth-centric. So is our time frame of
> reference. Both are equally valid.

The two are entirely different.

Name a place in the universe where the Cesium atom transitions at a
different frequency in that reference frame than it does in our
reference frame, provide the underlying physics to explain it, and
then prove it.

One wonders how you can continue to compare proponents of Eistein's
theories to the 16th century Catholic church and expect to be taken
seriously.

Thanks,

73, ac6xg

825. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 19:18:05 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <btsuh.6016$pg2.4817@bignews2.bellsouth.net>
Source record: 46488

"John Smith I" <assemblywizard@gmail.com> wrote in message
news:hZquh.18$UA6.89176@news.sisna.com...
> Cecil Moore wrote:
>
> > ...
>> to a frequency of zero? to a negative frequency?
>
> Negative frequency?
>
> Wouldn't you just see a phase reversal and a "climb" in frequency in
> reverse phasing? Perhaps I miss something?
>
> Regards,
> JS

No oproblem with 0 frequency or 0 energy being released from a particle
traveling at the speed of light relative to that partcle.Negative frequency?
all our current laws of physics have just been trashed if we can do that.

826. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 19:23:46 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <6zsuh.22917$yC5.19523@newssvr27.news.prodigy.net>
Source record: 46489

Jimmie D wrote:
> My total message was not so
> long that it needed to be snipped , it is obvious why you did. If you just
> want to argue and do so by taking what somone says out of context please put
> me on your kill file .

It is obvious that honoring netnews guidelines requires
snipping the part of the message to which I am not replying.
Have you read the netnews guidelines?
--
73, Cecil http://www.w5dxp.com

827. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 19:27:07 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <fCsuh.22918$yC5.9615@newssvr27.news.prodigy.net>
Source record: 46490

Jimmie D wrote:
> The mistake is the concept that Space is nothing ...

I'm glad you agree. That is exactly the mistake that was
made when scientists falsely assumed that EM waves could
flow through nothing. *Every* wave needs a medium in which
to flow.
--
73, Cecil http://www.w5dxp.com

828. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 19:30:23 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <cFsuh.32$fB6.112751@news.sisna.com>
Source record: 46491

Jimmie D wrote:

> ...
> No oproblem with 0 frequency or 0 energy being released from a particle
> traveling at the speed of light relative to that partcle.Negative frequency?
> all our current laws of physics have just been trashed if we can do that.
>
>

Jimmie:

Yanno, Cecil is like that, just when you think you have a handle on things--HE chucks a monkey wrench in it!

If you are traveling away from me, at the speed of light, and you are transmitting to me--wouldn't you be "stretching" that rf wave "flat." In effect, what I see is a DC signal (well, actually I don't see anything.) Owing to the doppler effect?

Now, if you exceed that speed of light, what happens to that rf you are emitting? I'll have to think on that one a bit ...

Warmest regards,
JS

829. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 19:35:44 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <kKsuh.22920$yC5.4781@newssvr27.news.prodigy.net>
Source record: 46492

Jimmie D wrote:
> No problem with 0 frequency or 0 energy being released from a particle
> traveling at the speed of light relative to that partcle.Negative frequency?
> all our current laws of physics have just been trashed if we can do that.

Not at all. Assume two planets are traveling in opposite
directions away from a reference point in space. With
respect to that reference point, each is traveling at
3/4 the speed of light in opposite directions. Calculate
the red shift from one planet to the other and one comes
up with a negative frequency.

We are likely to discover some day that gravity is a
function of the relative velocity of the Earth through
the ether. At least that's what my alien buddies say.
--
73, Cecil http://www.w5dxp.com

830. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 19:42:23 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <zQsuh.35892$QU1.29972@newssvr22.news.prodigy.net>
Source record: 46494

John Smith I wrote:
> Now, if you exceed that speed of light, what happens to that rf you are
> emitting? I'll have to think on that one a bit ...

Consider that the relative velocity between you two
could exceed the speed of light without either one
of you actually exceeding the speed of light referenced
to a point midway between you, which is thought to be
impossible except, of course, at warp 1.1 on Star Trek.
Tom Paris actually managed 10^10 times the speed of
light but it had severe side-effects. (He was forced
to mate with Captain Janeway) :-(.
--
73, Cecil http://www.w5dxp.com

831. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 19:42:54 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <XQsuh.33$2B6.99426@news.sisna.com>
Source record: 46493

John Smith I wrote:

> ...
> Jimmie:
>
> Yanno, Cecil is like that, just when you think you have a handle on
> things--HE chucks a monkey wrench in it!
>
> If you are traveling away from me, at the speed of light, and you are
> transmitting to me--wouldn't you be "stretching" that rf wave "flat." In
> effect, what I see is a DC signal (well, actually I don't see
> anything.) Owing to the doppler effect?
>
> Now, if you exceed that speed of light, what happens to that rf you are
> emitting? I'll have to think on that one a bit ...
>
> Warmest regards,
> JS

Yanno, an analogy has stuck me.

If I know what speed waves travel in water and I stand on the shore of a lake and have a boat, making waves, travel away from me, I should be able to see the first case. Then, when the boat exceeds that speed, I should also be able to see the results ...

Trouble right now is, I don't know the speed of waves in water and I don't have a boat. To tell you the truth, can't even remember what the waves looked like when I have had past opportunities ...

Regards,
JS

832. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 19:45:26 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <epdnm0efd1@news.service.uci.edu>
Source record: 46500

Cecil Moore wrote:

> Jimmie D wrote:
>
>> Units of measurement are totally arbitrary, what they are measuring isnt.
>
>
> So a standard unit of measurement can change value
> daily in an unknown fashion and still yield non-arbirtary
> results?

You'd have to be able to demonstrate that relativistic effects single out particular units of measurement to the exclusion of others without having an effect on the observed phenomena and all within the same reference frame before being able to substantiate any claim that the result of a particular measurement is arbitrary. Can you demonstrate that?

jk

833. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 19:46:58 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <RUsuh.35893$QU1.8697@newssvr22.news.prodigy.net>
Source record: 46495

John Smith I wrote:
> Trouble right now is, I don't know the speed of waves in water and I
> don't have a boat. To tell you the truth, can't even remember what the
> waves looked like when I have had past opportunities ...

Assume you remember WWII. An Atlantic City newscaster
once reported that a Marine had been sucked under the
boardwalk by a big Wave.
--
73, Cecil http://www.w5dxp.com

834. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 19:50:52 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <qYsuh.35$5Y6.157847@news.sisna.com>
Source record: 46497

Cecil Moore wrote:
> John Smith I wrote:
>> Now, if you exceed that speed of light, what happens to that rf you
>> are emitting? I'll have to think on that one a bit ...
>
> Consider that the relative velocity between you two
> could exceed the speed of light without either one
> of you actually exceeding the speed of light referenced
> to a point midway between you, which is thought to be
> impossible except, of course, at warp 1.1 on Star Trek.
> Tom Paris actually managed 10^10 times the speed of
> light but it had severe side-effects. (He was forced
> to mate with Captain Janeway) :-(.

Cecil:

Exactly, we COULD exceed the speed of light and greater, in relationship
to each other! And, then the behavior of the rf, transmitted between
us, could be observed at greater than light speeds.

NOW. Don't knock Capt. Janeway--I kinda like strong women :)

Warmest regards,
JS

835. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 19:56:49 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <_1tuh.37$ZA6.94301@news.sisna.com>
Source record: 46498

Jim Kelley wrote:

> ...
> Name a place in the universe where the Cesium atom transitions at a
> different frequency in that reference frame than it does in our
> reference frame, provide the underlying physics to explain it, and then
> prove it.
>
> One wonders how you can continue to compare proponents of Eistein's
> theories to the 16th century Catholic church and expect to be taken
> seriously.
>
> Thanks,
>
> 73, ac6xg
>

Jim:

Name me one instance where anyone has achieved taking a cesium atom to
absolute zero ...

Regards,
JS

836. Re: L/Series network tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 20:05:30 UTC
From: John Passaneau <w3jxp@arrl.net>
Message-ID: <Xns98C49987FED10jxp16psuedu@128.118.141.40>
Source record: 46499
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

"marc" <amarcpassy@gmail.com> wrote in news:1169823069.024417.273600
@v45g2000cwv.googlegroups.com:

> In looking to build a tuner, I was looking at an L-network tuner, with
> switched inductance. If I also add a switch to make it a
> series-network (capacitance "before" or "after" inductance), what would
> be the limitations of such a design? I.e. What types of antennas, or
> under what conditions would it be inappropriate?
>
> Thanks.
>

Hi Marc:

TenTec has made tuners of that design for many years. I have one in my shack and it works very well for me. The advantage of the L-network over the more common T is in ease of tuning. The L-network has only one correct tuning spot for each load. The T network can have several "matching points" some of which can result in large internal losses instead of an efficient match. The L network has slightly less loss when matched than the common T network. The main con for the L network is the requirement to switch the capacitor around to match loads that are greater or smaller than the input load.
Other than the above both networks do the same thing and there is nothing T network can do that the L network can�t and it needs one less capacitor than a T network.
You can see I�m biased to the L, try one you will like it.

John Passaneau
W3JXP State College PA

837. Re: Shooting a wire over a grove of tall trees. What works?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 21:13:51 UTC
From: W4LM <larrymoss@citcom.net>
Message-ID: <epdque$nn3$1@news04.infoave.net>
Source record: 46501

I paint my lead sinkers bright yellow and it is a breeze to spot them. W4lm
"Hank Zoeller" <bogusaddress@dontbothernotvalid.com> wrote in message
news:45ba4f3a$0$31539$c3e8da3@news.astraweb.com...
> AC7PN wrote:
>> projectile but after seaching the woods for an hour I couln't find it.
>> The trouble is I don't know how far it went. 100ft 100yards or
>> 100miles. The 4lb fishing line is invisalbe from more than a few feet
>> away.
>
> 1) Paint your projectiles blaze orange.
> 2) Use a heavier fishing line, it sound like you have the power to launch
> it now.
> 3) Tie the trailing end of your fishing line to a big rock or your ankle
> or something that won't be dragged into flight.
>
> You're almost there -- see you on 160!!
> --
> HZ

838. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 21:35:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <po8q84-srp.ln1@mail.specsol.com>
Source record: 46502

John Smith I <assemblywizard@gmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:

> > ...

> Jim:

> I have "walked a spell" with you now ...

> What has been written, has been written, it stands ...

Meaningless babble.

--
Jim Pennino

Remove .spam.sux to reply.

839. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 21:45:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <mv8q84-srp.ln1@mail.specsol.com>
Source record: 46503

Cecil Moore <mycall@hotmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:
> > Light is an electromagnetic effect and does not require a medium.

> So you are not up on the latest scientific knowledge?
> EM waves cannot flow in absolute nothing, i.e. outside
> of our universe. The "empty" space in our universe
> is *NOT* empty and indeed does posses a structure.

http://en.wikipedia.org/wiki/Luminiferous_aether

"In the late 19th century luminiferous aether ("light-bearing aether")
was the term used to describe a medium for the propagation of light.
Later theories including special relativity were formulated without
the aether concept, and today the aether is considered to be a
superseded scientific theory."

No aether.

--
Jim Pennino

Remove .spam.sux to reply.

840. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 21:45:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <o29q84-srp.ln1@mail.specsol.com>
Source record: 46504

Cecil Moore <mycall@hotmail.com> wrote:
> Jimmie D wrote:
> > The mistake is the concept that Space is nothing ...

> I'm glad you agree. That is exactly the mistake that was
> made when scientists falsely assumed that EM waves could
> flow through nothing. *Every* wave needs a medium in which
> to flow.

http://en.wikipedia.org/wiki/Luminiferous_aether

"In the late 19th century luminiferous aether ("light-bearing aether")
was the term used to describe a medium for the propagation of light.
Later theories including special relativity were formulated without
the aether concept, and today the aether is considered to be a
superseded scientific theory."

No aether.

--
Jim Pennino

Remove .spam.sux to reply.

841. Re: Strongest signals received via skip?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 21:49:02 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1169848142.757372.17300@a75g2000cwd.googlegroups.com>
Source record: 46505

On Jan 26, 11:11 am, Bruce in Alaska <bru...@btpost.net> wrote:
> In article <epcti1$ak...@aioe.org>, "Richard Fry" <r...@adams.net>
> wrote:
>
> > "K7ITM" wrote:
> > > What are the chances you'd ever see anything as large, say,
> > > as 0dBm into your receiver via skip?
> > _____
>
> > At 14 MHz with a rx antenna gain of 0 dBd and no transmission line loss,
> > that would call for an incident field strength of about 78.7 mV/m. Maybe
> > not impossible for some SW broadcast stations and very good propagation
> > conditions?
>
> > The maximum nighttime skywave fields received in the skip zones of a 50 kW,
> > non-directional, MW AM broadcast station generally are less than 5 mV/m.
>
> > RFActually if one were to calculate the Free Space Path Loss for any
> Frequency, it becomes trivial to come up with the MAXIMUM Possible
> Receive Signal Strength for any distance, from any amount of transmitted
> power level.
>
> Bruce in alaska
> --
> add a <2> before @

Well--yes--assuming no antenna gain and no "gain" effects from
focussing by the ionosphere. Does ionospheric "gain" happen? I'm
pretty ignorant about that. But freespace path loss is
((4*pi*distance)/wavelength)^2, according to my reference. So to
receive 0dBm if 1 megawatt is transmitted, assuming no antenna gain on
either end, wavelenth/distance = .000397. For 40 meters, you only get
about 100km separation. However, I get reports from people I trust
that European broadcast stations on 40m can put a 0dBm signal into a 3
element beam on the US East coast. That's way more than 100km path
length! The 8dB or so gain from the receiving antenna doesn't seem to
fully account for things.

I was just looking for anecdotal input, but some discussion about what
lets signals be as strong as they can be might be interesting too.

Cheers,
Tom

842. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 21:55:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <6f9q84-srp.ln1@mail.specsol.com>
Source record: 46506

Cecil Moore <mycall@hotmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:
> > However, are you saying the speed of light is not constant in all
> > reference frames?

> What is the speed of light that has been red-shifted
> to a frequency of zero? to a negative frequency?

http://en.wikipedia.org/wiki/Relativistic_Doppler_effect

"If the observer and the source are moving directly away from each other
with velocity v, the observed frequency fo, is different from the
frequency of the source fe, as

fo = sqrt{{1-v/c}/{1+v/c}}xfe

where c, is the speed of light."

From high school algebra, fo is always greater than zero.

Nonsensical question.

--
Jim Pennino

Remove .spam.sux to reply.

843. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 21:55:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <3g9q84-srp.ln1@mail.specsol.com>
Source record: 46507

John Smith I <assemblywizard@gmail.com> wrote:
> Cecil Moore wrote:

> > ...
> > to a frequency of zero? to a negative frequency?

> Negative frequency?

> Wouldn't you just see a phase reversal and a "climb" in frequency in
> reverse phasing? Perhaps I miss something?

A modern education perhaps?

--
Jim Pennino

Remove .spam.sux to reply.

844. Re: Antennas/lead ashtray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 22:00:07 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <epdvn6jnf1@news.service.uci.edu>
Source record: 46512

Knucklehead Smith wrote:

> Jim Kelley wrote:
>
> > ...
>
>> Name a place in the universe where the Cesium atom transitions at a
>> different frequency in that reference frame than it does in our
>> reference frame, provide the underlying physics to explain it, and
>> then prove it.

> Name me one instance where anyone has achieved taking a cesium atom to
> absolute zero ...

No one has ever stuck a themometer in the sun either but we have a
pretty good idea what it would read if we did.

We have absolutely no reason to expect the Cesium atom to act any
differently in another reference frame, and variety of reasons not to
expect to be able to chill it to 0 degrees Kelvin.

ac6xg

845. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 22:05:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <v6aq84-srp.ln1@mail.specsol.com>
Source record: 46508

Cecil Moore <mycall@hotmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:
> > And since the frame of reference is a defined thing and not a physical
> > reality, it doesn't matter if the Earth continues to exist or not either.
> > You seem to have a lot of difficulty with this concept.

> A frame of reference based on 1/86400 of one rotation
> of the Earth which is only 1/3 as old as the universe?
> A frame of reference based on the oscillation frequency
> of Cesium when Cesium didn't even exist before the first
> super nova? I'm not having difficult with the concept.
> I'm just wondering why anyone would accept such a
> flawed concept. The 17th Century Catholic Church's frame
> of reference was earth-centric. So is our time frame of
> reference. Both are equally valid.

Babbling nonsense.

http://www.bipm.fr/utils/common/pdf/si_brochure_8_en.pdf

"Unit of time (second)

The unit of time, the second, was at one time considered to be the
fraction 1/86 400 of the mean solar day. The exact definition of
?mean solar day? was left to the astronomers. However measurements
showed that irregularities in the rotation of the Earth made this an
unsatisfactory definition. In order to define the unit of time more
precisely, the 11th CGPM (1960, Resolution 9; CR, 86) adopted a
definition given by the International Astronomical Union based on
the tropical year 1900. Experimental work, however, had already shown
that an atomic standard of time, based on a transition between two
energy levels of an atom or a molecule, could be realized and
reproduced much more accurately. Considering that a very precise
definition of the unit of time is indispensable for science and
technology, the 13th CGPM (1967/68, Resolution 1; CR, 103 and
Metrologia, 1968, 4, 43) replaced the definition of the second by
the following:

The second is the duration of 9 192 631 770 periods of the radiation
corresponding to the transition between the two hyperfine levels of the
ground state of the caesium 133 atom.

It follows that the hyperfine splitting in the ground state of the
caesium 133 atom is exactly 9 192 631 770 hertz, ?(hfs Cs) = 9192631770 Hz.

At its 1997 meeting the CIPM affirmed that:

This definition refers to a caesium atom at rest at a temperature of 0 K.
This note was intended to make it clear that the definition of the SI
second is based on a caesium atom unperturbed by black body radiation,
that is, in an environment whose thermodynamic temperature is 0 K.
The frequencies of all primary frequency standards should therefore be
corrected for the shift due to ambient radiation, as stated at the meeting
of the Consultative Committee for Time and Frequency in 1999"

Go argue with the standards people.

--
Jim Pennino

Remove .spam.sux to reply.

846. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 22:15:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <qoaq84-srp.ln1@mail.specsol.com>
Source record: 46509

Cecil Moore <mycall@hotmail.com> wrote:
> Dave Oldridge wrote:
> > Cecil Moore <mycall@hotmail.com> wrote in news:aqfuh.4372$O02.4066
> >> *Only* within the frame of reference where the second
> >> was defined which didn't exist for the first 2/3
> >> of the history of the universe.
> >
> > Actually, the second is defined as a certain exact number of oscillations
> > of a cesium atom in the same reference frame as the observer.

> The same problem still exists. The cesium atom didn't
> exist before the first super nova. How can the time
> be calculated between the Big Bang and the first super
> nova if cesium didn't exist?

Are you serious?

Where is your proof cesium didn't exist between the time of the big
bang and the first supernova.

Even if true, the current calendar didn't exist before 1752.

So how could we possibly calculate George Washington's birthday?

--
Jim Pennino

Remove .spam.sux to reply.

847. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 22:15:39 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <74vuh.45$zz6.31776@news.sisna.com>
Source record: 46510

jimp@specsol.spam.sux.com wrote:

Stupid troll, go back to your bridge ...

JS

848. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 22:16:53 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <h5vuh.46$cA6.73801@news.sisna.com>
Source record: 46511

jimp@specsol.spam.sux.com wrote:

Troll ...

JS

849. Re: Antennas/lead ashtray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 22:44:46 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <qvvuh.47$vB6.129151@news.sisna.com>
Source record: 46513

Jim Kelley wrote:

> ...

Jim:

Have you read about the quantum phenomenon(s) which begin when you even start getting close to absolute zero? I can just imagine attempting logical measurements ...

Warmest regards,
JS

850. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 22:45:04 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <5pcq84-t87.ln1@mail.specsol.com>
Source record: 46514

John Smith I <assemblywizard@gmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:

> Stupid troll, go back to your bridge ...

Ignorant, babbling twit, get an education.

--
Jim Pennino

Remove .spam.sux to reply.

851. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 22:45:05 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <9qcq84-t87.ln1@mail.specsol.com>
Source record: 46515

John Smith I <assemblywizard@gmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:

> Troll ...

Ignorant moron.

--
Jim Pennino

Remove .spam.sux to reply.

852. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 23:22:38 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns98C49C6AD5429doldridgsprintca@64.59.135.159>
Source record: 46516

Cecil Moore <mycall@hotmail.com> wrote in
news:GTquh.56104$wc5.1663@newssvr25.news.prodigy.net:

> Dave Oldridge wrote:
>> Cecil Moore <mycall@hotmail.com> wrote in news:aqfuh.4372$O02.4066
>>> *Only* within the frame of reference where the second
>>> was defined which didn't exist for the first 2/3
>>> of the history of the universe.
>>
>> Actually, the second is defined as a certain exact number of
>> oscillations of a cesium atom in the same reference frame as the
>> observer.
>
> The same problem still exists. The cesium atom didn't
> exist before the first super nova. How can the time
> be calculated between the Big Bang and the first super
> nova if cesium didn't exist?

There are other entropic processes that can be calibrated against the
cesium.

--
Dave Oldridge+
ICQ 1800667

853. Re: Antennas/lead ashtray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-26 23:56:01 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <epe4el$1g2$4@jaszczomp.tahoe.pl>
Source record: 46517

John Smith I wrote:
> Jim Kelley wrote:
>
> > ...
>
> Jim:
>
> Have you read about the quantum phenomenon(s) which begin when you even
> start getting close to absolute zero? I can just imagine attempting
> logical measurements ...
>
> Warmest regards,
> JS

Jim:

This gives a "glimpse" of what I mean, the above was vague ...

http://www.newton.dep.anl.gov/askasci/phy99/phy99194.htm

Regards,
JS

854. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 00:34:14 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <a6xuh.76099$wP1.3203@newssvr14.news.prodigy.net>
Source record: 46518

Jim Kelley wrote:
> The two are entirely different.

No, they are both earth-centric concepts invented
by man. That makes them alike, not different.
--
73, Cecil http://www.w5dxp.com

855. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 00:39:53 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <tbxuh.76101$wP1.53461@newssvr14.news.prodigy.net>
Source record: 46519

Jim Kelley wrote:
> You'd have to be able to demonstrate that relativistic effects single
> out particular units of measurement to the exclusion of others without
> having an effect on the observed phenomena and all within the same
> reference frame before being able to substantiate any claim that the
> result of a particular measurement is arbitrary. Can you demonstrate that?

Relativistic effects certainly single out measurements
of time - also length in the direction of velocity.

It has been demonstrated numerous times that the velocity
of a clock affects the length of its second. What is
the velocity of the cesium clock on Earth?
--
73, Cecil http://www.w5dxp.com

856. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 00:41:43 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <epe9c0$pq9$1@news.service.uci.edu>
Source record: 46376

Cecil Moore wrote:

> No, they are both earth-centric concepts invented
> by man. That makes them alike, not different.

Sort of blurs the line between the plausible and the absurd, Cecil.
The fact that two things might share a particular trait does not
eliminate their differences.

jk

857. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 01:00:26 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <Kuxuh.76107$wP1.67112@newssvr14.news.prodigy.net>
Source record: 46520

jimp@specsol.spam.sux.com wrote:
> No aether.

Are you saying there's no structure to space?
--
73, Cecil http://www.w5dxp.com

858. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 01:02:28 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <epeajt$ql5$1@news.service.uci.edu>
Source record: 46385

Cecil Moore wrote:
> But it sure does make your "entirely different"
> assertion false, doesn't it? :-)

Nope. A false statement cannot not 'make' an assertion false. I swear to god you'd argue with St. Peter at the Pearly Gates.

jk

859. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 01:02:29 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <Fwxuh.76108$wP1.38818@newssvr14.news.prodigy.net>
Source record: 46521

jimp@specsol.spam.sux.com wrote:
> No aether.

Nobody said anything about aether. The medium through
which EM waves flow is space which indeed does have
a structure. Space is definitely not nothing.
--
73, Cecil http://www.w5dxp.com

860. Re: Antennas/lead ashtray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 01:04:43 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <Lyxuh.76110$wP1.61192@newssvr14.news.prodigy.net>
Source record: 46522

Jim Kelley wrote:
> We have absolutely no reason to expect the Cesium atom to act any
> differently in another reference frame, ...

On the contrary, we have every reason to believe it
acted differently before the first super nova. Things
that don't exist generally act differently from things
that do exist.
--
73, Cecil http://www.w5dxp.com

861. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 01:08:14 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <2Cxuh.76111$wP1.70768@newssvr14.news.prodigy.net>
Source record: 46523

jimp@specsol.spam.sux.com wrote:
> Go argue with the standards people.

I have no argument with the standards people. My
argument is with the people who take present
day seconds and lay them end-to-end back to the
Big Bang to ascertain the age of the universe.
Today's second may be the first time the second
has ever had that particular value. The first
second was likely many magnitudes longer than
the present day second.
--
73, Cecil http://www.w5dxp.com

862. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 01:14:25 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <RHxuh.76114$wP1.37236@newssvr14.news.prodigy.net>
Source record: 46524

jimp@specsol.spam.sux.com wrote:
> Where is your proof cesium didn't exist between the time of the big
> bang and the first supernova.

Are you kidding? Iron is the heaviest element possible
before the first supernova.
--
73, Cecil http://www.w5dxp.com

863. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 01:15:30 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <SIxuh.76115$wP1.56143@newssvr14.news.prodigy.net>
Source record: 46525

Dave Oldridge wrote:
> There are other entropic processes that can be calibrated against the
> cesium.

Who did that before cesium existed?
--
73, Cecil http://www.w5dxp.com

864. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 01:25:35 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <jSxuh.76121$wP1.24334@newssvr14.news.prodigy.net>
Source record: 46377

Jim Kelley wrote:
>
> Cecil Moore wrote:
>> No, they are both earth-centric concepts invented
>> by man. That makes them alike, not different.
>
> Sort of blurs the line between the plausible and the absurd, Cecil. The
> fact that two things might share a particular trait does not eliminate
> their differences.

But it sure does make your "entirely different"
assertion false, doesn't it? :-)
--
73, Cecil http://www.w5dxp.com

865. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 01:28:55 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <45baaadb$0$17198$39cecf19@news.twtelecom.net>
Source record: 46378

Cecil Moore wrote:

> jimp@specsol.spam.sux.com wrote:
>
>> Go argue with the standards people.
>
>
> I have no argument with the standards people. My
> argument is with the people who take present
> day seconds and lay them end-to-end back to the
> Big Bang to ascertain the age of the universe.
> Today's second may be the first time the second
> has ever had that particular value. The first
> second was likely many magnitudes longer than
> the present day second.

B as in B, S as in S.

tom
K0TAR

866. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 01:35:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <qpmq84-tf3.ln1@mail.specsol.com>
Source record: 46379

Cecil Moore <mycall@hotmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:
> > No aether.

> Nobody said anything about aether. The medium through
> which EM waves flow is space which indeed does have
> a structure. Space is definitely not nothing.

I showed you my references, now you show me yours.

--
Jim Pennino

Remove .spam.sux to reply.

867. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 01:39:38 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <45baad5d$0$17196$39cecf19@news.twtelecom.net>
Source record: 46380

Cecil Moore wrote:

> jimp@specsol.spam.sux.com wrote:
>
>> Go argue with the standards people.
>
>
> I have no argument with the standards people. My
> argument is with the people who take present
> day seconds and lay them end-to-end back to the
> Big Bang to ascertain the age of the universe.
> Today's second may be the first time the second
> has ever had that particular value. The first
> second was likely many magnitudes longer than
> the present day second.

Have you ever heard of the fine structure constant? You had best check into it and how it can be verified from a distance, a very very long distance.

tom
K0TAR

868. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 01:45:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <jrmq84-tf3.ln1@mail.specsol.com>
Source record: 46381

Cecil Moore <mycall@hotmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:
> > No aether.

> Are you saying there's no structure to space?

Do you have references that say otherwise?

--
Jim Pennino

Remove .spam.sux to reply.

869. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 01:45:04 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <iumq84-tf3.ln1@mail.specsol.com>
Source record: 46382

Cecil Moore <mycall@hotmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:
> > Go argue with the standards people.

> I have no argument with the standards people. My
> argument is with the people who take present
> day seconds and lay them end-to-end back to the
> Big Bang to ascertain the age of the universe.
> Today's second may be the first time the second
> has ever had that particular value. The first
> second was likely many magnitudes longer than
> the present day second.

Do you have any references that indicate that this may be true or are
you just pulling it out of your ass?

--
Jim Pennino

Remove .spam.sux to reply.

870. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 01:45:04 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <ovmq84-tf3.ln1@mail.specsol.com>
Source record: 46383

Cecil Moore <mycall@hotmail.com> wrote:
> Jim Kelley wrote:
> > You'd have to be able to demonstrate that relativistic effects single
> > out particular units of measurement to the exclusion of others without
> > having an effect on the observed phenomena and all within the same
> > reference frame before being able to substantiate any claim that the
> > result of a particular measurement is arbitrary. Can you demonstrate that?

> Relativistic effects certainly single out measurements
> of time - also length in the direction of velocity.

> It has been demonstrated numerous times that the velocity
> of a clock affects the length of its second. What is
> the velocity of the cesium clock on Earth?

Zero by definition.

--
Jim Pennino

Remove .spam.sux to reply.

871. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 01:45:05 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <j0nq84-tf3.ln1@mail.specsol.com>
Source record: 46384

Cecil Moore <mycall@hotmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:
> > Where is your proof cesium didn't exist between the time of the big
> > bang and the first supernova.

> Are you kidding? Iron is the heaviest element possible
> before the first supernova.

References?

--
Jim Pennino

Remove .spam.sux to reply.

872. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 02:01:54 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <moyuh.51$dB6.110701@news.sisna.com>
Source record: 46386

Cecil Moore wrote:

> ...

Cecil:

You might as well give up.

Every year, at probably every college, the entry level physics classes, math classes, CS classes start up full. At the end of the quarter or semester most are only 25%-50% full--those students suddenly decided to follow another course of study and are consulting with their counselors.

So, sometimes, it is that way in life ... but you sure got determination!

Regards,
JS

873. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 02:05:10 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <qryuh.52$BB6.135301@news.sisna.com>
Source record: 46387

jimp@specsol.spam.sux.com wrote:

> ...
>> of a clock affects the length of its second. What is
>> the velocity of the cesium clock on Earth?
>
> Zero by definition.
>

Now, that is quite easily proved to be FALSE.

The earth is 25,000 miles in circumference, it makes one revolution a day.

25,000mph/24hrs is over 1,000mph. As you sit there typing you are
traveling over 1,000mph, and so is every cesium clock on earth.

JS

874. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 03:10:38 UTC
From: "David G. Nagel" <nagel.david@sbcglobal.net>
Message-ID: <12rlgmqcrqj7f05@corp.supernews.com>
Source record: 46388

Cecil Moore wrote:
> Jimmie D wrote:
>> No problem with 0 frequency or 0 energy being released from a particle
>> traveling at the speed of light relative to that partcle.Negative
>> frequency? all our current laws of physics have just been trashed if
>> we can do that.
>
> Not at all. Assume two planets are traveling in opposite
> directions away from a reference point in space. With
> respect to that reference point, each is traveling at
> 3/4 the speed of light in opposite directions. Calculate
> the red shift from one planet to the other and one comes
> up with a negative frequency.
>
> We are likely to discover some day that gravity is a
> function of the relative velocity of the Earth through
> the ether. At least that's what my alien buddies say.

Cec;

Been there, argued that, the mathematicians shot me down. It just don't happen that way. Sorry Man.

Dave N

875. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 03:13:22 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <mrzuh.56211$wc5.3366@newssvr25.news.prodigy.net>
Source record: 46389

jimp@specsol.spam.sux.com wrote:
> I showed you my references, now you show me yours.

Simply Google "zero-point energy". Here's a quote from
"Alpha and Omega", by Seife. "In the 1930's, though,
quantum physicists discovered, much to their surprise,
that the vacuum isn't ever truly empty. It is seething
with activity, filled to the brim with particles and
energy. ... Empty space is an incredibly complex
substance, and scientists are just beginning to
understand its properties."

Here's another:
http://www.journaloftheoretics.com/Links/Papers/Setter.pdf

--
73, Cecil http://www.w5dxp.com

876. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 03:19:18 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <Wwzuh.56214$wc5.14215@newssvr25.news.prodigy.net>
Source record: 46390

jimp@specsol.spam.sux.com wrote:
> Do you have any references that indicate that this may be true or are
> you just pulling it out of your ass?

The Big Bang was most likely the biggest black hole
ever. Know what happens to time around a black hole?
The velocities after the Big Bang must have been close
to the speed of light. Know what happens to time
under those circumstances?
--
73, Cecil http://www.w5dxp.com

877. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 03:20:22 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <Wxzuh.56215$wc5.19527@newssvr25.news.prodigy.net>
Source record: 46391

jimp@specsol.spam.sux.com wrote:
> Cecil Moore <mycall@hotmail.com> wrote:
>> It has been demonstrated numerous times that the velocity
>> of a clock affects the length of its second. What is
>> the velocity of the cesium clock on Earth?
>
> Zero by definition.

Just as the Earth was the center of the universe by
definition.
--
73, Cecil http://www.w5dxp.com

878. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 03:26:50 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <_Dzuh.56216$wc5.55978@newssvr25.news.prodigy.net>
Source record: 46392

jimp@specsol.spam.sux.com wrote:
> Cecil Moore <mycall@hotmail.com> wrote:
>> Are you kidding? Iron is the heaviest element possible
>> before the first supernova.
>
> References?

Good grief. Google "element formation".
http://www.spacedaily.com/news/milkyway-00b.html
--
73, Cecil http://www.w5dxp.com

879. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 03:45:38 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <CVzuh.60$XA6.92251@news.sisna.com>
Source record: 46393

Cecil Moore wrote:
> jimp@specsol.spam.sux.com wrote:
>> Do you have any references that indicate that this may be true or are
>> you just pulling it out of your ass?
>
> The Big Bang was most likely the biggest black hole
> ever. Know what happens to time around a black hole?
> The velocities after the Big Bang must have been close
> to the speed of light. Know what happens to time
> under those circumstances?

I do ...

It gets "Shot to H*LL!"

Regards,
JS

880. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 03:49:16 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <1Zzuh.61$rz6.23576@news.sisna.com>
Source record: 46394

Cecil Moore wrote:

> ...
> Just as the Earth was the center of the universe by
> definition.

Let's ask NASA how they keep the atomic clock on board the space station
in sync with those on earth? Even in synchronous orbit, that space
station has to "race" (travel faster) to keep up ...

Regards,
JS

881. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 03:53:52 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <epeicj$ca9$2@jaszczomp.tahoe.pl>
Source record: 46396

David G. Nagel wrote:

> ...
> Cec;
>
> Been there, argued that, the mathematicians shot me down. It just don't
> happen that way. Sorry Man.
>
> Dave N

David:

If there is one thing you will have to learn, DON'T TRUST MATHEMATICIANS!

Think about it man, what would they have told you before the "Quantum Effects" were discovered, if you had suggested such a phenomenon? ... I bet they would have told you, you were nuts, and gone on to prove it mathematically! In some situations, mathematicians are barely better than tea leave readers.

Regards,
JS

882. Re: Shooting a wire over a grove of tall trees. What works?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 04:27:31 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <VwAuh.52$B_.49@newsfe06.phx>
Source record: 46397

For about ten dollars in PVC pipe & cement, you can build a "spud gun" in about two hours. It's a novelty cannon which shoots raw potatoes. If you had a length of string laid out on the ground (for easy lifting), a potato lofted out of the spud gun would carry the string hundreds of feet Thread the end through the potato and secure it, perhaps with a coat button.

Although I have never shot a potato that had anything in it or through it, I can personally attest to sending potatos high and clear hundreds of feet. The propellant is ordinary hairspray. (Must use flammable propellant; not all brands do.) The igniter is usually the spark lighter from a barbecue grill or discarded stovetop.

The thing does not build itself; it requires some effort and craftsmanship ... but what are we? Are hams not a creative and resourceful bunch?

In some areas, the law regards a spud gun as a weapon, despite the fact that nobody has has ever used one to stick up a liquor store, etc. Check with your local PD before showing up at Field Day with your new spud gun.

Searching "spud gun" on google.com returns 136,000 links. That should keep you out off the street for a while.

"Gary Smith" <vk3@aapt.net.au> wrote in message
news:ep9pgq$581$1@news-01.bur.connect.com.au...
> i used a "surf rod", a fishing rod built for fishing from the beach, big
and
> strong. i tied about 4-5 old wheelnuts (or anything heavy), worked really
> good. make sure the spool is full of fishing line first, and that its
strong
> line. and you may snap the line trying so you want to start small and
build
> up the weight.
>
> This is presuming there is nothing/no one nearby that can be
> damaged/injured.
>
> Good luck.
>
> Gary
>
> "AC7PN" <brunius@rockisland.com> wrote in message
> news:1169710207.243677.232160@j27g2000cwj.googlegroups.com...
> >> <chuckle>
> >> Regards,
> >> JS
> > Do you need a picture?

> >
>
>

883. Re: Thevenin and s-parameters...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 04:37:49 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <45bad71c$0$28111$4c368faf@roadrunner.com>
Source record: 46398

"camelot" <scosmo@tiscalinet.it> wrote in message
news:1169824782.191449.119960@q2g2000cwa.googlegroups.com...
> Hello,
> I'm have "little" doubt about s-parameter simulations. My
> question is very simple but I do not know if the answer is the same.
> The Thevenin theorem can be applied to a s-parameter simulation?
> That is, if I do a simulation using a port P1 of 50 ohm where at valley
> of the generator I've connected 2 impedences, one in parallel Z1 and
> one in series Z2. Supposing I obtained S11 at frequency f1. Then I
> incorporate the impedence Z2 (at frequency f1) in the port 1 impedence
> (using Thevenin), can I obtain the same S11 parameters for f1 fequency?
>
> Camelot

I believe the thevenin theorem applies to s-parameter simulation provided
you assume the amplifier (generator) is perfect Class A and perfectly
stable. You need to be aware of where the load is located on the
transmission (1/4 wave? Not sure what you mean by 'valley'). See
http://www.sss-mag.com/pdf/arrl_circles.pdf

884. Re: 2nd RFD: rec.radio.amateur.moderated moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 04:48:26 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <sSzuh.3482$Lx2.267@newsfe14.phx>
Source record: 46395
Cross-posted to: news.groups.proposals,rec.radio.amateur.antenna,rec.radio.amateur.dx

"Paul W. Schleck, K3FU" <pschleck@novia.net> wrote in message
news:45b8f455$0$171$540ea2cf@novia.net...

< snip >

> This is a Request for Discussion (RFD) to create a new moderated
> discussion newsgroup for amateur radio on Usenet.

< snip >

I read the request and I'm not sure how to respond. Yes, I would like to see a NG that had the politics and flames flushed out of it by a "duty roster" of moderators. However, I'm bothered that it is proposed to *supplement*, not *replace* the other newsgroup. How could I be sure that some (valid) posters weren't behind in the old, abuse-filled group, toughing it out???

What I'm saying is that I want a clean break. If I have to check *two* newsgroups as a substitute for previously having had to check one, that's unfortunately not an improvement.

If my dilemma is too obvious and I shouldn't have bothered stating it, I'm sorry.

73,
KD6VKW

885. Re: Yagi question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 06:47:10 UTC
From: "Mike M." <notme@invalid.email.net>
Message-ID: <7oslr2piffol6fr3n3a3k87fietc5gsbu6@4ax.com>
Source record: 46399

On 20 Jan 2007 18:57:00 -0800, "Nelson Blaha" <nelson.blaha@gmail.com>
wrotF:

>I'm looking to build a 2m yagi, but I haven't got any money. Can I
>make one out of aluminum coat hangers? I also have a 4-foot section of
>1" PVC pipe laying around, and glue, tools etc.
>
>Nelson Blaha
>Call-sign in the mail

Here is another Cebik design.
<http://www.cebik.com/vhf/32m.html>
Wide band 6 element 2M Yagi. I built one using a fiberglass electric
fence post for a boom and 1/8" brass rod for the elements. Works good
for the price.

Mike kc9doa

886. Re: 2nd RFD: rec.radio.amateur.moderated moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 07:51:13 UTC
From: CB <Expy-AT-Guy@COX-SIGN-.NET>
Message-ID: <noBuh.50615$sE7.45970@newsfe21.lga>
Source record: 46400
Cross-posted to: news.groups.proposals,rec.radio.amateur.antenna,rec.radio.amateur.dx

"Sal M. Onella" <salmonella@food.poisoning.org> wrote:

> What I'm saying is that I want a clean break. If I have to check
> *two* newsgroups as a substitute for previously having had to check
> one, that's unfortunately not an improvement.

Unsubscribe from the old newsgroups. End of problem.

887. Re: 2nd RFD: rec.radio.amateur.moderated moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 07:52:14 UTC
From: Dee Flint <deeflint01@comcast.net>
Message-ID: <CdKdnZnkTZEmeifYnZ2dnUVZ_tSunZ2d@comcast.com>
Source record: 46401
Cross-posted to: news.groups.proposals,rec.radio.amateur.antenna,rec.radio.amateur.dx

"Sal M. Onella" <salmonella@food.poisoning.org> wrote in message
news:sSzuh.3482$Lx2.267@newsfe14.phx...
>
> "Paul W. Schleck, K3FU" <pschleck@novia.net> wrote in message
> news:45b8f455$0$171$540ea2cf@novia.net...
>
> < snip >
>
>> This is a Request for Discussion (RFD) to create a new moderated
>> discussion newsgroup for amateur radio on Usenet.
>
> < snip >
>
> I read the request and I'm not sure how to respond. Yes, I would like to
> see a NG that had the politics and flames flushed out of it by a "duty
> roster" of moderators. However, I'm bothered that it is proposed to
> *supplement*, not *replace* the other newsgroup. How could I be sure that
> some (valid) posters weren't behind in the old, abuse-filled group,
> toughing
> it out???
>
> What I'm saying is that I want a clean break. If I have to check *two*
> newsgroups as a substitute for previously having had to check one, that's
> unfortunately not an improvement.
>
> If my dilemma is too obvious and I shouldn't have bothered stating it, I'm
> sorry.
>
> 73,
> KD6VKW

Leave the old group for those who want to wallow in the problems.

The simple solution for most of us will be to simply ignore or even delete
the other groups.

888. Re: Antennas/lead ashtray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 07:52:50 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <2c0mr25q27bjlhoff7pdshh6hivsk9p87o@4ax.com>
Source record: 46402

On Fri, 26 Jan 2007 15:56:01 -0800, John Smith I
<assemblywizard@gmail.com> wrote:
>> Have you read about the quantum phenomenon(s) which begin when you even
>> start getting close to absolute zero?

An example of the conflict between show and tell. Surprisingly you
offer to neither show, nor tell what happens... which leaves us with
your statement:

>>I can just imagine attempting
>> logical measurements ...

Luckily, those who practice the trade have skipped the part of
imagining and just accomplish it instead.

>This gives a "glimpse" of what I mean, the above was vague ...
>
>http://www.newton.dep.anl.gov/askasci/phy99/phy99194.htm

Given the reference (a painfully pretentious website with as much
armchair theory offered as in this thread), you must have misspelled
vogue.

The forced argument (a strawman at that) of motion ceasing went out
with fringe topped surries. Now THAT (motion? what motion?) is vague
in the extreme given there are a considerable number of dynamics that
occur at the 0ï¿½K atomic scale. Are we suppose that electrons in their
orbits at 1ï¿½ï¿½K will collapse into the nucleus (permenantly frozen into
inaction) with the final chilling tweak? What a larf!

These akademik arguments only need the added stipulation that you have
to exhibit an absolute zero beer cooler that will hold the temperature
throughout the Super Bowl.

73's
Richard Clark, KB7QHC

889. Re: Antennas/lead ashtray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 08:26:07 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ha2mr25f9vtthbt4jal8lcdflpm0sq58to@4ax.com>
Source record: 46403

On Fri, 26 Jan 2007 14:00:07 -0800, Jim Kelley <jwkelley@uci.edu>
quoting Brett:

>> Name me one instance where anyone has achieved taking a cesium atom to
>> absolute zero ...

Two Nobel prizes were won for doing this with Rubidium. Some may
recall that I already cited that as the other frequency standard
element (although rarely used as it is inferior to Cesium).

73's
Richard Clark, KB7QHC

890. Re: Antennas/lead ashtray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 08:41:55 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <563mr29ee7iifbdhucubdab7ctcq69er8k@4ax.com>
Source record: 46404

On Sat, 27 Jan 2007 01:04:43 GMT, Cecil Moore <mycall@hotmail.com> not
un-misexpurgated:

>Things
>that don't exist generally act differently from things
>that do exist.

The solution to the missing Weapons of Mass Destruction that failed
making it into another Texan's speech this week. I suppose it got
transliterated into a proposal:
The dead need a better health care system.

891. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 12:41:39 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <7MHuh.13870$ji1.2654@newssvr12.news.prodigy.net>
Source record: 46405

David G. Nagel wrote:
> Been there, argued that, the mathematicians shot me down. It just don't
> happen that way. Sorry Man.

Ever looked at what non-locality does to mathematics?
--
73, Cecil http://www.w5dxp.com

892. Re: Thevenin and s-parameters...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 12:59:03 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <r0Iuh.13871$ji1.430@newssvr12.news.prodigy.net>
Source record: 46407

camelot wrote:
> Hello,
> I'm have "little" doubt about s-parameter simulations. My
> question is very simple but I do not know if the answer is the same.
> The Thevenin theorem can be applied to a s-parameter simulation?
> That is, if I do a simulation using a port P1 of 50 ohm where at valley
> of the generator I've connected 2 impedences, one in parallel Z1 and
> one in series Z2. Supposing I obtained S11 at frequency f1. Then I
> incorporate the impedence Z2 (at frequency f1) in the port 1 impedence
> (using Thevenin), can I obtain the same S11 parameters for f1 fequency?

From: "Fields and Waves ...", by Ramo and Whinnery:
"It must be emphasized, as in any Thevenin equivalent
circuit, that the equivalent circuit was derived to
to tell what happens in the *load* under different
load conditions, and significance cannot be automatically
attached to a calculation of power loss in the internal
impedance of the equivalent circuit."

Power loss in the internal impedance of the Thevenin
equivalent circuit is related to the s-parameters.
|s11|^2 is power reflected from the network input
divided by the power incident on the network input.
--
73, Cecil http://www.w5dxp.com

893. Re: Antennas/lead ashtray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 13:23:35 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <rnIuh.54$o61.7@newssvr19.news.prodigy.net>
Source record: 46408

Richard Clark wrote:
> Are we suppose that electrons in their
> orbits at 1ï¿½ï¿½K will collapse into the nucleus (permenantly frozen into
> inaction) with the final chilling tweak?

From: http://www.calphysics.org/zpe.html

"Zero-point energy is the energy that remains when all other
energy is removed from a system. This behaviour is demonstrated
by, for example, liquid helium. As the temperature is lowered
to absolute zero, helium remains a liquid, rather than freezing
to a solid, owing to the irremovable zero-point energy of its
atomic motions."
--
73, Cecil http://www.w5dxp.com

894. Re: 2nd RFD: rec.radio.amateur.moderated moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 13:45:53 UTC
From: Nine Land Ham <anon@anon.alt.net>
Message-ID: <lbl29.hi.19.1@news.alt.net>
Source record: 46406
Cross-posted to: news.groups.proposals,rec.radio.amateur.antenna,rec.radio.amateur.dx

```
a clean break. If I have to check *two*
> > newsgroups as a substitute for previously having had to check one,
that's
> > unfortunately not an improvement.
> >
> > If my dilemma is too obvious and I shouldn't have bothered stating it,
I'm
> > sorry.
> >
> > 73,
> > KD6VKW
>
> Leave the old group for those who want to wallow in the problems.
>
> The simple solution for most of us will be to simply ignore or even delete
> the other groups.
```

Well said, Dee. And what a simple solution it is.

895. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 13:49:05 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <lLIuh.13875$ji1.9053@newssvr12.news.prodigy.net>
Source record: 46410

David G. Nagel wrote:
> Cecil Moore wrote:
>> We are likely to discover some day that gravity is a
>> function of the relative velocity of the Earth through
>> the ether. At least that's what my alien buddies say.
>
> Been there, argued that, the mathematicians shot me down. It just don't
> happen that way. Sorry Man.

From: http://www.calphysics.org/zpe.html

"SED studies published in the 1990s showed that a massless
point-charge oscillator accelerating through the zero-point
field will experience a Lorentz force (from the magnetic
components of the zero-point fluctuations) that turns out to
be directly proportional to acceleration, ... This points to
the *electromagnetic quantum vacuum as the origin* of forces
which appear as *inertial mass*."
--
73, Cecil http://www.w5dxp.com

896. Re: 2nd RFD: rec.radio.amateur.moderated moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 14:21:31 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <xhluh.13872$ji1.6680@newssvr12.news.prodigy.net>
Source record: 46409
Cross-posted to: news.groups.proposals,rec.radio.amateur.antenna,rec.radio.amateur.dx

Sal M. Onella wrote:
> What I'm saying is that I want a clean break. If I have to check *two*
> newsgroups as a substitute for previously having had to check one, that's
> unfortunately not an improvement.

Ideally, we will wind up with the wheat in one
newsgroup and the chaff in the other. Participants
will use their free will to decide when (if ever)
to make that "clean break".
--
73, Cecil http://www.w5dxp.com

897. Re: 2nd RFD: rec.radio.amateur.moderated moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 17:34:02 UTC
From: Mark@kb9rqz.org
Message-ID: <683nr255mjehjct35lqn9f5g1pq269r87p@4ax.com>
Source record: 46411
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx

On Fri, 26 Jan 2007 22:48:26 CST, "Sal M. Onella"
<salmonella@food.poisoning.org> wrote:

>
>"Paul W. Schleck, K3FU" <pschleck@novia.net> wrote in message
>news:45b8f455$0$171$540ea2cf@novia.net...
>
>< snip >
>
>> This is a Request for Discussion (RFD) to create a new moderated
>> discussion newsgroup for amateur radio on Usenet.
>
>< snip >
>
>I read the request and I'm not sure how to respond. Yes, I would like to
>see a NG that had the politics and flames flushed out of it by a "duty
>roster" of moderators. However, I'm bothered that it is proposed to
>*supplement*, not *replace* the other newsgroup. How could I be sure that
>some (valid) posters weren't behind in the old, abuse-filled group, toughing
>it out???

>
>What I'm saying is that I want a clean break. If I have to check *two*
>newsgroups as a substitute for previously having had to check one, that's
>unfortunately not an improvement.
>
>If my dilemma is too obvious and I shouldn't have bothered stating it, I'm
>sorry.

well removing RRAP is not going to happen according the Proponent

and Frankly I don't think the new NG is going to realy get moving if
get launched
>
>73,
>KD6VKW
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

898. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 20:02:54 UTC
From: Dave <W1MCE@comcast.net>
Message-ID: <MfSdndHrZPxwMibYnZ2dnUVZ_ragnZ2d@comcast.com>
Source record: 46412

jimp@specsol.spam.sux.com wrote:
> Cecil Moore <mycall@hotmail.com> wrote:
>
>>jimp@specsol.spam.sux.com wrote:
>>
>>>No aether.
>
>
>>Nobody said anything about aether. The medium through
>>which EM waves flow is space which indeed does have
>>a structure. Space is definitely not nothing.
>
>
> I showed you my references, now you show me yours.
>
There is a medium that does NOT have Nitrogen, Oxygen, Hydrogen, and noxious carbon based gases. That medium is not compressed by the effects of gravity. Any molecules present have very large inter molecule dimensions, maybe even miles.

The medium does have the presence of EM energy in the form of x-rays and gamma rays [among other more exotic energy forms], it also contains ionizing particles [neutrons, protons and electrons], it does support gravitational fields, and it has both a dielectric constant and a permeability. The ratio of dielectric constant to permeability is approximately 377 ohms.

This medium supports EM radiation from deep space to the local earth. What do you choose to call it?

899. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 20:07:48 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <miOuh.187$XA6.92251@news.sisna.com>
Source record: 46413

Dave wrote:

> ...
> This medium supports EM radiation from deep space to the local earth.
> What do you choose to call it?
>

Dave:

You have arrived!

Is not a rose by any other name ... ?

Warmest regards,
JS

900. Good quality coax stripping tool

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 20:09:36 UTC
From: mcclements@gmail.com
Message-ID: <1169928576.655834.324790@l53g2000cwa.googlegroups.com>
Source record: 46414

Hey all - I need some advice on a good coax stripping tool. I have been doing them by hand all my life. I'd like to get a tool that has replacement blades that can do the job fast and perfect. AIM is the only brand I see the ham radio catalogs...are they good? I want one to do the RG8 and RG58 sizes. -Scott, WU2X

901. Re: Good quality coax stripping tool

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 22:18:38 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <2dQuh.56361$wc5.48183@newssvr25.news.prodigy.net>
Source record: 46415

mcclements@gmail.com wrote:
> Hey all - I need some advice on a good coax stripping tool.

Exacto knife?
--
73, Cecil http://www.w5dxp.com

902. Re: Good quality coax stripping tool

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 22:55:48 UTC
From: Bob Miller <NOSPAM@neosoft.com>
Message-ID: <80mnr29qnf1ruogespi2mdq2kd7a3ijkc8@4ax.com>
Source record: 46416

On Sat, 27 Jan 2007 22:18:38 GMT, Cecil Moore <mycall@hotmail.com>
wrote:

>mcclements@gmail.com wrote:
>> Hey all - I need some advice on a good coax stripping tool.
>
>Exacto knife?

I use an Exacto knife, a dental pick to part the braid, and manicure
scissors to trim it.

bob
k5qwg

903. Re: Good quality coax stripping tool

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 22:59:32 UTC
From: Dale Parfitt <par@parelectronics.com>
Message-ID: <oPQuh.1714$lk3.1026@trnddc04>
Source record: 46417

"Bob Miller" <NOSPAM@neosoft.com> wrote in message
news:80mnr29qnf1ruogespi2mdq2kd7a3ijkc8@4ax.com...
> On Sat, 27 Jan 2007 22:18:38 GMT, Cecil Moore <mycall@hotmail.com>
> wrote:
>
>>mcclements@gmail.com wrote:
>>> Hey all - I need some advice on a good coax stripping tool.
>>
>>Exacto knife?
>
> I use an Exacto knife, a dental pick to part the braid, and manicure
> scissors to trim it.
>
> bob
> k5qwg

My technique precisely Bob- have you been spying?

I had tried some 3 step strippers years back. Results varied a lot with
cable manufacturer and never were as good as I could do w/ Bob's method.

Dale W4OP

904. Re: Good quality coax stripping tool

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-27 23:22:15 UTC
From: Bob Miller <NOSPAM@neosoft.com>
Message-ID: <hhnnr2h75nf442qdu0lagms1d54hb3ml64@4ax.com>
Source record: 46418

On Sat, 27 Jan 2007 22:59:32 GMT, "Dale Parfitt"
<par@parelectronics.com> wrote:

>
>"Bob Miller" <NOSPAM@neosoft.com> wrote in message
>news:80mnr29qnf1ruogespi2mdq2kd7a3ijkc8@4ax.com...
>> On Sat, 27 Jan 2007 22:18:38 GMT, Cecil Moore <mycall@hotmail.com>
>> wrote:
>>
>>>mcclements@gmail.com wrote:
>>>> Hey all - I need some advice on a good coax stripping tool.
>>>
>>>Exacto knife?
>>
>> I use an Exacto knife, a dental pick to part the braid, and manicure
>> scissors to trim it.
>>
>> bob
>> k5qwg
>
>My technique precisely Bob- have you been spying?
>
>I had tried some 3 step strippers years back. Results varied a lot with
>cable manufacturer and never were as good as I could do w/ Bob's method.
>
>Dale W4OP
>

The local electronics store, Atex, sells dental picks, and the cuticle
scissors were a tip from the Wireman's Wirebook.

bob
k5qwg

905. Re: Shooting a wire over a grove of tall trees. What works?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 00:38:25 UTC
From: Sum Ting Wong <sumtingwong@privacy.net>
Message-ID: <svrnr2hlc7p4r207ld4khc4djgs4jpsgt6@4ax.com>
Source record: 46419

On Fri, 26 Jan 2007 20:27:31 -0800, "Sal M. Onella"
<salmonella@food.poisoning.org> wrote:

>For about ten dollars in PVC pipe & cement, you can build a "spud gun" in
>about two hours.

Built one of these for quite a bit more than ten dollars but it works
pretty well: http://www.antennalaunchers.com/csv19/index.html

I recall that the sprinkler valve was $11-12 at Home Depot just by
itself.

S.T.W.

906. Re: Shooting a wire over a grove of tall trees. What works?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 01:09:02 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <KISuh.213$3F.294964@news.sisna.com>
Source record: 46420

Sum Ting Wong wrote:

> ...
> Built one of these for quite a bit more than ten dollars but it works
> pretty well: http://www.antennalaunchers.com/csv19/index.html
>
> I recall that the sprinkler valve was $11-12 at Home Depot just by
> itself.
>
> S.T.W.

STW:

Before this thread, I was stuck with watching "Myth Busters" for fun!

All I got is a slingshot ... but I am thinking.

Regards,
JS

907. Re: Converting From mV/m To Decayed mW (ERP)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 01:28:12 UTC
From: Kaimbridge@gmail.com
Message-ID: <1169947692.906800.58020@q2g2000cwa.googlegroups.com>
Source record: 46421
Cross-posted to: sci.electronics.design,alt.engineering.electrical,rec.radio.amateur.antenna

On Jan 24, 2:45 pm, "mpm" <mpmill...@aol.com> wrote:
> On Jan 23, 8:29?pm, "Kaimbridge" <Kaimbri...@gmail.com> wrote:
>
>> What I'm interested in is converting a given field strength mV/m,
>> at a given distance for a particular frequency, to the equivalent
>> (decayed) baseline wattage.
>
> If I understand what you're asking, your question really centers
> around how to calculate Free Space Loss. The Friis Equation will
> allow you to do this, and it is a relatively simple matter to
> derive Free Space Path Loss in decibel form from the Friis Equation.

I'm not sure: Is this the same (or at least related to) W/m^2?
The problem I see with these is that, as distance approaches 0, KW approahes oo and what I'm looking for shouldn't be greater than the transmitter's erp.
What got me on this idea, is a few weeks go I was visiting up in the NH White Mountains and was checking out the AM/FM bands (I'm a radio geek! P=). When I got home, I went to the FCC site to create a bandscan of the area. The designation used was the radius from a point.
I quickly realized that this was less than ideal, as--using 100 km radius, as an example--100 W stations at that distance would be listed along with 50 and 100 KW! What would be much more useful would be a listing of stations that provide--st least the theoretical baseline value (i.e., not considering intervening local terrain or one's receiver sensitivity and antenna gain)--a given mV/m or mW at that point (thus listing 100 W stations out to 15 km, whereas 50 KW stations out to 75 km and 100 KW to 130 km would be listed).
Think of it this way: If you turned on a 100 W lightbulb in the middle of a field at night and held a book page right up to it, you would be able to read it clearly; if you moved about 10 feet away (with the book page still facing the lightblb, unobstructed), you would have difficulty trying to read it, as only about the equivalent of (e.g.) 50 mW of light may be hitting the page.

~Kaimbridge~

Wikipedia-Contributor Home Page:

http://en.wikipedia.org/wiki/User:Kaimbridge

***** Void Where Permitted; Limit 0 Per Customer. *****

908. Prophecies fulfilled

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 01:45:18 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <5vvnr21v69slo9e3ebuqgudb0je4c4jn8n@4ax.com>
Source record: 46422

On Sat, 27 Jan 2007 07:45:53 CST, "Nine Land Ham" <anon@anon.alt.net>
wrote:

The burden of excess baggage removed from the anticipated autocratic
reception:

-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

This post is concerned with the general philosophy of moderation in
general, and would be more appropriate for news.groups. Please
restrict your discussion to issues specifically relating to this
proposal.

Your submission has been rejected because it is off-topic in the
newsgroup news.groups.proposals. This newsgroup is for the
announcement, discussion, and development of active proposals for
changes to the Big 8 hierarchies, as documented at
<http://www.big-8.org/>. Discussion begins in news.groups.proposals
when the Request for Discussion (RFD) is posted in
news.announce.newgroups and continues until a decision is announced.

Common topics that do not belong in news.groups.proposals include:

- Discussion of world events or "the news" - see talk.current-events
- Proposals for alt.* or other non-Big-8 hierarchies - see alt.config
or the appropriate regional config newsgroup
- "How do I do X with my newsreader?" - see news.software.readers
and/or news.newusers.questions

The charter of news.groups.proposals is at
<http://www.big-8.org/~ngp>.

Please direct your queries to ngp-mods@ngp.big-8.org.

Thank you,

- Moderator.

> On Sat, 27 Jan 2007 07:45:53 CST, "Nine Land Ham" <anon@anon.alt.net>
> wrote:
>
> >>>a clean break. If I have to check *two*
> >>> newsgroups as a substitute for previously having had to check one, that's
> >>> unfortunately not an improvement.
> >>
> >> The simple solution for most of us will be to simply ignore or even delete
> >> the other groups.

> >
> >Well said, Dee. And what a simple solution it is.
>
> Two vote for the solution that doesn't satisfy the first's objection.
> The desire to be cloaked in passive comfort to the neglect of others
> is the dawn of the abuse of autocracy. Who will moderate the
> moderators when it requires an active role from the majority?
>
> A simpler solution that requires initiative has been offered already
> and it satisfies all comments, observations, and complaints. Failure
> to take care of yourself will always allow the problem to flourish.
>
> The simple fact of the matter is that gated communities where
> originally called ghettos. The negative connotation was from the best
> of intentions eventually being led to abandonment and poverty within
> the confine.
>
> 73's
> Richard Clark, KB7QHC

73's
Richard Clark, KB7QHC

73's
Richard Clark, KB7QHC

909. Re: Strayed thinking

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 02:00:25 UTC
From: Mike Coslo <mcoslo@comcast.net>
Message-ID: <Xns98C5D5B1D20D3mcoslocomcastnet@216.196.97.136>
Source record: 46423

"Jimmie D" <jimmiedee@bellsouth.net> wrote in
news:Q%Pth.2435$qt.1690@bignews5.bellsouth.net:

>
> "Michael Coslo" <mjc5@psu.edu> wrote in message
> news:ep885r$1fj0$1@f04n12.cac.psu.edu...
>> gwatts wrote:
>>>
>>> Don't blame the engineers, unless they went on to get an MBA after
>>> the EE, ME, etc. I got out of private industry ten years ago for
>>> these reasons, I was tired of design reviews where management pushed
>>> the 'you can cut this out, it won't be so bad' line. Designs aren't
>>> for the benefit of the customer, they are for the benefit of the
>>> stockholder and the board of directors. What was 'The quality goes
>>> in before the name goes on,' is now 'the profit is determined before
>>> the unit is produced.' I'm not saying that profit isn't a good
>>> thing, just that it shouldn't be the overwhelming thing.
>>
>> On the other hand, someone has to take the project from the engineers
>> because if they don't, the engineers won't stop working on it.
>>
>>
>> - 73 de Mike KB3EIA -
>
> Engineers design it and the techs actually make it work.

I suspect that is why the better engineers that I know buy their
Techs pizza every so often! ;^)

- 73 de Mike KB3EIA -

910. Re: Amateur Radio Assistance to Katrina Disaster!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 02:08:03 UTC
From: 0junk4me@bellsouth.net
Message-ID: <7ATuh.10032$qt.7270@bignews5.bellsouth.net>
Source record: 46424
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.misc

On 2005-09-01 a5b5e$431747b4$471c610a$32175@ALLTEL.NET said:
>Fred W4JLE wrote:
>> We all watched in amazement as New Orleans was relagated to the
>>Stone Age. All the wizz bang technology fell on it's hind parts.
>>No cell phones, no internet, no echo link, no communications.

i was there, my xyl and I were the ham radio ops for
University/Charity hospitals in NEw ORleans. SPent a week
there, and thank the good lord for hf ham radio. Was our
lifeline most of that week.

73 de nf5b

P.s. Haven't looked in on the ham radio usenet groups for
over a year, until I was seeking an item I needed. SEe not
much has changed.

Richard Webb, amateur radio callsign nf5b
Memphis TN USA.
Replace all before at symbol with elspider

Democracy is when two wolves and a sheep vote on who's for
dinner. Liberty is when the sheep has his own gun.

911. SteppIR - FT-920 interface

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 05:23:07 UTC
From: PRR <1pr@cox.net>
Message-ID: <5rWuh.3460$4W5.2877@newsfe10.phx>
Source record: 46425

I am having no luck getting my Yaesu FT-920 to talk with the SteppIR controller. Has anybody been able to do so? TNX
W1PR

912. Schlecks' Schlock!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 06:39:56 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <VyXuh.281$hb1.484595@news.sisna.com>
Source record: 46326
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors

To Whom It May Concern:

Just so you have a complete picture of Paul W. Schleck, I took the following from one of his posts in news.groups.proposals:

"Mark Morgan, KB9RQZ, is correct that all of our proposed moderators and consultants hold the highest class of Amateur Radio Service license in their countries (Amateur Extra for the U.S. team members, Class A or similar in the case of Jack Cook, who holds both UK and Australian licenses). However, that doesn't mean that we would be judgemental or unfair to other classes of license. We would certainly be open to adding moderators to our team that hold other classes of license. We will certainly decline articles that are disrespectful to or prejudicial against other participants for any reason, including license class. We would prefer to judge ideas, and take posts at face value, rather than prejudge individuals and credentials in a vacuum."

Now that just speaks volumes about this man, his caliber, his "ethical standards", etc. Now, doesn't it?

Gawd! I feel sick ...

Warmest regards,
JS

913. Re: Schlecks' Schlock!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 06:48:46 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <bHXuh.283$JZ.366721@news.sisna.com>
Source record: 46327
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors

John Smith I wrote:
> To Whom It May Concern:
>
> Just so you have a complete picture of Paul W. Schleck, I took the
> following from one of his posts in news.groups.proposals:
> ...
> Now that just speaks volumes about this man, his caliber, his "ethical
> standards", etc. Now, doesn't it?
>
> Gawd! I feel sick ...
>
> Warmest regards,
> JS

Unbelievable, is there ANYONE here who believes Mr. Schlock... err, Mr. Schleck would be "fair" and just to ALL? That he would consider ANYTHING other than his own petty gripes and bitches? If so, step right up here to defend the man, I am waiting ...

My gawd, the man is so crooked he makes my dogs hind legs look straight!

Regards,
JS

914. Re: Schlecks' Schlock!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 07:04:50 UTC
From: Wodger <anon@anon>
Message-ID: <le7fh.9jc.19.1@news.alt.net>
Source record: 46328
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors

"John Smith I" <assemblywizard@gmail.com> wrote in message
news:bHXuh.283$JZ.366721@news.sisna.com...
> John Smith I wrote:
> > To Whom It May Concern:
> >
> > Just so you have a complete picture of Paul W. Schleck, I took the
> > following from one of his posts in news.groups.proposals:
> > ...
> > Now that just speaks volumes about this man, his caliber, his "ethical
> > standards", etc. Now, doesn't it?
> >
> > Gawd! I feel sick ...
> >
> > Warmest regards,
> > JS
>
> Unbelievable, is there ANYONE here who believes Mr. Schlock... err, Mr.
> Schleck would be "fair" and just to ALL? That he would consider
> ANYTHING other than his own petty gripes and bitches? If so, step right
> up here to defend the man, I am waiting ...
>
> My gawd, the man is so crooked he makes my dogs hind legs look straight!
>
> Regards,
> JS

Schleck is all about self-aggrandizement. His posts are all about himself.
Read his posts, the few that he sends. Paul is convinced that he, and only
he, has true insight into Ham matters and that he, Paul Schleck, knows
better than us, the Great Unwashed.
Does the term, "Stuffed Shirt" come to mind?

915. Re: Schlecks' Schlock!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 07:11:58 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <X0Yuh.285$gb1.483570@news.sisna.com>
Source record: 46329
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors

Wodger wrote:

> ...
> Schleck is all about self-aggrandizement. His posts are all about himself.
> Read his posts, the few that he sends. Paul is convinced that he, and only
> he, has true insight into Ham matters and that he, Paul Schleck, knows
> better than us, the Great Unwashed.
> Does the term, "Stuffed Shirt" come to mind?
>
>
>
>

Wodger:

ABSOLUTELY! And, he is much, much more. That bit of his just took the
GREATEST LIAR I have ever known and made that liar look like nothing ...

Schleck is good alright, the man has brass b*lls the size of
basketballs, and his little trolling bunch of henchmen are
sickening--strange they ALL seem to have extra licenses, isn't it?

Course, he just "swore" to the committee that they would not be "unfair"
or "judgmental", what a GREAT FARCE!

Warmest regards,
JS

916. Re: Schlecks' Schlock!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 08:42:34 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <UlZuh.286$HF.332905@news.sisna.com>
Source record: 46330
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

Here is what my response to Mr. Schleck would be on his proposed moderated newsgroup:

Mr. Paul W. Schleck:

I would question your ability to be a fair and just moderator. I have participated in the rec.radio.amateur.??? newsgroups, I have witnessed your abilities and goals.

There, I have seen you and your extra class henchmen attempt to constantly steer the course of its' flow, intimidation and threats have often been your tools. I have watched you and others look down upon other amateurs who will now be allowed to take a "No Code Amateur Exam." In no way have I ever seen you be even close to being "fair" or "just" in your opinions, judgments, statements, etc. I have heard many in that group call the present amateur exams "dumbed down."

Here, you have blatantly lied as to your purposes. You seek a forum where a very limited band of ideas, concepts, beliefs and discussion can take forth. You seek to establish a "class based newsgroup", this class system will VERY MUCH depend on the ancient art of morse code and the amateur exam.

If any here doubt, they only have to sift though the old posts and check past posts of you and those you name as would be-moderators and they will know. What I say, I say with great belief.

You wish to establish a "masonic temple type of brotherhood" here in the public newsgroups. You and a few of your cronies wish to establish tight and strict control over this group. And, from what I can see and guess to your goals, you do this SOLELY for the purpose of stroking your own egos.

Many of the "weirdos", hecklers and vulgar individuals in the other amateur groups are due to you and those sharing your same views and using your "street smart" methods--in effect, your "control freak" attitude and "better-than-thou" stance has created them.

It would serve justice if you were forced to stay and learn to "get along and play well" with the other "children."

Your words show a fine demonstration of stealth and deception; I don't believe I have ever seen a better example than you have presented to us here. I certainly would nominate you for the "Silver Tongue Award."

However, I would certainly NOT vote to allow you to slink and sneak off from the tragedy you have helped to create.

Although you make this request and proposal out of your personal need to feed your ego, and surround yourself with those who would feed your ego for you, and "live in your own little world", I think it would be a crime to allow you to do so.

The potential you have to abuse this proposed-moderated newsgroup to the detriment of others demands it should not be allowed ... I for one would vote NO, but then, you already knew that ...

Regards,
John Smith I

917. Re: Converting From mV/m To Decayed mW (ERP)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 13:44:18 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <epi9blkgc1@aioe.org>
Source record: 46331
Cross-posted to: sci.electronics.design,alt.engineering.electrical,rec.radio.amateur.antenna

Kaimbridge@gmail.com wrote
> The problem I see with these is that, as distance approaches 0, KW
> approahes oo and what I'm looking for shouldn't be greater than the
> transmitter's erp. ... What would be much more useful would be a
> listing of stations that provide--st least the theoretical baseline
> value (i.e., not considering intervening local terrain or one's
> receiver sensitivity and antenna gain)--a given mV/m or mW at that
> point (thus listing 100 W stations out to 15 km, whereas 50 KW
> stations out to 75 km and 100 KW to 130 km would be listed).

Using the known ERP from the transmit antenna it is possible using various algorithms to calculate the field strength that will exist at a distant point for some defined condition(s). The FCC has done this for AM/FM/TV broadcast stations, and the techniques are available to the public via the FCC's website. Various broadcast-oriented commercial software programs also are available to do this, although they are expensive.

For AM stations, the distant field is a function of the frequency, ERP, path length, ground conductivity, terrain roughness, the ionosphere, and the time of day.

For FM/TV stations, distant field is a function of ERP, the heights of the transmit and receive antennas, reflections, atmospheric conditions, path length, and the terrain profile along the path.

These are not simple relationships. For example, in order to provide essentially equal signal strengths over most of their useful coverage areas, the ERP needed from an FM station with a "high" antenna can be much less than if the antenna is lower. Here is a plot showing this...
http://i62.photobucket.com/albums/h85/rfry-100/ClassBCompare.gif

Unfortunately, there is no simple solution answering your queries.

RF

918. Re: Schlecks' Schlock!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 14:06:18 UTC
From: Dee Flint <deeflint01@comcast.net>
Message-ID: <X4mdnbwNF45yMCHYnZ2dnUVZ_v-tnZ2d@comcast.com>
Source record: 46332
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors

"John Smith I" <assemblywizard@gmail.com> wrote in message
news:bHXuh.283$JZ.366721@news.sisna.com...
> John Smith I wrote:
>> To Whom It May Concern:
>>
>> Just so you have a complete picture of Paul W. Schleck, I took the
>> following from one of his posts in news.groups.proposals:
>> ...
>> Now that just speaks volumes about this man, his caliber, his "ethical
>> standards", etc. Now, doesn't it?
>>
>> Gawd! I feel sick ...
>>
>> Warmest regards,
>> JS
>
> Unbelievable, is there ANYONE here who believes Mr. Schlock... err, Mr.
> Schleck would be "fair" and just to ALL? That he would consider ANYTHING
> other than his own petty gripes and bitches? If so, step right up here to
> defend the man, I am waiting ...
>
> My gawd, the man is so crooked he makes my dogs hind legs look straight!
>
> Regards,
> JS

There is nothing in the statement as printed that would justify your
conclusion.

Dee, N8UZE

919. Re: Schlecks' Schlock!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 14:07:33 UTC
From: Dee Flint <deeflint01@comcast.net>
Message-ID: <mrCdndKG3JykMyHYnZ2dnUVZ_sapnZ2d@comcast.com>
Source record: 46333
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors

"John Smith I" <assemblywizard@gmail.com> wrote in message
news:X0Yuh.285$gb1.483570@news.sisna.com...
> Wodger wrote:
>
> > ...
>> Schleck is all about self-aggrandizement. His posts are all about
>> himself.
>> Read his posts, the few that he sends. Paul is convinced that he, and
>> only
>> he, has true insight into Ham matters and that he, Paul Schleck, knows
>> better than us, the Great Unwashed.
>> Does the term, "Stuffed Shirt" come to mind?
>>
>>
>>
>>
>
> Wodger:
>
> ABSOLUTELY! And, he is much, much more. That bit of his just took the
> GREATEST LIAR I have ever known and made that liar look like nothing ...
>
> Schleck is good alright, the man has brass b*lls the size of basketballs,
> and his little trolling bunch of henchmen are sickening--strange they ALL
> seem to have extra licenses, isn't it?
>
> Course, he just "swore" to the committee that they would not be "unfair"
> or "judgmental", what a GREAT FARCE!
>
> Warmest regards,
> JS

As of this point in time you have no proof of that. Let us see what happens
first.

Dee, N8UZE

920. Re: Schlecks' Schlock!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 14:10:21 UTC
From: Dee Flint <deeflint01@comcast.net>
Message-ID: <Rt2dnUF01_x_MyHYnZ2dnUVZ_v6tnZ2d@comcast.com>
Source record: 46334
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

"John Smith I" <assemblywizard@gmail.com> wrote in message
news:UlZuh.286$HF.332905@news.sisna.com...
>
> Here is what my response to Mr. Schleck would be on his proposed moderated
> newsgroup:
>
> Mr. Paul W. Schleck:
>
> I would question your ability to be a fair and just moderator. I have
> participated in the rec.radio.amateur.??? newsgroups, I have witnessed
> your abilities and goals.
>
> There, I have seen you and your extra class henchmen attempt to constantly
> steer the course of its' flow, intimidation and threats have often been
> your tools. I have watched you and others look down upon other amateurs
> who will now be allowed to take a "No Code Amateur Exam." In no way have I
> ever seen you be even close to being "fair" or "just" in your opinions,
> judgments, statements, etc. I have heard many in that group call the
> present amateur exams "dumbed down."
>
> Here, you have blatantly lied as to your purposes. You seek a forum where
> a very limited band of ideas, concepts, beliefs and discussion can take
> forth. You seek to establish a "class based newsgroup", this class system
> will VERY MUCH depend on the ancient art of morse code and the amateur
> exam.
>
> If any here doubt, they only have to sift though the old posts and check
> past posts of you and those you name as would be-moderators and they will
> know. What I say, I say with great belief.
>
> You wish to establish a "masonic temple type of brotherhood" here in the
> public newsgroups. You and a few of your cronies wish to establish tight
> and strict control over this group. And, from what I can see and guess to
> your goals, you do this SOLELY for the purpose of stroking your own egos.
>
> Many of the "weirdos", hecklers and vulgar individuals in the other
> amateur groups are due to you and those sharing your same views and using
> your "street smart" methods--in effect, your "control freak" attitude and
> "better-than-thou" stance has created them.
>
> It would serve justice if you were forced to stay and learn to "get along
> and play well" with the other "children."

>
> Your words show a fine demonstration of stealth and deception; I don't
> believe I have ever seen a better example than you have presented to us
> here. I certainly would nominate you for the "Silver Tongue Award."
>
> However, I would certainly NOT vote to allow you to slink and sneak off
> from the tragedy you have helped to create.
>
> Although you make this request and proposal out of your personal need to
> feed your ego, and surround yourself with those who would feed your ego
> for you, and "live in your own little world", I think it would be a crime
> to allow you to do so.
>
> The potential you have to abuse this proposed-moderated newsgroup to the
> detriment of others demands it should not be allowed ... I for one would
> vote NO, but then, you already knew that ...
>
> Regards,
> John Smith I

OK John, clean up this newsgroup so I don't have to add filters on an almost daily basis to eliminate the constant deluge of sex posts, vulgar posts, etc.

Dee, N8UZE

921. Re: L/Series network tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 15:07:35 UTC
From: charlie <wehatespam@wymsey.co.uk>
Message-ID: <xaOdna54s_OqISHYnZ2dnUVZ8v2vnZ2d@pipex.net>
Source record: 46335

marc wrote:
> In looking to build a tuner, I was looking at an L-network tuner, with
> switched inductance. If I also add a switch to make it a
> series-network (capacitance "before" or "after" inductance), what would
> be the limitations of such a design? I.e. What types of antennas, or
> under what conditions would it be inappropriate?
>
> Thanks.
>

marc,

I am building something very similar to tune up a portable vertical
for use on a steel-hull narrow boat, 10m through to 80m. In my case
a centre loaded 3.3 metre vertical.

You don't say what sort of aerial or what bands you are going to use
but the following should tune most wires and verticals:

Coil: 100 turns of 13 AWG (15 SWG) on 2 inch diameter tapped every
10 tuns. Use a 12 way switch and have one contact to short out the coil.

For the variable cap use a two gang 500pf+500pf with a switch to
switch in the second 500pf and another switch to bring in an extra
1000pf.

Finally another switch to switch the caps from TX/RX side to antenna
side.

Because I will be using a tapped centre loading coil the inductance
needed in my ATU is much less than the coil I suggest above. In my
ATU the cap will be on the RX/TX side of the coil for 80m,40m & 20m
with no coil required on 20. On 80 I also need the extra 1000pf.

By the way, the above is designed and I'm in the process of building
the antenna and ATU - we'll see what happens when I try it out!

Charlie.

--
www.wymsey.co.uk

922. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 15:20:05 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <Fa3vh.76738$wP1.60913@newssvr14.news.prodigy.net>
Source record: 46336

Dave Oldridge wrote:
> Nobody that I know of, but we're getting to the point where we can see
> almost that far back.

Seems to me all we can see is back to the point where
things are moving away from our relative position at
less than the speed of light. Did you know that the
red shift is quantitized, i.e. not continuous, even
within the same galaxy?
--
73, Cecil http://www.w5dxp.com

923. Re: Schlecks' Schlock!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 15:28:05 UTC
From: KC4UAI <kc4uai@gmail.com>
Message-ID: <1169998084.992845.180620@m58g2000cwm.googlegroups.com>
Source record: 46337
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.amateur.misc

John,

I don't see a serious problem with Paul considering your quote or
anything else that I've seen so far.

Let's see... He clearly says that we are not going to require a
specific licence class to be a moderator. That seems fair.

So Where's the beef in your quote?

I can tell you that nobody in the team even noticed that we all where
extras until Mark brought it up. So to my knowledge that was not a pre-
condition for acceptance in the team. I do recall that they needed to
be Hams, but that seems reasonable. I was there from the start of
this, being responsible for setting up the mail reflector we use as
well as setting up the shell account we use for the moderation
software, so I should know.

It seems to me that you guys just oppose the creation of the moderated
group and you have chosen to engage in personal attacks on the
proponents in an effort to keep it from happening.

This is the best you can do? Do you have any real evidence here?

-= KC4UAI =-

On Jan 28, 12:39 am, John Smith I <assemblywiz...@gmail.com> wrote:
> To Whom It May Concern:
>
> Just so you have a complete picture of Paul W. Schleck, I took the
> following from one of his posts in news.groups.proposals:
>

924. Re: Good quality coax stripping tool

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 15:31:13 UTC
From: "Carl R. Stevenson" <wk3cqth@wk3c.com>
Message-ID: <ieadnSPHZrJZXCHYUSdV9g@ptd.net>
Source record: 46338

Check CableExperts and Tessco on the web ... they have an assortment in
various sizes and prices.

73,
Carl - wk3c

<mcclements@gmail.com> wrote in message
news:1169928576.655834.324790@l53g2000cwa.googlegroups.com...
> Hey all - I need some advice on a good coax stripping tool. I have
> been doing them by hand all my life. I'd like to get a tool that has
> replacement blades that can do the job fast and perfect. AIM is the
> only brand I see the ham radio catalogs...are they good? I want one to
> do the RG8 and RG58 sizes. -Scott, WU2X
>

925. Re: Schlecks' Schlock!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 16:14:54 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <1_3vh.18$cr2.139401@news.sisna.com>
Source record: 46339
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors

Dee Flint wrote:

> ...
> As of this point in time you have no proof of that. Let us see what happens
> first.
>
> Dee, N8UZE
>
>

Dee:

I live in California, we have rattlesnakes here. Due to the nature of snakes, I don't have to "see what happens first", the snake is a snake due to the nature of that snake--that snake cannot change his nature ...

Regards,
JS

926. Re: Schlecks' Schlock!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 16:20:34 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <l34vh.22$ar2.137351@news.sisna.com>
Source record: 46340
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors

Dee Flint wrote:

> ...
> There is nothing in the statement as printed that would justify your
> conclusion.
>
> Dee, N8UZE
>
>

Dee:

I am not the only man who has sat witness to the display of text paul and his cronies have put on--go back and examine the posts yourself, a pattern has developed here ... schleck is more a corrupt politician than anything else I can find to compare him to ...

Regards,
JS

927. Re: Schlecks' Schlock!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 16:25:05 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <A74vh.23$Hq2.105576@news.sisna.com>
Source record: 46341
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.amateur.homebrew

Dee Flint wrote:

> ...
> OK John, clean up this newsgroup so I don't have to add filters on an almost
> daily basis to eliminate the constant deluge of sex posts, vulgar posts,
> etc.
>
> Dee, N8UZE
>
>

Dee:

There I agree with you 100%. The vulgarity and sheer non-sense makes me
embarrassed for them. I cringe at the mental state they must exist in
to wish to provide such a display in front of women and younger users here.

I fear that this does not just exist in the newsgroups, here with us,
but also is becoming "something bad" in America :(

I can only admire you in finding the tools and having the determination
to be here with us in spite of all that non-sense ...

Warmest regards,
JS

928. Re: Schlecks' Schlock!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 16:29:47 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <Zb4vh.24$Iq2.106601@news.sisna.com>
Source record: 46342
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.policy,rec.radio.amateur.misc

KC4UAI wrote:

> ...
> Let's see... He clearly says that we are not going to require a
> specific licence class to be a moderator. That seems fair.
>
> So Where's the beef in your quote?
> ...

KC4UAI:

What part of "LIAR" don't you understand, I don't believe I have miniced my words when it comes to "Paul W. Schleck."

The man has NO credibility with me, he could stand next to my representative in congress and I could not tell them apart--smooth liars are that way.

I think he would brow beat the new licensees who pass a no code exam, I think he supports henchmen would would do this also. I think past posts can be dug up to support that rather nicely! I think the man is all about a world where "EXTRAS RULE" the school yard!

Regards,
JS

929. Re: Shooting a wire over a grove of tall trees. What works?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 16:46:49 UTC
From: AC7PN <brunius@rockisland.com>
Message-ID: <1170002809.237076.120800@v33g2000cwv.googlegroups.com>
Source record: 46343

The canon worked pretty well after a lot of "revisionizing" of the design. I now have a 1000ft inverted V antenna. I runs on the tops of the trees and is stretched to the very tip top of my 80ft tower on the hill top. The coax runs about 400 ft through the woods to the Western terminus of the V. To give a counter poise I ran three 120ft radials from the starting point of the coax and the V. It probably needs more radials but it doesn't need as many as a 1/4wave vertical because the driving point impedance is about 10x greater than the vertical. So I have a home brew 500ohm to 50ohm transformer at the driving point to match the coax. It loads up with a less than 1.8:1 SWR from 1.8 MHz to 29MHz. It is slightly directional to the East according to NEC simulations.

Running this antenna was fraught with frustration. I used 4lb test line shot from the canon. Missing was frequent and that light line would be blown by the wind into trees that it shouldn't be in. The line would often break before getting the job done requiring redoing. I did pull 40lb test before pulling the insulated wire. The wire is 8 #22 conductors in a grey UV resistant ribbon.The antenna wire got stuck in the guys of the tower a number of times requiring climbing the tower 3 times. (That reminds me I have one guy on the tower currently disconnected.) It seemed that the whole project was fighting me tooth and nail.

It works though. I used it in the CQ 160M CW contest this weekend. I couldn't stay up very late being exhausted from building the antenna so I only worked about 6 hours total over two evenings. Made 115 contacts. I'm not so hot at CW. I can answer a CQ OK but if I call CQ I get all panicked and fail to operate especially when three guys answer at once at 35 WPM.

Bob Brunius

930. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 17:41:41 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <dfnpr2d991ikus3m7h3b0t1mr4unje7kje@4ax.com>
Source record: 46344

On Fri, 26 Jan 2007 23:22:38 GMT, Dave Oldridge
<doldridg@leavethisoutshaw.ca> wrote:

>> The same problem still exists. The cesium atom didn't
>> exist before the first super nova. How can the time
>> be calculated between the Big Bang and the first super
>> nova if cesium didn't exist?
>
>There are other entropic processes that can be calibrated against the
>cesium.

Hi Dave,

You have been snookered into answering a complaint manufactured (as
usual) from the misapplication of relationships. The resonance of
Cesium is not a function of time. Time is not a function of Cesium's
resonance (the incorrect correlation drawn, to which you are
responding).

There is no dependency between the two. It is our dependency in our
usage of one to measure the other. The sophism above is much like
saying sound did not exist before someone was close enough to hear the
falling tree. The excitation of gas molecules we call sound existed
long before the appearance of the first amoeba, much less apes in
falling trees. Both sound and time are phenomenological terms for
simple and rational physical processes that exist without dependence
on us.

73's
Richard Clark, KB7QHC

931. Re: Schlecks' Schlock!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 17:50:16 UTC
From: Dee Flint <deeflint01@comcast.net>
Message-ID: <x6ednZKDQJzwfyHYnZ2dnUVZ_r-onZ2d@comcast.com>
Source record: 46345
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors

"John Smith I" <assemblywizard@gmail.com> wrote in message
news:1_3vh.18$cr2.139401@news.sisna.com...
> Dee Flint wrote:
>
> > ...
>> As of this point in time you have no proof of that. Let us see what
>> happens first.
>>
>> Dee, N8UZE
>
> Dee:
>
> I live in California, we have rattlesnakes here. Due to the nature of
> snakes, I don't have to "see what happens first", the snake is a snake due
> to the nature of that snake--that snake cannot change his nature ...
>
> Regards,
> JS

Sufficient data already exists on the poison content of rattlesnakes. In addition, don't lump all snakes with rattlesnakes. The common garter snake is quite harmless.

Dee, N8UZE

932. Re: Schlecks' Schlock!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 17:52:36 UTC
From: Dee Flint <deeflint01@comcast.net>
Message-ID: <4MqdnXFKF65lfyHYnZ2dnUVZ_rylnZ2d@comcast.com>
Source record: 46346
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors

"Dee Flint" <deeflint01@comcast.net> wrote in message
news:x6ednZKDQJzwfyHYnZ2dnUVZ_r-onZ2d@comcast.com...
>
> "John Smith I" <assemblywizard@gmail.com> wrote in message
> news:1_3vh.18$cr2.139401@news.sisna.com...
>> Dee Flint wrote:
>>
>> > ...
>>> As of this point in time you have no proof of that. Let us see what
>>> happens first.
>>>
>>> Dee, N8UZE
>>
>> Dee:
>>
>> I live in California, we have rattlesnakes here. Due to the nature of
>> snakes, I don't have to "see what happens first", the snake is a snake
>> due to the nature of that snake--that snake cannot change his nature ...
>>
>> Regards,
>> JS
>
> Sufficient data already exists on the poison content of rattlesnakes. In
> addition, don't lump all snakes with rattlesnakes. The common garter snake
> is quite harmless.
>
> Dee, N8UZE

In addition, the rattlesnake forms a useful role in keeping rodents and
other small vermin under control.

Sensible people leave them alone and make sure that the snakes don't come
into their immediate area.

Dee, N8UZE

933. Re: Schlecks' Schlock!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 17:58:11 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <Ru5vh.32$Dq2.101476@news.sisna.com>
Source record: 46347
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors

Dee Flint wrote:

> ...
> Sufficient data already exists on the poison content of rattlesnakes. In
> addition, don't lump all snakes with rattlesnakes. The common garter snake
> is quite harmless.
>
> Dee, N8UZE
>
>

Dee:

I appreciate your sense of humor, you are a welcome and pleasant
addition to my morning cup of coffee. Sundays are always a bit boring
here, diversion is enjoyed :)

Warmest regards,
JS

934. Re: Schlecks' Schlock!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 17:59:46 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <kw5vh.33$Qq2.114801@news.sisna.com>
Source record: 46348
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors

Dee Flint wrote:

> ...
> In addition, the rattlesnake forms a useful role in keeping rodents and
> other small vermin under control.
>
> Sensible people leave them alone and make sure that the snakes don't come
> into their immediate area.
>
> Dee, N8UZE
>
>

Dee:

EXCELLENT advice!

I can see you are accustomed to dealing with such. :)

Warmest regards,
JS

935. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 18:39:16 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <o56vh.66896$qO4.63122@newssvr13.news.prodigy.net>
Source record: 46349

Richard Clark wrote:
> The resonance of Cesium is not a function of time.

Maybe not, but the frequency of the resonance of
Cesium is a function of time, e.g. cycles/second.
--
73, Cecil http://www.w5dxp.com

936. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 18:45:19 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <2b6vh.38$2p2.24601@news.sisna.com>
Source record: 46350

Cecil Moore wrote:
> Richard Clark wrote:
>> The resonance of Cesium is not a function of time.
>
> Maybe not, but the frequency of the resonance of
> Cesium is a function of time, e.g. cycles/second.

Cecil:

I for one think it has already been shown, we simply do not understand time. Given that is correct, how can we possibly know if the "vibration" of cesium is a function of it--heck, maybe if we ever achieve in stopping the vibs of cesium, time will stop? <grin>

The problem here is in construction of a "true ruler" to measure with ... of course, we always have our "units" ...

Regards,
JS

937. Optimum length for ladder-fed dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 19:43:12 UTC
From: Rick <reply.in.newsgroup@spam.no>
Message-ID: <csupr2phvr9agtma38ga6m5rrg2rifi1id@4ax.com>
Source record: 46351

I'm planning a dipole installation fed with ladder line and a
wide-range antenna tuner.

I'd like to be able to use it on 160 through 10. A half wave at 160
meters is a bit under 260 feet. Is there any particular reason I
should limit its length to 260 feet? I have enough room to make it
about 320 feet... any particular reason I shouldn' t do that?

Thanks...

Rick

938. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 19:51:38 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <37vpr29bm8im45dcrclibrc69n56967uem@4ax.com>
Source record: 46352

On Sun, 28 Jan 2007 10:45:19 -0800, John Smith I
<assemblywizard@gmail.com> wrote:

>we simply do not understand
>we possibly know
>we ever achieve
>we always have

Brett,

For someone with faux anonymity, you certainly work to drape yourself
in marginal pluralism.

73's
Richard Clark, KB7QHC

939. Re: Schlecks' Schlock!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 20:01:05 UTC
From: Ed <anon@anon>
Message-ID: <lfkv0.bh6.17.1@news.alt.net>
Source record: 46353
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors

```
"Dee Flint" <deeflint01@comcast.net> wrote in message
news:4MqdnXFKF65lfyHYnZ2dnUVZ_rylnZ2d@comcast.com...
>
> "Dee Flint" <deeflint01@comcast.net> wrote in message
> news:x6ednZKDQJzwfyHYnZ2dnUVZ_r-onZ2d@comcast.com...
> >
> > "John Smith I" <assemblywizard@gmail.com> wrote in message
> > news:1_3vh.18$cr2.139401@news.sisna.com...
> >> Dee Flint wrote:
> >>
> >> > ...
> >>> As of this point in time you have no proof of that. Let us see what
> >>> happens first.
> >>>
> >>> Dee, N8UZE
> >>
> >> Dee:
> >>
> >> I live in California, we have rattlesnakes here. Due to the nature of
> >> snakes, I don't have to "see what happens first", the snake is a snake
> >> due to the nature of that snake--that snake cannot change his nature
...
> >>
> >> Regards,
> >> JS
> >
> > Sufficient data already exists on the poison content of rattlesnakes.
In
> > addition, don't lump all snakes with rattlesnakes. The common garter
snake
> > is quite harmless.
> >
> > Dee, N8UZE
>
> In addition, the rattlesnake forms a useful role in keeping rodents and
> other small vermin under control.
>
> Sensible people leave them alone and make sure that the snakes don't come
> into their immediate area.
>
> Dee, N8UZE
>
Yes, sensible people avoid rattlesnakes and have nothing to do with them.
```

That is why Paul's proposed moderated group will fall flat on its face within six weeks of going on line. The man is a self-centered blowhard.

940. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 20:07:53 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <qo7vh.51$8r2.135301@news.sisna.com>
Source record: 46354

Richard Clark wrote:

> ...
> Brett,
>
> For someone with faux anonymity, you certainly work to drape yourself
> in marginal pluralism.
>
> 73's
> Richard Clark, KB7QHC

Richard:

It is safe to call me John, I can guarantee you--that is my REAL first name (well, Johnathan)--Smith is my "pen name."

I have used other "pen names" in the past ... (appears as if you have been "one of my fans in the past"--though I don't remember you using your correct name there, perhaps IRC?)

As to the latter, I have been "draped" in worse ...

Regards,
JS

941. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 20:18:28 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <oy7vh.14157$ji1.1100@newssvr12.news.prodigy.net>
Source record: 46355

John Smith I wrote:
> I for one think it has already been shown, we simply do not understand
> time. Given that is correct, how can we possibly know if the
> "vibration" of cesium is a function of it--heck, maybe if we ever
> achieve in stopping the vibs of cesium, time will stop? <grin>

It's pretty obvious that frequency is a function of time.
Velocity is a function of time. Time is also a function
of velocity. Velocity is a function of length. Length is
also a function of velocity. Go figger.
--
73, Cecil http://www.w5dxp.com

942. Re: Optimum length for ladder-fed dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 20:22:20 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <0C7vh.14159$ji1.5633@newssvr12.news.prodigy.net>
Source record: 46356

Rick wrote:
> A half wave at 160
> meters is a bit under 260 feet. Is there any particular reason I
> should limit its length to 260 feet? I have enough room to make it
> about 320 feet... any particular reason I shouldn't do that?

The optimum length of feedline for feeding a 1/2WL dipole
on 160m is 1/2WL, i.e. about 233 feet. If you make the
dipole longer than 1/2WL, the optimum length of feedline
is less than 1/2WL which may be a benefit.
--
73, Cecil http://www.w5dxp.com

943. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 20:24:40 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <9E7vh.52$Pq2.113776@news.sisna.com>
Source record: 46357

Cecil Moore wrote:

> ...
> It's pretty obvious that frequency is a function of time.
> Velocity is a function of time. Time is also a function
> of velocity. Velocity is a function of length. Length is
> also a function of velocity. Go figger.

Cecil:

In our present use and construct of time, absolutely.

I have a bit easier "time" of "seeing" things "shorten" as velocity increases, my feeble brain strives for even that. (waves shorten as they are emitted by objects with velocity ...)

Still, I wonder ... and I know, that with a buck still won't even buy you a decent cup of coffee.

Warmest regards,
JS

944. Re: Optimum length for ladder-fed dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 21:08:01 UTC
From: chuck <nospam@nospam.org>
Message-ID: <1170018543_20537@sp6iad.superfeed.net>
Source record: 46358

Rick wrote:
> I'm planning a dipole installation fed with ladder line and a
> wide-range antenna tuner.
>
> I'd like to be able to use it on 160 through 10. A half wave at 160
> meters is a bit under 260 feet. Is there any particular reason I
> should limit its length to 260 feet? I have enough room to make it
> about 320 feet... any particular reason I shouldn' t do that?
>
> Thanks...
>
> Rick

You might give some consideration to radiation patterns at the higher frequencies where greater lengths will produce more pronounced lobes and nulls and reduce broadside radiation. You might check cebik.com for further information.

Chuck

-----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

945. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 22:18:59 UTC
From: Dave <W1MCE@comcast.net>
Message-ID: <tMadneyZRKLPvCDYnZ2dnUVZ_oCmnZ2d@comcast.com>
Source record: 46359

Cecil Moore wrote:
> John Smith I wrote:
>
>> I for one think it has already been shown, we simply do not understand
>> time. Given that is correct, how can we possibly know if the
>> "vibration" of cesium is a function of it--heck, maybe if we ever
>> achieve in stopping the vibs of cesium, time will stop? <grin>
>
>
> It's pretty obvious that frequency is a function of time.
> Velocity is a function of time. Time is also a function
> of velocity. Velocity is a function of length. Length is
> also a function of velocity. Go figger.

Both time and length are also variables as a function of gravity. So, the only thing we know is really that we don't know what we think we know ?????

946. Re: Good quality coax stripping tool

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-28 22:43:31 UTC
From: jake <coax_dude@nospam.com>
Message-ID: <45BD2713.44677417@nospam.com>
Source record: 46360

http://www.dxengineering.com/Parts.asp?ID=902&PLID=240&SecID=127&DeptID=36&PartNo=DXE-UT8000-P

cablematic makes the ripley tool UT-80000

sometimes also show up on ebay or eham.net for less $$.

73 jake

947. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-29 01:15:14 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <nbiqr2tjlbnhec5meg5f33rad1cc32qaco@4ax.com>
Source record: 46361

On Sun, 28 Jan 2007 12:07:53 -0800, John Smith I
<assemblywizard@gmail.com> wrote:

>It is safe to call me John, I can guarantee you--that is my REAL first
>name (well, Johnathan)--Smith is my "pen name."

Sure Brett,

You have no one to vouchsafe you. The problem with "anonymity" is
that you can neither substantiate what is real, nor repel what is
falsely applied - can you? (Attempts at either lack authenticity.)

73's
Richard Clark, KB7QHC

948. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-29 01:24:03 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <N0cvh.86$7r2.134276@news.sisna.com>
Source record: 46362

Richard Clark wrote:

> ...
> Sure Brett,
>
> You have no one to vouchsafe you. The problem with "anonymity" is
> that you can neither substantiate what is real, nor repel what is
> falsely applied - can you? (Attempts at either lack authenticity.)
>
> 73's
> Richard Clark, KB7QHC

Richard:

Well then, Brett it is ...

Regards,
JS

949. Re: Schlecks' Schlock!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-29 01:37:02 UTC
From: jeffreyh@Hawaii.Edu
Message-ID: <epjj3u$n4p$1@news.hawaii.edu>
Source record: 46363
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors

John Smith I <assemblywizard@gmail.com> wrote:
>Now that just speaks volumes about this man, his caliber, his "ethical
>standards", etc. Now, doesn't it?

Your impression of Paul is completely wrong. He is singlehandedly
responsible for the creation of the entire rec.radio hierarchy. He
wrote the charters, solicited the calls for discussions and calls
for votes for each and every rr ng.

It was either Paul or Brian who wrote the Usenet software that's
universally used to carry the newsgroups. (Paul, help me out
here; that seems like a century ago...)

No 73 for you,
Jeff KH6O

--

950. Re: Schlecks' Schlock!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-29 01:44:32 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <_jcvh.95$Nq2.111726@news.sisna.com>
Source record: 46364
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors

Jeffrey Herman wrote:
> John Smith I <assemblywizard@gmail.com> wrote:
>> Now that just speaks volumes about this man, his caliber, his "ethical
>> standards", etc. Now, doesn't it?
>
> Your impression of Paul is completely wrong. He is singlehandedly
> responsible for the creation of the entire rec.radio hierarchy. He
> wrote the charters, solicited the calls for discussions and calls
> for votes for each and every rr ng.
>
> It was either Paul or Brian who wrote the Usenet software that's
> universally used to carry the newsgroups. (Paul, help me out
> here; that seems like a century ago...)
>
> No 73 for you,
> Jeff KH6O
>
>
>

No. I am far from being "completely wrong." However, you name things
the man deserves credit for, those speak well for him. Thanks Paul!

He is a politician ... he is an ARRL yes man ...

Regards,
JS

951. Re: Optimum length for ladder-fed dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-29 03:12:58 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1170040378.030911.50000@s48g2000cws.googlegroups.com>
Source record: 46365

On Jan 28, 4:08 pm, chuck <nos...@nospam.org> wrote:
> Rick wrote:
> > I'm planning a dipole installation fed with ladder line and a
> > wide-range antenna tuner.
>
> > I'd like to be able to use it on 160 through 10. A half wave at 160
> > meters is a bit under 260 feet. Is there any particular reason I
> > should limit its length to 260 feet? I have enough room to make it
> > about 320 feet... any particular reason I shouldn' t do that?
>
> > Thanks...
>
> > RickYou might give some consideration to radiation patterns at the higher
> frequencies where greater lengths will produce more pronounced lobes and
> nulls and reduce broadside radiation. You might check cebik.com for
> further information.
>
> Chuck
>
> ----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet
News==----http://www.newsfeeds.comThe #1 Newsgroup Service in the World! 120,000+
Newsgroups
> ----= East and West-Coast Server Farms - Total Privacy via Encryption =----

The couple of times I have tried a long antenna like this optimization
of the antenna was mostly finding a length the tuner was happy with on
all bands. IF you have a better tuner than my MFJ you may not have
this problem. Check Cecil's website, Hes the man when it comes to no
tuner antennas.

952. Re: Optimum length for ladder-fed dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-29 03:55:53 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <45bd7047$0$27097$4c368faf@roadrunner.com>
Source record: 46366

"Rick" <reply.in.newsgroup@spam.no> wrote in message
news:csupr2phvr9agtma38ga6m5rrg2rifi1id@4ax.com...
>
> I'm planning a dipole installation fed with ladder line and a
> wide-range antenna tuner.
>
> I'd like to be able to use it on 160 through 10. A half wave at 160
> meters is a bit under 260 feet. Is there any particular reason I
> should limit its length to 260 feet? I have enough room to make it
> about 320 feet... any particular reason I shouldn' t do that?

Since you are using ladder line (assuming you use a suitable gauge for the power transmitted), the dielectric and resistive losses losses are insignificant even at relatively high SWR. I doubt it matters much whether your feedline is 100 feet or 320 feet; most relected power will still get transmitted out and not be absorbed as heat.

953. Re: Schlecks' Schlock!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-29 05:30:03 UTC
From: "Paul W. Schleck" <pschleck@novia.net>
Message-ID: <45bd860b$0$171$540ea2cf@novia.net>
Source record: 46367
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.boatanchors

-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

In <epjj3u$n4p$1@news.hawaii.edu> jeffreyh@Hawaii.Edu (Jeffrey Herman) writes:

>John Smith I <assemblywizard@gmail.com> wrote:
>>Now that just speaks volumes about this man, his caliber, his "ethical
>>standards", etc. Now, doesn't it?

>Your impression of Paul is completely wrong. He is singlehandedly
>responsible for the creation of the entire rec.radio hierarchy. He
>wrote the charters, solicited the calls for discussions and calls
>for votes for each and every rr ng.

Oh, let's not forget Brian Kantor WB6CYT (Info-Hams administrator), Jay
Maynard K5ZC (1991 rec.radio.amateur.* reorg proponent), Ian Kluft KO6YQ
(1993 rec.radio.amateur.* reorg proponent), Mark Salyzyn AG4YD/ex-VE3MGS
(rec.radio.info proponent and moderator), Ralph Brandi
(rec.radio.shortwave proponent/FAQ maintainer and originator of the
rec.radio.* hierarchy), Rick Stealey K2XT (rec.radio.amateur.boatanchors
proponent), Richard Eckman KO4MR (rec.radio.amateur.dx proponent) and
many others, I'm sure. I've mostly felt like I've just come along for
the ride, or at best, "stood on the shoulders of giants" like Jonathan
Kamens, Tim Skirvin, Ron Dippold, et al.

>It was either Paul or Brian who wrote the Usenet software that's
>universally used to carry the newsgroups. (Paul, help me out
>here; that seems like a century ago...)

Alas, the only software that's used regularly on Usenet that I had a
hand in was auto-faq:

http://www.novia.net/~pschleck/auto-faq/

Though Brian did have a big hand in the early history of the Info-Hams
mailing list, from which the amateur radio newsgroups owe their origin
via a gateway.

- --
73, Paul W. Schleck, K3FU
pschleck@novia.net
http://www.novia.net/~pschleck/
Finger pschleck@novia.net for PGP Public Key
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.4.5 (SunOS)

```
iD8DBQFFvYRE6Pj0az779o4RAhotAJ9LFVWMBeisgUqVMh7iS0rn82y9GACgmMrZ
quwL+mmuM5FAOXKLv5Oc/vE=
=Jc5q
-----END PGP SIGNATURE-----
```

954. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-29 05:37:41 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns98C6DC00CB0E9doldridgsprintca@64.59.135.159>
Source record: 46368

Cecil Moore <mycall@hotmail.com> wrote in news:Fa3vh.76738$wP1.60913
@newssvr14.news.prodigy.net:

> Dave Oldridge wrote:
>> Nobody that I know of, but we're getting to the point where we can see
>> almost that far back.
>
> Seems to me all we can see is back to the point where
> things are moving away from our relative position at
> less than the speed of light. Did you know that the
> red shift is quantitized, i.e. not continuous, even
> within the same galaxy?

So some people are saying.

And we still get to see parts of the universe that were close to us post-
inflation, though the universe is really too opaque at that distance to see
the really early stuff. But we're nearing the threshold where cesium would
be rare or non-existent. In short, we're SEEING some of those early
supernovae that made it in the first place. Several cosmologists think
that's the cause of the gamma-ray bursts we're experiencing.

--
Dave Oldridge+
ICQ 1800667

955. Re: Retrieve S parameters set of a Murata inductor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-29 06:47:11 UTC
From: camelot <scosmo@tiscalinet.it>
Message-ID: <1170053231.015684.163660@a34g2000cwb.googlegroups.com>
Source record: 46369

Thank you Tom,
I'll take a look to RFSim99 tool in order to convert data availables
on the site like Q factor and impedence versus frequency.

Regards,

Camelot

956. Re: Thevenin and s-parameters...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-29 10:12:12 UTC
From: camelot <scosmo@tiscalinet.it>
Message-ID: <1170065532.935394.12910@v33g2000cwv.googlegroups.com>
Source record: 46370

Thank you for your comments,
I'm doing some calculations and simulations in order to verify if I can bypass representation problem of s-parameters in other ways rather than the Thevenin one.
There is one thing I'd like to submit to your attention, the known formula
S11=(Zin-Z0)/(Zin+Z0),
where Z0 is the port impedance and Zin the load, does not works if you consider Z0 not pure real (usually 50 ohm) but composed by a real and an imaginary part i.e. Z0 = a+jb.
Are there other known formulas for S11 for Z0 real+imaginary?

Camelot

957. Re: Optimum length for ladder-fed dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-29 11:36:43 UTC
From: Ian Jackson <IanJacksonRemoveThisBit@g3ohx.demon.co.uk>
Message-ID: <B3KageKLxdvFFwld@g3ohx.demon.co.uk>
Source record: 46371

In message <45bd7047$0$27097$4c368faf@roadrunner.com>, Stefan Wolfe
<stefan@eml.com> writes
>
>"Rick" <reply.in.newsgroup@spam.no> wrote in message
>news:csupr2phvr9agtma38ga6m5rrg2rifi1id@4ax.com...
>>
>> I'm planning a dipole installation fed with ladder line and a
>> wide-range antenna tuner.
>>
>> I'd like to be able to use it on 160 through 10. A half wave at 160
>> meters is a bit under 260 feet. Is there any particular reason I
>> should limit its length to 260 feet? I have enough room to make it
>> about 320 feet... any particular reason I shouldn' t do that?
>
>Since you are using ladder line (assuming you use a suitable gauge for the
>power transmitted), the dielectric and resistive losses losses are
>insignificant even at relatively high SWR. I doubt it matters much whether
>your feedline is 100 feet or 320 feet; most relected power will still get
>transmitted out and not be absorbed as heat.
>
>

One answer as to what the optimum length of feeder should be is 'exactly
equal to the distance between the antenna feedpoint and the antenna
tuner'.

Being serious, be aware that one of Cecil's 'fortes' is the avoidance of
tuning unit losses by using a particular length of feeder, so that the
antenna plus feeder system naturally presents a good match for the
transmitter. On a given frequency, every length of antenna has an
optimum length of feeder, so you need to switch in the appropriate
length of feeder for each band. There is a lot of debate about how much
power you lose an antenna tuner. You may, or may not, want to consider
using this technique.

Your question was actually whether 320 feet would be better than 260
feet. When you go above a halfwave, the theoretical 'donut' polar
diagram starts to break up, but I doubt if you would see much difference
in the performance. Unless the antenna is pretty high above ground,
most of the radiation on 160m will be at a fairly high angle. A low
halfwave is fairly omnidirectional, regardless of the orientation of the
antenna.

Of course, on the higher frequency bands, the radiation will come
increasingly more off the ends of the antenna than broadside. On 10m,

it will probably be very directional, especially if the antenna runs in
a straight line.

Cheers,
Ian.
--

958. Re: Optimum length for ladder-fed dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-29 13:30:13 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <UFmvh.243$o61.29@newssvr19.news.prodigy.net>
Source record: 46372

Stefan Wolfe wrote:
> Since you are using ladder line (assuming you use a suitable gauge for the
> power transmitted), the dielectric and resistive losses losses are
> insignificant even at relatively high SWR. I doubt it matters much whether
> your feedline is 100 feet or 320 feet; most relected power will still get
> transmitted out and not be absorbed as heat.

And at some extreme impedances (accompanied by extreme
SWRs) losses mount in the tuner and balun if not in the
transmission line. I have a rule of thumb to keep the
ladder-line SWR below 25:1 which probably fits with
your "relatively high SWR" statement.
--
73, Cecil http://www.w5dxp.com

959. Re: Optimum length for ladder-fed dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-29 13:41:18 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <2Qmvh.14618$ji1.5767@newssvr12.news.prodigy.net>
Source record: 46373

Ian Jackson wrote:
> Being serious, be aware that one of Cecil's 'fortes' is the avoidance of
> tuning unit losses by using a particular length of feeder, so that the
> antenna plus feeder system naturally presents a good match for the
> transmitter. On a given frequency, every length of antenna has an
> optimum length of feeder, so you need to switch in the appropriate
> length of feeder for each band. There is a lot of debate about how much
> power you lose an antenna tuner. You may, or may not, want to consider
> using this technique.

It's also not an either/or choice. Without a tuner, the
ladder-line length selector needs to be able to be
varied in one foot increments from zero to 31 feet.

Since I bought my IC-756PRO with its built-in auto-
tuner, I only switch between three lengths of transmission
line and allow the autotuner to do the rest. So now I
have a hybrid system, still not requiring a full-range
antenna tuner.

I've submitted a magazine article to "Worldradio" magazine
about a dipole that works very well on 75m, 40m, and 17m
without a tuner and without changing feedline lengths.
--
73, Cecil http://www.w5dxp.com

960. Re: Thevenin and s-parameters...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-29 14:13:41 UTC
From: Frank <ve6cbdeletethis@andthis.telus.net>
Message-ID: <pinvh.189854$hn.90948@edtnps82>
Source record: 46374

"camelot" <scosmo@tiscalinet.it> wrote in message
news:1170065532.935394.12910@v33g2000cwv.googlegroups.com...
> Thank you for your comments,
> I'm doing some calculations and simulations in order to verify if I
> can bypass representation problem of s-parameters in other ways rather
> than the Thevenin one.
> There is one thing I'd like to submit to your attention, the known
> formula
> S11=(Zin-Z0)/(Zin+Z0),
> where Z0 is the port impedance and Zin the load, does not works if you
> consider Z0 not pure real (usually 50 ohm) but composed by a real and
> an imaginary part i.e. Z0 = a+jb.
> Are there other known formulas for S11 for Z0 real+imaginary?
>
> Camelot

http://www.rfcafe.com/references/electrical/s-h-y-z.htm

Also:

http://www.daycounter.com/Calculators/S-Y-Z-Parameter-Converter-Calculator.phtml

Regards,

Frank (VE6CB)

961. Re: Optimum length for ladder-fed dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-29 14:19:41 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1170080381.400911.307890@p10g2000cwp.googlegroups.com>
Source record: 46375

No reason to stick to a particular length of dipole... There is a
reason we use open wire instead of coax, and that is it works with any
length of antenna
<some short length restrictions apply, bni, sar, ymmv, etc. >
Put it up as long as you can, attach feedline, diddle tuner, and
go...
IF, and only if, you have problems tuning one band or another, then
shorten the dipole by 2% and try again...
Just do it... Don't think... And don't listen to me, what do I know!

denny / k8do

962. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-29 14:40:26 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <aJnvh.35771$Ts.6301@bignews6.bellsouth.net>
Source record: 46276

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:dfnpr2d991ikus3m7h3b0t1mr4unje7kje@4ax.com...
> On Fri, 26 Jan 2007 23:22:38 GMT, Dave Oldridge
> <doldridg@leavethisoutshaw.ca> wrote:
>
>>> The same problem still exists. The cesium atom didn't
>>> exist before the first super nova. How can the time
>>> be calculated between the Big Bang and the first super
>>> nova if cesium didn't exist?
>>
>>There are other entropic processes that can be calibrated against the
>>cesium.
>
> Hi Dave,
>
> You have been snookered into answering a complaint manufactured (as
> usual) from the misapplication of relationships. The resonance of
> Cesium is not a function of time. Time is not a function of Cesium's
> resonance (the incorrect correlation drawn, to which you are
> responding).
>
> There is no dependency between the two. It is our dependency in our
> usage of one to measure the other. The sophism above is much like
> saying sound did not exist before someone was close enough to hear the
> falling tree. The excitation of gas molecules we call sound existed
> long before the appearance of the first amoeba, much less apes in
> falling trees. Both sound and time are phenomenological terms for
> simple and rational physical processes that exist without dependence
> on us.
>
> 73's
> Richard Clark, KB7QHC

Yes, time is about as much related to the vibration of a cesium atom as it
is to the pendulum im my grandfather clock.

963. Re: Shooting a wire over a grove of tall trees. What works?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-29 16:09:30 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1170086970.934142.269840@h3g2000cwc.googlegroups.com>
Source record: 46277
Body handling: HTML body converted to readable text

Bob, ya did good.... You got an interesting new antenna up... You got your CW dusted off... You had fun in the process...

Don't worry about your CW.. Keep jumping into the weekend contests, even if only for a half hour... The biggest skill in handling multiple callers is learning to latch onto a specific sound and mentally ignoring the other callers... Only practice can teach your brain that skill... Just keep jumping in... Before you know it you will run a frequency without giving it a second thought...

I can't stay up all night anymore either... That is where having a buddy to operate with helps...

denny / k8do

964. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-29 17:35:09 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <5masr2l7clsrr4q2edg4e28rlr3hg0a8jk@4ax.com>
Source record: 46278

On Mon, 29 Jan 2007 09:40:26 -0500, "Jimmie D"
<jimmiedee@bellsouth.net> wrote:

>Yes, time is about as much related to the vibration of a cesium atom as it
>is to the pendulum im my grandfather clock.

Hi Jimmie,

How very true. There is quite a bit of fluff about cesium. So much
so that you've hit the nail on the head with the pendulum.

Dare we anticipate those who will crow that there was no time before
the pendulum swung? Or that if one swung on the moon, this
demonstrates proof positive how time varies? FEH! The pendulum does
not make time, nor does time push the pendulum. There is no
causality.

No, Time is dependant on sand! Before the pendulum there was the sand
clock - aka Hour Glass. The ancients long ago recognized that if they
didn't keep turning the hour glass, that the end of time would come
(in eastern philosophy this was transmuted into the towers of Hanoi).
This, in fact, was the origin of the honorable office of the clock
watcher - his mission was to turn the glass before time fully ran out.
Of course, over time (an irony), this noble occupation became
prostituted through mechanization, and the office holder of clock
watcher became an object of scorn and ridicule. RIP

Some may argue that sand has no causal relationship with time at all,
but they are sadly mistaken. Simple observation will reveal that if
you cleaned your carpets last week, they need cleaning again of all
the sand (dust, dirt) that has descended into their fibers.

Run your finger along any bookshelf to witness this vivid proof. Sand.
Anyone who lives with a wife who keeps bookshelves (bric-a-brac,
picture frames, your shack) so clean of sand can agree that their life
is condemned to a timeless purgatory.

Look at any beach, the sand was once a mountain and a mountain it will
become again (dunes are the modeling software). Naturally you won't
be around long enough to watch all the sand do this, as this hour
glass measures a different period. The proof of this observation is
found with those who go to the shore for vacation, and at its end look
plaintively across the beach and wonder:
"Where has all my vacation time gone?"

If there had been no sand, there would have been no summer vacation at
the shore. Sand's causal tie to time is absolute and irrefutable.

73's
Richard Clark, KB7QHC

965. Re: Antennas/lead ashtray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-29 17:41:06 UTC
From: "Fred Ferrely"
Message-ID: <a3bsr2dsm8csbq9a5tir2ae9g8cqp2tjru@4ax.com>
Source record: 46279

Why is it always some weird, out of the way atom they play with
instead of a main-line, every day used sort of critter?

Krypton. . . Cesium . . . What ever. Why not Oxygen? Carbon?
Even good ol Iron??

Another thing, as it was explained to me, first the electrons are
ghosts to begin with which pop in and out of existence at a whim.
Second, if I had the nucleus of an atom in my hand, and it was the
size of a medium orange, the closest electron would be some where
around 38 miles away. . . `Lots of "Nothing" in between. So, when you
get down to 0 Kelvin, that's where all the shaking around stops, well,
it slows down enough to stop the harmonic vibration, but it also seems
to me that the electrons quit popping in and out of existence then
too. Hence the lack of unbalanced vibration of the missing, counter
balancing electrons. (Much like missing a tire weight at 70 mph on
the freeway or so I would believe.) SO if everything settles down at
0 "K" and starts working properly, why is it so damn hard to achieve?
It seems to me that everything would try to achieve the balancing
point, . . Equilibrium; Being that matter abhors a vacuum to begin
with. There has GOT to be an antagonist stirring the pot somewhere
from behind the scenes!! . . . Gravity?

On Fri, 26 Jan 2007 14:00:07 -0800, Jim Kelley <jwkelley@uci.edu>
wrote:

>Knucklehead Smith wrote:
>
>> Jim Kelley wrote:
>>
>> > ...
>>
>>> Name a place in the universe where the Cesium atom transitions at a
>>> different frequency in that reference frame than it does in our
>>> reference frame, provide the underlying physics to explain it, and
>>> then prove it.
>
>> Name me one instance where anyone has achieved taking a cesium atom to
>> absolute zero ...
>
>No one has ever stuck a themometer in the sun either but we have a
>pretty good idea what it would read if we did.
>
>We have absolutely no reason to expect the Cesium atom to act any
>differently in another reference frame, and variety of reasons not to

>expect to be able to chill it to 0 degrees Kelvin.
>
>ac6xg
>
>
>

966. Re: Antennas/lead ashtray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-29 18:59:09 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <p4gsr2pokiurndnud21oss4rq8ct525vfo@4ax.com>
Source record: 46280

On Mon, 29 Jan 2007 09:41:06 -0800, Fred Ferrely wrote:

> Krypton. . . Cesium . . . What ever. Why not Oxygen? Carbon?
>Even good ol Iron??

Hi Fred,

Couldn't afford it.

> Another thing, as it was explained to me, first the electrons are
>ghosts to begin with which pop in and out of existence at a whim.

That was some explanation. It raises one of two questions. Did you
understand it? Or did the explainer?

>it also seems
>to me that the electrons quit popping in and out of existence then
>too.

This would seem to pin a no to each question above.

>SO if everything settles down at
>0 "K" and starts working properly, why is it so damn hard to achieve?

Does a 2 year-old ever settle down? Short of their already being
asleep, why is that so hard to get them to bed?

>It seems to me that everything would try to achieve the balancing
>point, . . Equilibrium; Being that matter abhors a vacuum to begin
>with. There has GOT to be an antagonist stirring the pot somewhere
>from behind the scenes!! . . . Gravity?

People do a fairly good job of gumming up the works. Heisenberg
introduced us to the notion that when we bother to look, everything
changes. A pyramid balanced on its point is in an equilibrium, but
that is not the same as it being in its lowest energy state, also an
equilibrium. Not all equals are equal (credit George Orwell).

73's
Richard Clark, KB7QHC

967. Re: Thevenin and s-parameters...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-29 19:17:32 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1170098252.298042.129250@v33g2000cwv.googlegroups.com>
Source record: 46281

On Jan 29, 2:12 am, "camelot" <sco...@tiscalinet.it> wrote:
> Thank you for your comments,
> I'm doing some calculations and simulations in order to verify if I
> can bypass representation problem of s-parameters in other ways rather
> than the Thevenin one.
> There is one thing I'd like to submit to your attention, the known
> formula
> S11=(Zin-Z0)/(Zin+Z0),
> where Z0 is the port impedance and Zin the load, does not works if you
> consider Z0 not pure real (usually 50 ohm) but composed by a real and
> an imaginary part i.e. Z0 = a+jb.
> Are there other known formulas for S11 for Z0 real+imaginary?
>
> Camelot

Frank has already provided you with links to (I presume)
transformations to other linear two-port representations.

But I'm curious. Why do you think that the formula you wrote above
doesn't work when Z0 is complex? In what way do you think it does not
work?

I'm also curious why you would pick a complex reference impedance for
S-parameter work, but that's really a different issue.

Cheers,
Tom

968. Re: Retrieve S parameters set of a Murata inductor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-29 19:42:47 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1170099767.757645.209950@q2g2000cwa.googlegroups.com>
Source record: 46282

On Jan 28, 10:47 pm, "camelot" <sco...@tiscalinet.it> wrote:
> Thank you Tom,
> I'll take a look to RFSim99 tool in order to convert data availables
> on the site like Q factor and impedence versus frequency.
>
> Regards,
>
> Camelot

You would do well, too, to keep in mind that the data, especially for unshielded inductors, is only an approximation. The inductance and other parameters depend on exactly how you have mounted the part, and what else is around it. If you expect things in the real world to conform "exactly" to your model, you will be disappointed. You will find, for example, that Q changes with temperature, as well as with frequency, since the wire resistance changes with temperature. Expect the Q to change about -0.2% per degree C, which may not sound like a lot until you consider the effect of a 100C temperature rise, which can happen in some equipment.

If you can use a vector network analyzer to actually measure one of your parts (or even a set of them, to get statistical information), that would be wonderful. Many modern VNAs will output an S-parameter file that you can then use in various software for simulations and modelling.

Be a little careful about RFSim99--though I recommend it, it does have some problems in the area of saving and using S-parameter data. In particular, it expects a particular format for input, and on output, check carefully that the conversion was done correctly (something about using 10log(ratio) instead of 20log(ratio) for dB magnitude...).

Cheers,
Tom

969. Re: Schlecks' Schlock!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-29 19:56:33 UTC
From: KC4UAI <kc4uai@gmail.com>
Message-ID: <1170100593.442568.251890@p10g2000cwp.googlegroups.com>
Source record: 46283

So, all this bluster boils down to your opinion?

Do you have any proof that Paul has lied or is this just rhetoric
designed to sway folks away from the Moderated group?

You insist on painting with a wide brush too and would try to sling
mud on all of the proponents named in the RFD (which includes me by
the way..) so I would ask for more proof and a lot less of your
opinions here.

You are entitled to have your opinions and voice them, just don't try
to maintain them as facts until you can offer proof.

In MY opinion, Paul is who he claims to be and the intent of the
proposed moderated group is what the moderation team and advisers have
agreed it would be. It will be fairly moderated but kept on topic and
it will eliminate the constant barrage of personal attacks and the
other garbage that does nobody any good. Of course, this is just
opinion and will have to remain so until we have the new group to
demonstrate that we are being fair.

By the way... I've personally known past members of the US Senate, and
I'd not be too quick to paint them all as liars. The man I knew was
very much the same in person in public as he was in private and he had
no need to lie about anything to get elected. The people elected him
to as many terms as he was able to serve because I believe that in the
long run principle, morals and ethics matter to the average person,
not rhetoric.

-= bob =-

On Jan 28, 10:29 am, John Smith I <assemblywiz...@gmail.com> wrote:
>
> What part of "LIAR" don't you understand, I don't believe I have miniced
> my words when it comes to "Paul W. Schleck."
>
> The man has NO credibility with me,
> I think he would brow beat the new licensees who pass a no code exam, I
> think he supports henchmen would would do this also. I think past posts
> can be dug up to support that rather nicely! I think the man is all
> about a world where "EXTRAS RULE" the school yard!

970. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-29 20:15:45 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eplkoo$o6o$1@news.service.uci.edu>
Source record: 46284

Cecil Moore wrote:

> It's pretty obvious that frequency is a function of time.
> Velocity is a function of time. Time is also a function
> of velocity. Velocity is a function of length. Length is
> also a function of velocity. Go figger.

And you know what they say about figures.....
Judging from the plot at
http://www.venganza.org/about/open-letter/
it's pretty obvious that for the last 200 years the global average
temperature has been a function of the number of pirates.

:-)

ac6xg

971. FS: Service Manuals for Commercial, Test Equipment & Amateur Equipment

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-29 21:25:24 UTC
From: Norm VE3CZI <ve3czi@arrl.net>
Message-ID: <fDtvh.14$EO2.8@read1.cgocable.net>
Source record: 46285
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap

Have a quantity of Test Equipment and Radio Communications Service Manuals,
both Commercial & Amateur that I have rescued from the Dumpster. Most of
them are in Like New Condition.

> Have recently updated the MOTOROLA & KENWOOD List <

Please check my site: www.rodemi.com for what is available. Click on
the MANUALS Heading.
I am updating the site as time allows.
I recently retired from the Commercial 2-way radio business and would like
these useful manuals to find a good home.

Thanks for looking....Norm VE3CZI
Email me Directly: <insert Call Sign> at arrl.net ....<call sign> is
ve3czi

972. Re: Optimum length for ladder-fed dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-30 03:29:20 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <45bebb8f$0$5781$4c368faf@roadrunner.com>
Source record: 46286

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:UFmvh.243$o61.29@newssvr19.news.prodigy.net...
> Stefan Wolfe wrote:
>> Since you are using ladder line (assuming you use a suitable gauge for
>> the power transmitted), the dielectric and resistive losses losses are
>> insignificant even at relatively high SWR. I doubt it matters much
>> whether your feedline is 100 feet or 320 feet; most relected power will
>> still get transmitted out and not be absorbed as heat.
>
> And at some extreme impedances (accompanied by extreme
> SWRs) losses mount in the tuner and balun if not in the
> transmission line. I have a rule of thumb to keep the
> ladder-line SWR below 25:1 which probably fits with
> your "relatively high SWR" statement.

Yes, I agree.

973. Re: Thevenin and s-parameters...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-30 03:41:46 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <45bebe7e$0$8948$4c368faf@roadrunner.com>
Source record: 46287

"camelot" <scosmo@tiscalinet.it> wrote in message
news:1170065532.935394.12910@v33g2000cwv.googlegroups.com...
> Thank you for your comments,
> I'm doing some calculations and simulations in order to verify if I
> can bypass representation problem of s-parameters in other ways rather
> than the Thevenin one.
> There is one thing I'd like to submit to your attention, the known
> formula
> S11=(Zin-Z0)/(Zin+Z0),
> where Z0 is the port impedance and Zin the load, does not works if you
> consider Z0 not pure real (usually 50 ohm) but composed by a real and
> an imaginary part i.e. Z0 = a+jb.
> Are there other known formulas for S11 for Z0 real+imaginary?

Actually, characteristic impedance Z0 is assumed to be 50 Ohm, 300 Ohm or 75 Ohm (etc.), based on the type of transmission line, under the assumption that the line is "lossless", thus in theory only it only considers the complex components.

For a lossless line, Z0 = sqrt(L/C)

In reality, the resistance (conductance) must be considered, where:

Z0 = sqrt((r+jwl)/(G+jwC))

974. Re: Optimum length for ladder-fed dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-30 05:31:55 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98C8A82BEDE0Enonenowhere@61.9.191.5>
Source record: 46288

Rick <reply.in.newsgroup@spam.no> wrote in
news:csupr2phvr9agtma38ga6m5rrg2rifi1id@4ax.com:

>
> I'm planning a dipole installation fed with ladder line and a
> wide-range antenna tuner.
>
> I'd like to be able to use it on 160 through 10. A half wave at 160
> meters is a bit under 260 feet. Is there any particular reason I
> should limit its length to 260 feet? I have enough room to make it
> about 320 feet... any particular reason I shouldn' t do that?
>
> Thanks...
>
> Rick

Rick,

It seems most people want to discuss optimum feedline length, though that was not your question.

It turns out that it is quite challenging to obtain good efficiency from a dipole less than about 35% of a wavelength long in the type of configuration you propose. That sets a practical lower limit to the length of the radiator.

On the other hand, the pattern changes with longer length. Probably the most significant change occurs at greater than about 1.25 wl where the pattern breaks up into additional lobes. Another respondent suggests such pattern changes occur at greater than 0.5wl, but that is wrong. So, this effect might set a practical upper limit if the pattern is an issue on 160m or a higher band if you intend multi-band operation.

So, if you made the dipole 320', it is 0.58wl on 160m, and 1.17wl on 80m. The pattern will have two clear major lobes on both bands. You can't make it short enough to avoid pattern break up on 40m without degrading efficiency on 160m (though by only a small amount if you used 1.25wl on 40m).

As far as feedline loss, you know whether it is insignificant when you have calculated the magnitude. Though others suggest that ladder line is (always) insignificant, it is the loss in the ladder line that drives the 35% minimum practical length discussed above.

So, the choice depends, and probably mainly on whether you want to use it also on 80m and 40m, and whether pattern is an issue.

Owen

975. Re: Antennas/lead ashtray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-30 05:48:30 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <P_Avh.6154$pH3.218@newsfe12.phx>
Source record: 46289

<Fred Ferrely> wrote in message
news:a3bsr2dsm8csbq9a5tir2ae9g8cqp2tjru@4ax.com...
> Why is it always some weird, out of the way atom they play with
> instead of a main-line, every day used sort of critter?
>
> Krypton. . . Cesium . . . What ever. Why not Oxygen? Carbon?
> Even good ol Iron??

Yeah! What ever happened to the good ol' days, when you could make things
you needed out of a rock?

976. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-30 12:56:19 UTC
From: Christopher Cox <chrisTOPHERcOX@coboxincORORATED.com>
Message-ID: <45bf40c6$0$5258$4c368faf@roadrunner.com>
Source record: 46290

Tom Ring wrote:
> Cecil Moore wrote:
>
>> jimp@specsol.spam.sux.com wrote:
>>
>>> Go argue with the standards people.
>>
>>
>>
>> I have no argument with the standards people. My
>> argument is with the people who take present
>> day seconds and lay them end-to-end back to the
>> Big Bang to ascertain the age of the universe.
>> Today's second may be the first time the second
>> has ever had that particular value. The first
>> second was likely many magnitudes longer than
>> the present day second.
>
>
> Have you ever heard of the fine structure constant? You had best check
> into it and how it can be verified from a distance, a very very long
> distance.
>
> tom
> K0TAR

f=ma
e=mc^2

You guys are probably in agreement to this point.

Now the killer

S=(Ac^3)/(4hG)

Where did it go..... :-)

While I do not fully understand great physics, the subject can show the
great penalties of staying confined to a certain way of thinking.

977. Re: Shooting a wire over a grove of tall trees. What works?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-30 15:20:36 UTC
From: AC7PN <brunius@rockisland.com>
Message-ID: <1170170436.427184.253490@a75g2000cwd.googlegroups.com>
Source record: 46291
Body handling: HTML body converted to readable text

On Jan 29, 8:09 am, "Denny" wrote:
> Bob, ya did good.... You got an interesting new antenna up... You got
> your CW dusted off... You had fun in the process...
>
> Don't worry about your CW.. Keep jumping into the weekend contests,
> even if only for a half hour... The biggest skill in handling multiple
> callers is learning to latch onto a specific sound and mentally
> ignoring the other callers... Only practice can teach your brain that
> skill... Just keep jumping in... Before you know it you will run a
> frequency without giving it a second thought...
>
> I can't stay up all night anymore either... That is where having a
> buddy to operate with helps...
>
> denny / k8do

Thanks Denny, I just found an intersting program for sending CW calls
signs on a computer for practice. RufzXP is the name. You can get it
free at: http://www.rufzxp.net/ You set at the keyboard and type as
the call signs are played over the PCs sound card. It's actually a lot
of fun and I'm sure it will help get me tune up for the next CW
contest.
Bob?AC7PN

978. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-30 18:28:15 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <epo2o1$f58$1@news.service.uci.edu>
Source record: 46292

Christopher Cox wrote:

> While I do not fully understand great physics, the subject can show the
> great penalties of staying confined to a certain way of thinking.

Truth. However, staying confined to the realm of fact usually carries
with it only the smallest of penalties. I'm not sure the foregoing
discussion stayed as strictly confined.

73, ac6xg

979. Center-fed dipole wifi antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-30 20:45:38 UTC
From: kevin.pavin@gmail.com
Message-ID: <1170189938.099937.4680@k78g2000cwa.googlegroups.com>
Source record: 46293

Hi all,

I am looking for a vendor that supplies dipole antennas @2.4Ghz such that the feed extends from the phase center of the antenna.

The reason for this criteria is that I am hoping to measure the wireless link with the antenna element at the receiver at both horizontal and vertical polarizations. It is important for my measurement that I am able to keep the phase center constant for both polarization configurations.

The easiest way I can think to do this is to have a centerfed dipole, fix the feed in position, and then rotate the element around the feed for the orthogonal element. All the dipoles at hypertech where I usually purchase from are end fed.

Any suggestions on a vendor or perhaps an alternative approach for taking such a measurement would be greatly appreciated. Thanks,

Kev

980. Wis. Selling 100-Foot Fire Lookout Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-30 23:01:40 UTC
From: Shawn <Shawano@chicago.int>
Message-ID: <12rvjikjb48o9b3@corp.supernews.com>
Source record: 46294

Wis. Selling 100-Foot Fire Lookout Tower
http://abcnews.go.com/US/wireStory?id=2835944

PARK FALLS, Wis. Jan 30, 2007 (AP)&#65533; Talk about a room with a view, this cabin sits 100 feet above the forests of northern Wisconsin and it's on the auction block with a starting price of $1. But there's a catch.

The steel structure that spotters once sat atop to watch for fires has to be moved before it's put to any other use.

"It goes pretty quick. It's like taking apart a set of Tinkertoys," said full-time forest specialist and part-time tower salesman Gary Vander Wyst of the state Department of Natural Resources, when contacted Monday night.

The tower located about seven miles west of Park Falls was erected in the mid 1930s and was one of about 200 fire lookout towers once used to guard the forests of the north.

Bids are to be opened at 11 a.m. Feb. 23 at the Park Falls Ranger Station.

<snip>

981. Re: Center-fed dipole wifi antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-31 00:48:39 UTC
From: Chuck Olson <chuckolson01@REMOVETHIScomcast.net>
Message-ID: <oemdnZdjLcn5eiLYnZ2dnUVZ_syunZ2d@comcast.com>
Source record: 46295

<kevin.pavin@gmail.com> wrote in message
news:1170189938.099937.4680@k78g2000cwa.googlegroups.com...
> Hi all,
>
> I am looking for a vendor that supplies dipole antennas @2.4Ghz such
> that the feed extends from the phase center of the antenna.
>
> The reason for this criteria is that I am hoping to measure the
> wireless link with the antenna element at the receiver at both
> horizontal and vertical polarizations. It is important for my
> measurement that I am able to keep the phase center constant for both
> polarization configurations.
>
> The easiest way I can think to do this is to have a centerfed dipole,
> fix the feed in position, and then rotate the element around the feed
> for the orthogonal element. All the dipoles at hypertech where I
> usually purchase from are end fed.
>
> Any suggestions on a vendor or perhaps an alternative approach for
> taking such a measurement would be greatly appreciated. Thanks,
>
> Kev
>

I believe the standard "elbow" (right-angle) antenna that you find screwed into the RPSMA connector on most routers and access points is a center-fed dipole. The reason I believe this is I recently bought an old DWL-900AP+ Access Point at the flea market for $1.00 and when I found it didn't work (who would have guessed that?) I had the pleasure of removing the covers and feasting my eyes on its innards. Inside the case I found the second antenna (of the diversity pair) consisting of two elements: a) the center conductor of the RG-316 cable extended 1.160" from the shield end, and b) a silver plated cylinder 1.0315" long and 0.185" o.d. connected at the shield end, and "folded back down" around the coax feed. Of course the coax feed line runs up its center, and there is a plastic sleeve to keep the feed line centered and spaced away from it.. I believe these two elements make up a half wave dipole, and since the feed line goes up the center of the lower element, it is ideally suited to the simple configuration of the straight-stick antenna. It might look end fed, but I believe it is center fed.

You may be more interested in something that is physically symmetrical about its center, and for that I can only suggest fabricating a dipole from a strip of copperclad PCB stock 2.31" long with a gap cut in the center and the coax feed soldered across the gap. Its width can be anything around

0.10" or so.

Chuck W6PKP

982. Mosley mini 33

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-31 01:28:09 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <JgSvh.21135$X72.529@newsread3.news.pas.earthlink.net>
Source record: 46296

Does anyone have a PDF of the instructions or know where I can find one for the mini 33 ?

I have found the TA 33 and Ta 33 JR but not the mini 33.

983. LATE MODEL MFJ ROLLER INDUCTOR IS ROUGH

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-31 01:59:08 UTC
From: solidgoldZZZ@optonline.net
Message-ID: <45bff7ea.1470162@news.optonline.net>
Source record: 46297

Hi All,

I have a couple of late model MFJ roller inductor antenna tuners with the roller on the inside of the inductor. My old 989C with an external roller was smooth as glass. These newer ones with the roller on the inside of the inductor really are rough. They have a knob with a finger hole, but cannot be spun with 1 finger--you have to grab the entire knob to turn it. I have a 989D with a crank type knob that has a slip clutch as part of the knob, and if you try and turn it real slow, the clutch slips instead od the roller progressing slowly.

Has anyone "fixed" this problem with their late model MFJ ???

RON.....KA2IIA
==========
Remove the ZZZ from my E-mail address to send me E-mail.

984. Re: LATE MODEL MFJ ROLLER INDUCTOR IS ROUGH

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-31 03:04:44 UTC
From: Bob Miller <NOSPAM@neosoft.com>
Message-ID: <6i10s2tue843sf1eqh2n8f19q7hi9e6agt@4ax.com>
Source record: 46298

On Wed, 31 Jan 2007 01:59:08 GMT, solidgoldZZZ@optonline.net (Ron in
NY) wrote:

>Hi All,
>
> I have a couple of late model MFJ roller inductor antenna tuners with the
>roller on the inside of the inductor. My old 989C with an external roller was
>smooth as glass. These newer ones with the roller on the inside of the inductor
>really are rough. They have a knob with a finger hole, but cannot be spun with 1
>finger--you have to grab the entire knob to turn it. I have a 989D with a crank
>type knob that has a slip clutch as part of the knob, and if you try and turn it
>real slow, the clutch slips instead od the roller progressing slowly.
>
> Has anyone "fixed" this problem with their late model MFJ ???

I fixed mine by just returning the 989D to AES -- they took it back.
My old circa 1992 989C is a marvel of precision, in comparison :-)

bob
k5qwg

>
>
> RON.....KA2IIA
>===
>Remove the ZZZ from my E-mail address to send me E-mail.

985. Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-31 03:19:50 UTC
From: Snoopy@BoiseSt.edu
Message-ID: <DoidnRiueftdl13YnZ2dnUVZ_rXinZ2d@hawaiiantel.net>
Source record: 46299

I recently built a modified vertical dipole
from wire and using a pole and trees as supports.
I had hoped it would work on 2 bands 75 and 40 but it only
works on one 75 where the VSWR is 1.3:1 and the bandwidth is 85 khz
for the 2:1 points.

On 40 meters the VSWR is over 10:1 so I thought I could use a 1/4 coax
matching section 50 ohms but this doesnt solve the problem either as the
VSWR doesnt change much with the extra coax section.

I did cut the section properly as the velocity factor for the coax is .78%
which gave me 26.825 ft.

Not sure what I am doing wrong or assuming - but looks like I could
use some input.
--
I SPILLED SPOT REMOVER ON MY DOG.............AND NOW HES GONE!!

986. Re: Strongest signals received via skip?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-31 03:43:51 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12s043ogg8cpq47@corp.supernews.com>
Source record: 46300

I once measured a 250 mV RMS signal (+1 dBm) at my receiver input when using a vertical antenna, from KGEI, a religious shortwave broadcasting station near San Francisco, about 600 miles from here. It was at night, and KGEI was just above the 40 meter band, 7335 kHz as I recall. They were broadcasting in Russian, so their pattern was probably pretty much in my direction.

I'm quite sure the folks in Europe routinely see signals larger than this from SW broadcast stations.

Roy Lewallen, W7EL

K7ITM wrote:
> We expect the local down the block may overload our receiver when he
> keys up his kilowatt 40kHz from the frequency we're listening to, but
> what are the largest signals received via skip in the HF bands? What
> are the chances you'd ever see anything as large, say, as 0dBm into
> your receiver via skip? (0dBm = 73dB above s9, given that s9 = 50uV
> into 50 ohms.) This could potentially include SW broadcast stations
> running fairly high power.
>
> Cheers,
> Tom
>

987. Re: Converting From mV/m To Decayed mW (ERP)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-31 05:07:29 UTC
From: joseph2k <quiettechblue@yahoo.com>
Message-ID: <idVvh.2951$MN.793@newssvr23.news.prodigy.net>
Source record: 46301
Cross-posted to: sci.electronics.design,alt.engineering.electrical,rec.radio.amateur.antenna

Kaimbridge@gmail.com wrote:

> On Jan 24, 2:45 pm, "mpm" <mpmill...@aol.com> wrote:
>> On Jan 23, 8:29?pm, "Kaimbridge" <Kaimbri...@gmail.com> wrote:
>>
>>> What I'm interested in is converting a given field strength mV/m,
>>> at a given distance for a particular frequency, to the equivalent
>>> (decayed) baseline wattage.
>>
>> If I understand what you're asking, your question really centers
>> around how to calculate Free Space Loss. The Friis Equation will
>> allow you to do this, and it is a relatively simple matter to
>> derive Free Space Path Loss in decibel form from the Friis Equation.
>
> I'm not sure: Is this the same (or at least related to) W/m^2?
> The problem I see with these is that, as distance approaches 0, KW
> approahes oo and what I'm looking for shouldn't be greater than the
> transmitter's erp.
> What got me on this idea, is a few weeks go I was visiting up in the
> NH White Mountains and was checking out the AM/FM bands (I'm a radio
> geek! P=). When I got home, I went to the FCC site to create a
> bandscan of the area. The designation used was the radius from a
> point.
> I quickly realized that this was less than ideal, as--using 100 km
> radius, as an example--100 W stations at that distance would be listed
> along with 50 and 100 KW! What would be much more useful would be a
> listing of stations that provide--st least the theoretical baseline
> value (i.e., not considering intervening local terrain or one's
> receiver sensitivity and antenna gain)--a given mV/m or mW at that
> point (thus listing 100 W stations out to 15 km, whereas 50 KW
> stations out to 75 km and 100 KW to 130 km would be listed).
> Think of it this way: If you turned on a 100 W lightbulb in the
> middle of a field at night and held a book page right up to it, you
> would be able to read it clearly; if you moved about 10 feet away
> (with the book page still facing the lightblb, unobstructed), you
> would have difficulty trying to read it, as only about the equivalent
> of (e.g.) 50 mW of light may be hitting the page.
>
> ~Kaimbridge~
>
> -----
> Wikipedia-Contributor Home Page:
>

> http://en.wikipedia.org/wiki/User:Kaimbridge
>
> ***** Void Where Permitted; Limit 0 Per Customer. *****

Unless i am more mistaken than usual, the basic reference distance for
radiated power is 1 meter from the phase center of the antenna. Of course
depending on wavelength / frequency this could mean sub-near field
measurements to normal (semi-far to far field) measurements.

--
JosephKK
Gegen dummheit kampfen die Gotter Selbst, vergebens.
--Schiller

988. Re: Thevenin and s-parameters...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-31 07:13:22 UTC
From: camelot <scosmo@tiscalinet.it>
Message-ID: <1170227601.971961.242890@s48g2000cws.googlegroups.com>
Source record: 46302

Hi Tom,
well, after few researches on several books, I found that the formula
I provided by me works only for real Z0. The general formula valid in
case Z0 is complex is the follow:

S11=(Zin-Z0*)/(Zin+Z0)

Where Z0* is the conjugate of Z0. Obviously, if Z0 is real, the
conjugate coincide with the real one.
However, thank you for your interest ;-)

Camelot

> But I'm curious. Why do you think that the formula you wrote above
> doesn't work when Z0 is complex? In what way do you think it does not
> work?
>
> I'm also curious why you would pick a complex reference impedance for
> S-parameter work, but that's really a different issue.
>
> Cheers,
> Tom

989. Re: Retrieve S parameters set of a Murata inductor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-31 12:35:18 UTC
From: camelot <scosmo@tiscalinet.it>
Message-ID: <1170246918.632592.82750@k78g2000cwa.googlegroups.com>
Source record: 46303

Thank you for the further suggestions ;-)

Giuseppe

990. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-31 12:48:28 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1170247708.313886.107450@l53g2000cwa.googlegroups.com>
Source record: 46304

On Jan 30, 10:19 pm, <Sno...@BoiseSt.edu> wrote:
> I recently built a modified vertical dipole
> from wire and using a pole and trees as supports.
> I had hoped it would work on 2 bands 75 and 40 but it only
> works on one 75 where the VSWR is 1.3:1 and the bandwidth is 85 khz
> for the 2:1 points.
>
> On 40 meters the VSWR is over 10:1 so I thought I could use a 1/4 coax
> matching section 50 ohms but this doesnt solve the problem either as the
> VSWR doesnt change much with the extra coax section.
>
> I did cut the section properly as the velocity factor for the coax is .78%
> which gave me 26.825 ft.
>
> Not sure what I am doing wrong or assuming - but looks like I could
> use some input.
> --
> I SPILLED SPOT REMOVER ON MY DOG.....AND NOW HES GONE!!

What do you mean by "modified"? We will need antenna dimensions,
where the feed point is, overall height, height above ground, is it
straight or bent, etc., in order to give you any advice...

The only immediate comment I can make is that any 'dipole' that is
near 50 ohms at the feed point is going to be several thousand ohms at
double the frequency... A matching section of coax will not help...

denny / k8do

991. Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-31 18:42:53 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <epqnvlqck1@f04n12.cac.psu.edu>
Source record: 46305

Jimmie D wrote:
> "Richard Clark" <kb7qhc@comcast.net> wrote in message
> news:dfnpr2d991ikus3m7h3b0t1mr4unje7kje@4ax.com...
>> On Fri, 26 Jan 2007 23:22:38 GMT, Dave Oldridge
>> <doldridg@leavethisoutshaw.ca> wrote:
>>
>>>> The same problem still exists. The cesium atom didn't
>>>> exist before the first super nova. How can the time
>>>> be calculated between the Big Bang and the first super
>>>> nova if cesium didn't exist?
>>> There are other entropic processes that can be calibrated against the
>>> cesium.
>> Hi Dave,
>>
>> You have been snookered into answering a complaint manufactured (as
>> usual) from the misapplication of relationships. The resonance of
>> Cesium is not a function of time. Time is not a function of Cesium's
>> resonance (the incorrect correlation drawn, to which you are
>> responding).
>>
>> There is no dependency between the two. It is our dependency in our
>> usage of one to measure the other. The sophism above is much like
>> saying sound did not exist before someone was close enough to hear the
>> falling tree. The excitation of gas molecules we call sound existed
>> long before the appearance of the first amoeba, much less apes in
>> falling trees. Both sound and time are phenomenological terms for
>> simple and rational physical processes that exist without dependence
>> on us.
>>
>> 73's
>> Richard Clark, KB7QHC
>
> Yes, time is about as much related to the vibration of a cesium atom as it
> is to the pendulum im my grandfather clock.

Time is related to nothing. Time *is*. Sorry Cecil - I read the book
too and it didn't do much for me. That fellow wants to throw away
everything for little - perhaps we should call his methods S'macco razor?

The cesium standard is defined as "in the absence of external
influences. Not a thing at all there that is strange. The meter, that
most arbitrary of measurements, had a standard, the Platinum-Iridium
metre that must be measured at the temperature of melting ice. Measure
it at 1200 degrees, and you'll get a different result.

Nobody denies the existence of the meter.

Oh, heres a good one. Today, the official measurement of the meter is 1,650,763.73 times the wavelength of the emission of Krypton-86 atoms in a vacuum.

Since we usually don't have that lying around the house, they tied it to time and the speed of light.

This tells us that the meter is the length of the path traveled by light in a vacuum during a time interval of 1/299 792 458 second. for us dilettantes, although official measurements must still use the other mode.

So what's all this crap that Coslo's spouting?

Simply this:

It's all arbitrary

Nothing stays the same - Things change because of external forces, Everything changes - If we were Doppler shifted, items that were along with us for the ride would be the same.

Those weird elements were chosen by conditions at the limits of our measurement abilities at the time we settled upon them.

That the elements change under different conditions doesn't negate their use at the proper conditions.

- 73 de Mike KB3EIA -

992. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-31 19:36:05 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <epqr3baps1@news.service.uci.edu>
Source record: 46306

Snoopy@BoiseSt.edu wrote:

> I recently built a modified vertical dipole
> from wire and using a pole and trees as supports.
> I had hoped it would work on 2 bands 75 and 40 but it only
> works on one 75 where the VSWR is 1.3:1 and the bandwidth is 85 khz
> for the 2:1 points.
>
> On 40 meters the VSWR is over 10:1 so I thought I could use a 1/4 coax
> matching section 50 ohms but this doesnt solve the problem either as the
> VSWR doesnt change much with the extra coax section.
>
> I did cut the section properly as the velocity factor for the coax is .78%
> which gave me 26.825 ft.
>
> Not sure what I am doing wrong or assuming - but looks like I could
> use some input.

Try a half wavelength of coax.

ac6xg

993. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-31 20:15:19 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <rN6wh.40301$Gr2.20640@newssvr21.news.prodigy.net>
Source record: 46307

Snoopy@BoiseSt.edu wrote:
> Not sure what I am doing wrong or assuming - but looks like I could
> use some input.

If there was any way to get a low SWR on a simple
single-wire coax-fed dipole on 75m and 40m at the
same time, half of the ham population would have one.

A soon-to-be-published "Worldradio" article of mine
describes a fixed length dipole with a fixed feedline
length that works well on 40m and 75m without an antenna
tuner.
--
73, Cecil http://www.w5dxp.com

994. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-31 20:25:09 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <FW6wh.40303$Gr2.12428@newssvr21.news.prodigy.net>
Source record: 46308

Michael Coslo wrote:
> The cesium standard is defined as "in the absence of external
> influences.

The Catholic Church said the same thing in the
16th century. Paraphrasing them: In the absence
of external influences, the Earth is the center
of the universe. That's true to this very day.
Take away all the external influences and the
Earth is indeed the center of the universe.
--
73, Cecil http://www.w5dxp.com

995. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-01-31 21:27:22 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <epr1k2eeg1@news.service.uci.edu>
Source record: 46309

Cecil Moore wrote:
> Michael Coslo wrote:
>
>> The cesium standard is defined as "in the absence of external influences.
>
>
> The Catholic Church said the same thing in the
> 16th century. Paraphrasing them: In the absence
> of external influences, the Earth is the center
> of the universe. That's true to this very day.
> Take away all the external influences and the
> Earth is indeed the center of the universe.

Yes, the Catholic Church felt that the Sun was not at the center of
the universe. What an old fashioned notion. :-)

ac6xg

996. Re: Thevenin and s-parameters...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 00:29:48 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1170289788.459816.211150@v33g2000cwv.googlegroups.com>
Source record: 46310

On Jan 30, 11:13 pm, "camelot" <sco...@tiscalinet.it> wrote:
> Hi Tom,
> well, after few researches on several books, I found that the formula
> I provided by me works only for real Z0. The general formula valid in
> case Z0 is complex is the follow:
>
> S11=(Zin-Z0*)/(Zin+Z0)
>
> Where Z0* is the conjugate of Z0. Obviously, if Z0 is real, the
> conjugate coincide with the real one.
> However, thank you for your interest ;-)
>
> Camelot
>
> > But I'm curious. Why do you think that the formula you wrote above
> > doesn't work when Z0 is complex? In what way do you think it does not
> > work?
>
> > I'm also curious why you would pick a complex reference impedance for
> > S-parameter work, but that's really a different issue.
>
> > Cheers,
> > Tom

I'm not sure where you got it, but the formula with the complex conjugate is NOT correct! The formula without complex conjugate is correct, for complex Z and Z0, both.

That the formula using the complex conjugate is incorrect is trivial to see: consider that a line terminated in a load equal to the line's characteristic impedance (be it purely resistive, or complex) has no reflection. That is, if load Z = Z0, there is no reflection. Then if Z0 is complex and has a non-zero reactive component, your formula yields S11 which is not zero, for a line which is terminated to have no reflection. As far as I am concerned, that would be incorrect. The original formula, without complex conjugate, yields the correct answer for this case. Can you come up with a case where it is incorrect?

Cheers,
Tom

997. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 03:44:12 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98CA95F0F6604nonenowhere@61.9.191.5>
Source record: 46311

<Snoopy@BoiseSt.edu> wrote in
news:DoidnRiueftdl13YnZ2dnUVZ_rXinZ2d@hawaiiantel.net:

> I recently built a modified vertical dipole
> from wire and using a pole and trees as supports.
> I had hoped it would work on 2 bands 75 and 40 but it only
> works on one 75 where the VSWR is 1.3:1 and the bandwidth is 85 khz
> for the 2:1 points.
>
> On 40 meters the VSWR is over 10:1 so I thought I could use a 1/4 coax
> matching section 50 ohms but this doesnt solve the problem either as
> the VSWR doesnt change much with the extra coax section.

The feedpoint impedance of a full wave dipole is likely to be in the
region of 4000 ohms.

A quarter wave transformer needs to be of Zo (50*4000)^0.5 or 447 ohms.
You will not find a practical coax line with such Zo.

If you for instance used a quarter wave of RG58C/U for a transformer, the
input impedance would be 2 ohms (VSWR=25) (taking into account the 5+dB
of loss in the transformer.

Both the length and the Zo of a quarter wave transformer are important to
its operation.

Does this help to explain the results you observed?

Owen

>
> I did cut the section properly as the velocity factor for the coax is
> .78% which gave me 26.825 ft.
>
> Not sure what I am doing wrong or assuming - but looks like I could
> use some input.

998. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 03:48:46 UTC
From: Snoopy@BoiseSt.edu
Message-ID: <UcudnceRou8U_1zYnZ2dnUVZ_sqdnZ2d@hawaiiantel.net>
Source record: 46312

Jim Kelley wrote:

>
>
> Snoopy@BoiseSt.edu wrote:
>
>> I recently built a modified vertical dipole
>> from wire and using a pole and trees as supports.
>> I had hoped it would work on 2 bands 75 and 40 but it only
>> works on one 75 where the VSWR is 1.3:1 and the bandwidth is 85 khz
>> for the 2:1 points.
>>
>> On 40 meters the VSWR is over 10:1 so I thought I could use a 1/4 coax
>> matching section 50 ohms but this doesnt solve the problem either as the
>> VSWR doesnt change much with the extra coax section.
>>
>> I did cut the section properly as the velocity factor for the coax is
>> .78% which gave me 26.825 ft.
>>
>> Not sure what I am doing wrong or assuming - but looks like I could
>> use some input.
>
> Try a half wavelength of coax.
>
> ac6xg

why a half wave?

--
I SPILLED SPOT REMOVER ON MY DOG.............AND NOW HES GONE!!

999. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 04:29:31 UTC
From: Snoopy@BoiseSt.edu
Message-ID: <K-idnVA4uKKU8VzYnZ2dnUVZ_r3inZ2d@hawaiiantel.net>
Source record: 46313

Owen Duffy wrote:

> <Snoopy@BoiseSt.edu> wrote in
> news:DoidnRiueftdl13YnZ2dnUVZ_rXinZ2d@hawaiiantel.net:
>
>> I recently built a modified vertical dipole
>> from wire and using a pole and trees as supports.
>> I had hoped it would work on 2 bands 75 and 40 but it only
>> works on one 75 where the VSWR is 1.3:1 and the bandwidth is 85 khz
>> for the 2:1 points.
>>
>> On 40 meters the VSWR is over 10:1 so I thought I could use a 1/4 coax
>> matching section 50 ohms but this doesnt solve the problem either as
>> the VSWR doesnt change much with the extra coax section.
>
> The feedpoint impedance of a full wave dipole is likely to be in the
> region of 4000 ohms.

its half wave

>
> A quarter wave transformer needs to be of Zo (50*4000)^0.5 or 447 ohms.
> You will not find a practical coax line with such Zo.
>
> If you for instance used a quarter wave of RG58C/U for a transformer, the
> input impedance would be 2 ohms (VSWR=25) (taking into account the 5+dB
> of loss in the transformer.
>
> Both the length and the Zo of a quarter wave transformer are important to
> its operation.
>
> Does this help to explain the results you observed?

maybe I should have asked does my coax tune my antenna???????

>
> Owen
>
>>
>> I did cut the section properly as the velocity factor for the coax is
>> .78% which gave me 26.825 ft.
>>
>> Not sure what I am doing wrong or assuming - but looks like I could
>> use some input.

--
I SPILLED SPOT REMOVER ON MY DOG.....AND NOW HES GONE!!

1000. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 04:40:56 UTC
From: Snoopy@BoiseSt.edu
Message-ID: <XI6dnSWD6eMp81zYnZ2dnUVZ_uuqnZ2d@hawaiiantel.net>
Source record: 46314

Denny wrote:

> On Jan 30, 10:19 pm, <Sno...@BoiseSt.edu> wrote:
>> I recently built a modified vertical dipole
>> from wire and using a pole and trees as supports.
>> I had hoped it would work on 2 bands 75 and 40 but it only
>> works on one 75 where the VSWR is 1.3:1 and the bandwidth is 85 khz
>> for the 2:1 points.
>>
>> On 40 meters the VSWR is over 10:1 so I thought I could use a 1/4 coax
>> matching section 50 ohms but this doesnt solve the problem either as the
>> VSWR doesnt change much with the extra coax section.
>>
>> I did cut the section properly as the velocity factor for the coax is
>> .78% which gave me 26.825 ft.
>>
>> Not sure what I am doing wrong or assuming - but looks like I could
>> use some input.
>> --
>> I SPILLED SPOT REMOVER ON MY DOG..............AND NOW HES GONE!!
>
>
> What do you mean by "modified"?

looks like the letter "H" on its side "normally" but modified
the feed is asymmertical about 5 ft off the gound.

similar to Force 12 Sigma 80

it looks like this

```
|
|
| abot 56 ft high
|
|
|
|
```

feed here has 2 loading coils

```
|
___________|____________ both sides approx 17 ft
|
```

base insulator here

_|_ base mount

ground

feed point impedance is supposed to be very low - maybe 12 ohms

We will need antenna dimensions,
> where the feed point is, overall height, height above ground, is it
> straight or bent, etc., in order to give you any advice...
>
> The only immediate comment I can make is that any 'dipole' that is
> near 50 ohms at the feed point is going to be several thousand ohms at
> double the frequency... A matching section of coax will not help...
>
>
> denny / k8do

--
I SPILLED SPOT REMOVER ON MY DOG.............AND NOW HES GONE!!

1001. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 05:20:02 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3jt2s2p5if1l0mtq44jfeugjo2tcf259i4@4ax.com>
Source record: 46315

On Wed, 31 Jan 2007 18:40:56 -1000, <Snoopy@BoiseSt.edu> wrote:

>>> works on one 75 where the VSWR is 1.3:1 and the bandwidth is 85 khz
>>> for the 2:1 points.
>>>
>>> On 40 meters the VSWR is over 10:1

>it looks like this
>
> |
> |
> | abot 56 ft high
> |
> |
> |
> |
>
> feed here has 2 loading coils
>
> |
>___________|____________ both sides approx 17 ft
> |
>
> base insulator here
>
> _|_ base mount
>
> ground
>
>feed point impedance is supposed to be very low - maybe 12 ohms

Which gives rise to the question, where did the match at 75 meters
come from? I suspect it comes from the added loading.

Next question, why does it have the high mismatch for 40 meters. The
same suspicion follows logically (as the harmonic relationships follow
logically).

With loading resonance is not length, it is the combination of all
elements. What appears to be a normal (good) 75 meter operation
should also appear to be normal (poor) 40 meter operation. At 75
meters, the antenna is normally Low-Z. At 40 meters, the antenna is
normally Hi-Z. Your SWR measurement confirms the sense of "normal" in
both bands.

73's
Richard Clark, KB7QHC

1002. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 06:42:51 UTC
From: Snoopy@BoiseSt.edu
Message-ID: <h_GdnSJY3cC_FlzYnZ2dnUVZ_uvinZ2d@hawaiiantel.net>
Source record: 46316

Richard Clark wrote:

> On Wed, 31 Jan 2007 18:40:56 -1000, <Snoopy@BoiseSt.edu> wrote:
>
>>>> works on one 75 where the VSWR is 1.3:1 and the bandwidth is 85 khz
>>>> for the 2:1 points.
>>>>
>>>> On 40 meters the VSWR is over 10:1
>
>>it looks like this
>>
>> |
>> |
>> | abot 56 ft high
>> |
>> |
>> |
>> |
>>
>> feed here has 2 loading coils
>>
>> |
>>___________|____________ both sides approx 17 ft
>> |
>>
>> base insulator here
>>
>> _|_ base mount
>>
>> ground
>>
>>feed point impedance is supposed to be very low - maybe 12 ohms
>
> Which gives rise to the question, where did the match at 75 meters
> come from? I suspect it comes from the added loading.
>
> Next question, why does it have the high mismatch for 40 meters. The
> same suspicion follows logically (as the harmonic relationships follow
> logically).
>
> With loading resonance is not length, it is the combination of all
> elements. What appears to be a normal (good) 75 meter operation
> should also appear to be normal (poor) 40 meter operation. At 75
> meters, the antenna is normally Low-Z. At 40 meters, the antenna is

> normally Hi-Z. Your SWR measurement confirms the sense of "normal" in
> both bands.
>
> 73's
> Richard Clark, KB7QHC

so whats the solution to making it work on 40? a tuner?
some kind of tuned piece of coax????????????

--
I SPILLED SPOT REMOVER ON MY DOG.............AND NOW HES GONE!!

1003. Re: Thevenin and s-parameters...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 07:52:17 UTC
From: camelot <scosmo@tiscalinet.it>
Message-ID: <1170316337.687547.222360@m58g2000cwm.googlegroups.com>
Source record: 46317

Hi Tom,
as far as I am concerned, your observations are rights only if we are talking about real quantities. If you have a load that is complex then you obtain perfect matching (there is no reflection) only if Z0 is not equal to Zin but it is the conjugate of Zin. If you remember, this is the same condition valid for the maximum power transferring when the load in complex. Do you agree with these considerations?

Regards,

Camelot

> I'm not sure where you got it, but the formula with the complex
> conjugate is NOT correct! The formula without complex conjugate is
> correct, for complex Z and Z0, both.
>
> That the formula using the complex conjugate is incorrect is trivial
> to see: consider that a line terminated in a load equal to the line's
> characteristic impedance (be it purely resistive, or complex) has no
> reflection. That is, if load Z = Z0, there is no reflection. Then if
> Z0 is complex and has a non-zero reactive component, your formula
> yields S11 which is not zero, for a line which is terminated to have
> no reflection. As far as I am concerned, that would be incorrect.
> The original formula, without complex conjugate, yields the correct
> answer for this case. Can you come up with a case where it is
> incorrect?
>
> Cheers,
> Tom- Hide quoted text -
>
> - Show quoted text -

1004. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 07:55:08 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <t573s25mda844d9n6d3cikpi03sbmtj6m3@4ax.com>
Source record: 46318

On Wed, 31 Jan 2007 20:42:51 -1000, <Snoopy@BoiseSt.edu> wrote:

>so whats the solution to making it work on 40? a tuner?
>some kind of tuned piece of coax????????????

Read Owen's reply.

73's
Richard Clark, KB7QHC

1005. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 13:10:51 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <vFlwh.3068$MN.2022@newssvr23.news.prodigy.net>
Source record: 46319

Snoopy@BoiseSt.edu wrote:
> maybe I should have asked does my coax tune my antenna???????

When the load impedance is not 50 ohms and the target impedance is 50 ohms, 50 ohm coax cannot tune your antenna system to a 50 ohm match. In fact, using 50 ohm coax with an SWR not equal to 1:1 is one way of guaranteeing that the transmitter will *never* see 50 ohms without some help from a tuner or other matching method. (Extensive losses will also bring the SWR closer to 1:1).

If the target impedance is 50 ohms, only a characteristic impedance different from 50 ohms can transform the non-50 ohm impedance to 50 ohms. And that can only be done when the SWR is not 1:1. Note that in Owen's 1/4WL matching equation, only if the load and source are both 50 ohms does the equation result in Z0 = 50 ohms. Such a system is called a "flat" system with a trivial default SWR of 1:1.

An autotuner at the feedpoint will solve the problem or a parallel feedline with a Z0 of 300-600 ohms will solve the problem. I have solved the problem at my QTH with a 148 foot dipole and 90 feet of 450 ohm ladder-line. That antenna system is simultaneously resonant at my QTH on both 7.15 MHz and 3.8 MHz at the same time. And it is also close to resonance on 17m.
--
73, Cecil http://www.w5dxp.com

1006. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 13:13:57 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <oIlwh.3069$MN.2869@newssvr23.news.prodigy.net>
Source record: 46320

Snoopy@BoiseSt.edu wrote:
> so whats the solution to making it work on 40? a tuner?
> some kind of tuned piece of coax????????????

A better description would help. That looks more
like a ground plane antenna than it does a dipole.
Please describe the antenna in more detail.
--
73, Cecil http://www.w5dxp.com

1007. Re: Thevenin and s-parameters...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 13:25:41 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <pTlwh.3071$MN.438@newssvr23.news.prodigy.net>
Source record: 46321

camelot wrote:
> If you have a load that is complex then
> you obtain perfect matching (there is no reflection) only if Z0 is not
> equal to Zin but it is the conjugate of Zin. If you remember, this is
> the same condition valid for the maximum power transferring when the
> load in complex. Do you agree with these considerations?

Are you saying that an SWR of 1:1 always accompanies
maximum power transfer?
--
73, Cecil http://www.w5dxp.com

1008. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 13:46:41 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1170337601.540742.32080@a75g2000cwd.googlegroups.com>
Source record: 46322

Hmmm, I can't make much of this diagram and the group has decided to use passive aggressive behavior to "teach you"... You are asking for help and getting didactics thrown in your face... Shame on them!

I doubt you can feed this antenna on 40 with coax... You will need to either put a tuner at the feed point, or resort to open wire line and a tuner at the radio...

My first impulse would be to turn this into a top loaded vertical with an elevated counterpoise, the vertical self resonant on 40 and loaded for 80...
Feed it at the bottom of the vertical section with the braid going to the 17 foot horizontals (some tuning needed)... Use a loading coil about half way up the vertical for 80 and short it out for 40... The counterpoise (the 17 foot horizontals as best I can make out) would be coil loaded at at the center connection of the 2 "radials" so they are resonant on 80 with a shroting clip for 40... A relay will select for you, or you can walk out and manually move the clips...

Go to the library there and get an interloan copy of Moxon's "HF Antennas for all locations"... He has an excellent discussion of loaded radials/counterpoises, etc... With his help you should see how to make your antenna play... Any problems drop me an email through k8do@arrl.org and I will give you a fax number where you can shoot me a diagram of your antenna and we can discuss it...

cheers ... denny / k8do

1009. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 14:49:41 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <epsumd$1bna$1@f04n12.cac.psu.edu>
Source record: 46323

Cecil Moore wrote:
> Michael Coslo wrote:
>> The cesium standard is defined as "in the absence of external influences.
>
> The Catholic Church said the same thing in the
> 16th century. Paraphrasing them: In the absence
> of external influences, the Earth is the center
> of the universe. That's true to this very day.
> Take away all the external influences and the
> Earth is indeed the center of the universe.

I didn't know that the Catholic church even knew about atomic clocks at that time, Cecil! Something new to learn every day. 8^)

You slippery sloped from an atomic clock to ancient religion on me.

"in the absence of incontrovertible proof to the contrary, the world was created in the fall of 4004 B.C." ;^)

One of the things that help us in the determination of cosmological age, and all scientific endeavors is that most things end up fitting together pretty well. Atomic decay tends to mesh together with determination of the age of artifacts. It proved itself on items of known age. The concept simply works. That's just one example.

To say that all things have been discovered is naive hubris though. I'm still waiting for evidence of proton decay, without it the Big Bang has a Big Problem. But it doesn't make sense to throw everything we do know away because of that one issue - at least until something better comes along that fits with what we do know.

Let's drop away from cosmology for a moment..

Take say, number 14 bare wire, and make a dipole for some arbitrary frequency. at some arbitrary height.

Raise the antenna and lower the antenna. Do the antenna characteristics stay the same?

Substitute insulated number 14 wire for the bare wire at the same length. Do the characteristics stay the same?

Of course not. The differences are easily measurable, or at least easily modelable.

That isn't religion, it fits in with what we do know about physics. That VF changes depending on the insulating material doesn't mean that the original characteristics are null and void. Just means they have

changed in a manner that is predictable, and for which cause is known.

No Papal Bull required! ;^)

- 73 de Mike KB3EIA -

1010. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 15:38:01 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <tPnwh.1009$gj4.1@newssvr14.news.prodigy.net>
Source record: 46324

Michael Coslo wrote:
> One of the things that help us in the determination of cosmological
> age, and all scientific endeavors is that most things end up fitting
> together pretty well. Atomic decay tends to mesh together with
> determination of the age of artifacts. It proved itself on items of
> known age. The concept simply works. That's just one example.

Actually, there is an unexplained time drift between atomic
decay and Bristle Cone Pine rings that can be explained if
seconds are getting shorter.

> That isn't religion, it fits in with what we do know about physics.

And of course, that is in the present space-time. But using
a localized present space-time standard to obtain an absolute
value for something that existed far outside of that present
localized space-time just doesn't "fit". For all we know, the
first half of the existence of the universe consumed all of
one second of space-time as it existed way back then.

What is the length of time that it takes for one entangled
particle to have an affect the other when they are a million
miles apart?
--
73, Cecil, http://www.qsl.net/w5dxp

1011. Re: Strayed thinking

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 16:17:27 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <ept3quvqu1@f04n12.cac.psu.edu>
Source record: 46325

Richard Clark wrote:
> On Thu, 25 Jan 2007 13:39:32 -0500, "Jimmie D"
> <jimmiedee@bellsouth.net> wrote:
>
>> Ive done this watching a guy play with a charged cap. He had just charged it
>> up to place on the bench for some unsuspecting sole to grap, started running
>> his mouth and zapped himself.
>
> As Cartman would say
> "SWEET!"

In our High School electronics shop, we had an entire Superhet tube radio demo unit mounted on the wall, with all components pluggable. Seniors and juniors were mixed in the class, and one of the favorite rituals for the older guys was to pull one of the p.s. Electrolytics out very carefully, and toss it to one of the new guys with a "catch it quick" command.

Of course, I never partook of such tomfoolery.

- 73 de Mike KB3EIA -

1012. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 16:34:01 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <ept4q7nkf1@news.service.uci.edu>
Source record: 46176

Cecil Moore wrote:

> Actually, there is an unexplained time drift between atomic
> decay and Bristle Cone Pine rings that can be explained if
> seconds are getting shorter.

Assuming the time it takes for the Earth to orbit around the Sun is an
absolute, of course. ;-)

73 de jk

1013. Re: Prophecies fulfilled

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 16:44:17 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <ept5d9$16ko$1@f04n12.cac.psu.edu>
Source record: 46177

Richard Clark wrote:
> On Sat, 27 Jan 2007 07:45:53 CST, "Nine Land Ham" <anon@anon.alt.net>
> wrote:
>
> The burden of excess baggage removed from the anticipated autocratic
> reception:
>
> -----BEGIN PGP SIGNED MESSAGE-----
> Hash: SHA1
>
> This post is concerned with the general philosophy of moderation in
> general, and would be more appropriate for news.groups. Please
> restrict your discussion to issues specifically relating to this
> proposal.
>
> Your submission has been rejected because it is off-topic in the
> newsgroup news.groups.proposals. This newsgroup is for the
> announcement, discussion, and development of active proposals for
> changes to the Big 8 hierarchies, as documented at
> <http://www.big-8.org/>. Discussion begins in news.groups.proposals
> when the Request for Discussion (RFD) is posted in
> news.announce.newgroups and continues until a decision is announced.
>
> Common topics that do not belong in news.groups.proposals include:
>
> - Discussion of world events or "the news" - see talk.current-events
> - Proposals for alt.* or other non-Big-8 hierarchies - see alt.config
> or the appropriate regional config newsgroup
> - "How do I do X with my newsreader?" - see news.software.readers
> and/or news.newusers.questions
>
> The charter of news.groups.proposals is at
> <http://www.big-8.org/~ngp>.
>
> Please direct your queries to ngp-mods@ngp.big-8.org.
>
> Thank you,
>
> - Moderator.
>
>> On Sat, 27 Jan 2007 07:45:53 CST, "Nine Land Ham" <anon@anon.alt.net>
>> wrote:
>>
>>>>> a clean break. If I have to check *two*

>>>>> newsgroups as a substitute for previously having had to check one, that's
>>>>> unfortunately not an improvement.
>>>> The simple solution for most of us will be to simply ignore or even delete
>>>> the other groups.
>>> Well said, Dee. And what a simple solution it is.
>> Two vote for the solution that doesn't satisfy the first's objection.
>> The desire to be cloaked in passive comfort to the neglect of others
>> is the dawn of the abuse of autocracy. Who will moderate the
>> moderators when it requires an active role from the majority?
>>
>> A simpler solution that requires initiative has been offered already
>> and it satisfies all comments, observations, and complaints. Failure
>> to take care of yourself will always allow the problem to flourish.
>>
>> The simple fact of the matter is that gated communities where
>> originally called ghettos. The negative connotation was from the best
>> of intentions eventually being led to abandonment and poverty within
>> the confine.
>

Ahh, you see what we are dealing with, eh Richard?

I also made a reply that hasn't been rejected (yet) but it does deal directly with the problem. It gives an opinion on the likely success of the censored newsgroup, gives an opinion regarding what problems are real problems, then offers a solution that does not required a censored newsgroup. I received two notices that it was pending.

Most interesting that your censored post, while not addressing the issue in excruciating detail, is close enough by any reasonable standard to the subject, simply offering a little comparison at the end.

I enjoy the little side roads we take in our rraa threads, they are what makes the group enjoyable. Sometimes a few members appear to have eaten a little too much red meat, but it all settles down in the end.

At the risk of flattering, I think any newsgroup that wouldn't accept one of your posts is losing more than you are.

Regardless of the excuses given, your post was just lumped in with the whackos that have been polluting the newsgroups the past year or so. Unforgivable.

Perhaps we need a "Too Hot for rec.radio.amateur.moderated" list? ;^)

- 73 de Mike KB3EIA -

1014. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 18:43:40 UTC
From: Dave <W1MCE@comcast.net>
Message-ID: <vYidnd6DmqJEqV_YnZ2dnUVZ_uDinZ2d@comcast.com>
Source record: 46178

Jim Kelley wrote:

>
>
> Cecil Moore wrote:
>
>> Actually, there is an unexplained time drift between atomic
>> decay and Bristle Cone Pine rings that can be explained if
>> seconds are getting shorter.
>
>
> Assuming the time it takes for the Earth to orbit around the Sun is an
> absolute, of course. ;-)
>
> 73 de jk
>
>

The only thing in Physics that is absolute is: "Nothing is absolute!"

1015. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 18:54:06 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <eptd0e$1bl2$1@f04n12.cac.psu.edu>
Source record: 46179

Cecil Moore wrote:
> Michael Coslo wrote:
>> One of the things that help us in the determination of cosmological
>> age, and all scientific endeavors is that most things end up fitting
>> together pretty well. Atomic decay tends to mesh together with
>> determination of the age of artifacts. It proved itself on items of
>> known age. The concept simply works. That's just one example.
>
> Actually, there is an unexplained time drift between atomic
> decay and Bristle Cone Pine rings that can be explained if
> seconds are getting shorter.

You do know that the length of Days has changed and continues to change? I sat through a wonderful presentation by a scientist on the changing length of days that he thinks is possible to prove through "microgrowth rings" in fossils. You need very well preserved fossils to look at this, and he presented some pretty compelling evidence, but stopped short of saying "this is how it is" Scientists - go figure! ;^)

>> That isn't religion, it fits in with what we do know about physics.
>
> And of course, that is in the present space-time. But using
> a localized present space-time standard to obtain an absolute
> value for something that existed far outside of that present
> localized space-time just doesn't "fit". For all we know, the
> first half of the existence of the universe consumed all of
> one second of space-time as it existed way back then.

I would never present anything as absolute.

> What is the length of time that it takes for one entangled
> particle to have an affect the other when they are a million
> miles apart?

Darn good question, Cecil. Doesn't seem like there should be any, but apparently if we know about one, the other is affected too.

- 73 de mike KB3EIA -

1016. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 18:54:43 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <eptd1j$1bl2$2@f04n12.cac.psu.edu>
Source record: 46180

Jim Kelley wrote:
>
>
> Cecil Moore wrote:
>
>> Actually, there is an unexplained time drift between atomic
>> decay and Bristle Cone Pine rings that can be explained if
>> seconds are getting shorter.
>
> Assuming the time it takes for the Earth to orbit around the Sun is an
> absolute, of course. ;-)

Which of course, it isn't.

- 73 de Mike KB3EIA -

1017. Re: Prophecies fulfilled

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 19:00:08 UTC
From: Nate Bargmann <n0nb.DO.NOT.SPAM@ME.networksplus.net>
Message-ID: <MO-dnUaKl_glpV_YnZ2dnUVZ_r7inZ2d@bluevalley.net>
Source record: 46181

You gentlemen do understand that the moderators of news.groups.proposals are not the same people proposing the creation of rec.radio.amateur.moderated and moderating it?

The creation of a moderated group does not threaten the existence of the current rra* hierarchy either. The current groups will continue on just as they are.

- Nate >>

--

"The optimist proclaims that we live in the best of all possible worlds, the pessimist fears this is true."

1018. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 19:16:06 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eptea6$t16$1@news.service.uci.edu>
Source record: 46182

Dave wrote:
> Jim Kelley wrote:
>
>>
>>
>> Cecil Moore wrote:
>>
>>> Actually, there is an unexplained time drift between atomic
>>> decay and Bristle Cone Pine rings that can be explained if
>>> seconds are getting shorter.
>>
>>
>>
>> Assuming the time it takes for the Earth to orbit around the Sun is an
>> absolute, of course. ;-)
>>
>> 73 de jk
>>
>>
>
> The only thing in Physics that is absolute is: "Nothing is absolute!"

True, but we shouldn't go so far as to infer that 1 Hz might sometimes
have more or less than one cycle in a second - no matter how much
different each second might be from the next.

73, ac6xg

1019. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 19:41:27 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <Hnrwh.6932$O02.1999@newssvr11.news.prodigy.net>
Source record: 46183

Jim Kelley wrote:
> True, but we shouldn't go so far as to infer that 1 Hz might sometimes
> have more or less than one cycle in a second - no matter how much
> different each second might be from the next.

We often infer that a frequency has lessened due to
the red shift which could certainly be a shortening
of a second from the time the light was generated
until now.
--
73, Cecil, http://www.qsl.net/w5dxp

1020. Re: Thevenin and s-parameters...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 19:43:08 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1170358988.670236.276940@s48g2000cws.googlegroups.com>
Source record: 46184

On Jan 31, 11:52 pm, "camelot" <sco...@tiscalinet.it> wrote:
> Hi Tom,
> as far as I am concerned, your observations are rights only if we are
> talking about real quantities. If you have a load that is complex then
> you obtain perfect matching (there is no reflection) only if Z0 is not
> equal to Zin but it is the conjugate of Zin. If you remember, this is
> the same condition valid for the maximum power transferring when the
> load in complex. Do you agree with these considerations?
>
> Regards,
>
> Camelot

OK, it is easy to see that a perfect match is NOT the conjugate, but an impedance equal to the line's Z0. Consider an "infinitely long" line. You know that the input impedance equals Z0 for all time, and there can be no reflection. Whatever you send out just keeps going.

Now think about that line as two pieces, connected together. The first piece is, say, 100 meters long, connected on one end to the signal generator, and on the other end to the remaining piece of line, still infinitely long. Now you have connected a load of Z0 (the infinitely long piece) to a 100 meter section of line with characteristic impedance Z0, and clearly there are no reflections where the lines are connected together.

It should be clear that you can just as well replace the infinite section of line with a load equal to Z0 (NOT equal to the conjugate of Z0, if Z0 has a reactive part), and there will be no change in the conditions in the 100 meter section between the Z0 load and the signal generator.

You can arrive at EXACTLY the same conclusion if you consider the current and voltage in a "forward" wave (including their phase relationship) and the current and voltage in a load equal to Z0, and the current and voltage in a load equal to the complex conjugate of Z0. You will see that for a line of impedance Z0, only a load equal to Z0 will have the correct voltage and current at its terminals to match only a forward wave on the line, and thus allow for zero reflected wave.

It is a separate, but related, issue to discuss exactly what the matching should be to get the most power from a generator to a load through a section of such line. But it should be clear that to have zero reflection, zero S11, the load must equal Z0 and in general not Z0* (though of course Z0=Z0* if Z0 is purely resistive).

Cheers,
Tom

1021. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 20:07:37 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <epthao$1m6$1@news.service.uci.edu>
Source record: 46185

Michael Coslo wrote:
> Jim Kelley wrote:
>
>>
>>
>> Cecil Moore wrote:
>>
>>> Actually, there is an unexplained time drift between atomic
>>> decay and Bristle Cone Pine rings that can be explained if
>>> seconds are getting shorter.
>>
>>
>> Assuming the time it takes for the Earth to orbit around the Sun is an
>> absolute, of course. ;-)
>
>
>
> Which of course, it isn't.
>
> - 73 de Mike KB3EIA -

Right. Seemed logical to me to deduce that the number of seconds in a year might have changed, but to infer from that that the length of the second has changed seems like quite a leap to me. Given the number of perturbations in the system, it's more likely the length of our path around the Sun has changed slightly over time. But hey, I'm no biologist.

jk

1022. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-01 20:53:29 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eptk0p$37s$1@news.service.uci.edu>
Source record: 46186

Cecil Moore wrote:

> We often infer that a frequency has lessened due to
> the red shift which could certainly be a shortening
> of a second from the time the light was generated
> until now.

The phenomenon of red shift is readily observable - that's how it was discovered. Line spectra from known elements is observed to be shifted in wavelength down from where it appears in the rest frame. The cause could be doppler shifting due to relative motion, or some other reason. If the length of the second were different, then so would be the speed of light as well as the constant of proportionality between frequency and wavelength at the source. In fact all kinds of physics would have to be different. There is certainly a probability for either case. Whether the probabilities are of the same magnitude is debatable.

73 de ac6xg

1023. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 00:31:22 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98CB753F5AF00nonenowhere@61.9.191.5>
Source record: 46187

<Snoopy@BoiseSt.edu> wrote in
news:K-idnVA4uKKU8VzYnZ2dnUVZ_r3inZ2d@hawaiiantel.net:

>
> its half wave
>

I would not have guessed that from the meagre information you supplied.

Owen

1024. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 00:46:45 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <VRvwh.7241$O02.6970@newssvr11.news.prodigy.net>
Source record: 46188

Jim Kelley wrote:
> If the length of the second were different, then so would be the speed
> of light ...

To see why that is false, refer to Lorentz's
transformation for time at a velocity near
the speed of light. Time can vary all over
the universe while the speed of light remains
constant (at least by definition :-). Since
time is one dimension for the speed of light,
the problem is self-correcting.

If tomorrow's second were 1/2 half of today's
second, nobody would even notice.

If someone used a cesium clock near a black
hole to come up with a "standard" second, it
would be nowhere near the same length of time
as a cesium clock on Earth. Time passes very
slowly near the event horizon of a black hole
but light keeps on trucking at the speed of
light.
--
73, Cecil http://www.w5dxp.com

1025. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 01:36:24 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <epu4j9cth1@news.service.uci.edu>
Source record: 46189

Cecil Moore wrote:

> Jim Kelley wrote:
>
>> If the length of the second were different, then so would be the speed
>> of light ...
>
>
> To see why that is false, refer to Lorentz's
> transformation for time at a velocity near
> the speed of light. Time can vary all over
> the universe while the speed of light remains
> constant (at least by definition :-). Since
> time is one dimension for the speed of light,
> the problem is self-correcting.

If the second were "smaller", then light could obviously no longer travel 3x10^8 of our meters in one of them. Try not to lose track of the reference frame, Cecil. (Remember, it's the one in which the red shift is being measured).

73, jk

1026. Re: Prophecies fulfilled

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 03:11:09 UTC
From: Mike Coslo <mcoslo@comcast.net>
Message-ID: <Xns98CAE1B2A83D1mcoslocomcastnet@216.196.97.136>
Source record: 46190

Nate Bargmann <n0nb.DO.NOT.SPAM@ME.networksplus.net> wrote in news:MO-dnUaKl_glpV_YnZ2dnUVZ_r7inZ2d@bluevalley.net:

> You gentlemen do understand that the moderators of news.groups.proposals
> are not the same people proposing the creation of
> rec.radio.amateur.moderated and moderating it?

Quite aware. They are examples of moderators however.

> The creation of a moderated group does not threaten the existence of the
> current rra* hierarchy either. The current groups will continue on just
> as they are.

Not in question. Richard might agree with me that his rejected post was just a sneak preview.

- 73 de Mike KB3EIA -

1027. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 03:29:38 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <45c2b01e$0$21250$39cecf19@news.twtelecom.net>
Source record: 46191

Cecil Moore wrote:
> If someone used a cesium clock near a black
> hole to come up with a "standard" second, it
> would be nowhere near the same length of time
> as a cesium clock on Earth. Time passes very
> slowly near the event horizon of a black hole
> but light keeps on trucking at the speed of
> light.

Jim

Don't bother. Cecil has his own, very special, form of Relativity.

tom
K0TAR

1028. Re: Prophecies fulfilled

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 04:38:15 UTC
From: Nate Bargmann <n0nb.DO.NOT.SPAM@ME.networksplus.net>
Message-ID: <MO-dnUGKI_iqXV_YnZ2dnUVZ_r7inZ2d@bluevalley.net>
Source record: 46192

On Thu, 01 Feb 2007 21:11:09 -0600, Mike Coslo wrote:

> Not in question. Richard might agree with me that his rejected post was
> just a sneak preview.

Of what, exactly? So a new group is planned that will be moderated. Big deal. The other groups are still wide open for anyone to post. I don't see the reason for alarm.

- Nate >>

--

"The optimist proclaims that we live in the best of all possible worlds, the pessimist fears this is true."

1029. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 05:27:11 UTC
From: Snoopy@BoiseSt.edu
Message-ID: <rbCdnZv47vwUV1_YnZ2dnUVZ_qHinZ2d@hawaiiantel.net>
Source record: 46193

Cecil Moore wrote:

> Snoopy@BoiseSt.edu wrote:
>> maybe I should have asked does my coax tune my antenna???????
>
> When the load impedance is not 50 ohms and the
> target impedance is 50 ohms, 50 ohm coax cannot
> tune your antenna system to a 50 ohm match. In fact,
> using 50 ohm coax with an SWR not equal to 1:1 is
> one way of guaranteeing that the transmitter will
> *never* see 50 ohms without some help from a
> tuner or other matching method. (Extensive losses
> will also bring the SWR closer to 1:1).
>
> If the target impedance is 50 ohms, only a
> characteristic impedance different from 50 ohms
> can transform the non-50 ohm impedance to 50
> ohms. And that can only be done when the SWR is
> not 1:1. Note that in Owen's 1/4WL matching
> equation, only if the load and source are both 50
> ohms does the equation result in Z0 = 50 ohms.
> Such a system is called a "flat" system with a
> trivial default SWR of 1:1.
>
> An autotuner at the feedpoint will solve the
> problem or a parallel feedline with a Z0 of
> 300-600 ohms will solve the problem. I have
> solved the problem at my QTH with a 148 foot
> dipole and 90 feet of 450 ohm ladder-line.
> That antenna system is simultaneously resonant
> at my QTH on both 7.15 MHz and 3.8 MHz at the
> same time. And it is also close to resonance on
> 17m.

can this be done with one feedline?

--
I SPILLED SPOT REMOVER ON MY DOG.............AND NOW HES GONE!!

1030. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 05:30:00 UTC
From: Snoopy@BoiseSt.edu
Message-ID: <rbCdnZr47vyvVI_YnZ2dnUVZ_qHinZ2d@hawaiiantel.net>
Source record: 46194

Denny wrote:

> Hmmm, I can't make much of this diagram and the group has decided to
> use passive aggressive behavior to "teach you"... You are asking for
> help and getting didactics thrown in your face... Shame on them!
>
> I doubt you can feed this antenna on 40 with coax... You will need to
> either put a tuner at the feed point, or resort to open wire line and
> a tuner at the radio...
>
> My first impulse would be to turn this into a top loaded vertical with
> an elevated counterpoise, the vertical self resonant on 40 and loaded
> for 80...
> Feed it at the bottom of the vertical section with the braid going to
> the 17 foot horizontals (some tuning needed)... Use a loading coil
> about half way up the vertical for 80 and short it out for 40... The
> counterpoise (the 17 foot horizontals as best I can make out) would be
> coil loaded at at the center connection of the 2 "radials" so they
> are resonant on 80 with a shroting clip for 40... A relay will select
> for you, or you can walk out and manually move the clips...
>
> Go to the library there and get an interloan copy of Moxon's "HF
> Antennas for all locations"... He has an excellent discussion of
> loaded radials/counterpoises, etc... With his help you should see how
> to make your antenna play... Any problems drop me an email through
> k8do@arrl.org and I will give you a fax number where you can shoot me
> a diagram of your antenna and we can discuss it...
>
> cheers ... denny / k8do

the physical antenna stays as is and works extremely well on 75.
What has me asking the questions is that I was told a 1/4 wave piece of coax
would get it to work on 40.

Maybe I need to run it thru some modeling software and see what actually
does need to happen to get 40 to work.

--
I SPILLED SPOT REMOVER ON MY DOG.............AND NOW HES GONE!!

1031. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 05:32:05 UTC
From: Snoopy@BoiseSt.edu
Message-ID: <rbCdnZX47vwzVl_YnZ2dnUVZ_qHinZ2d@hawaiiantel.net>
Source record: 46195

Cecil Moore wrote:

> Snoopy@BoiseSt.edu wrote:
>> so whats the solution to making it work on 40? a tuner?
>> some kind of tuned piece of coax?????????????
>
> A better description would help. That looks more
> like a ground plane antenna than it does a dipole.
> Please describe the antenna in more detail.

go to Force 12 website and check out the sigma 80

this is similar in that instead of having horizontal elements on the top its straight vertical.

signal reports on 80 have been very impressive.

--
I SPILLED SPOT REMOVER ON MY DOG.............AND NOW HES GONE!!

1032. Re: Strayed thinking

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 06:11:27 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <96l5s2928n35fotrrgptjt337lbhvhjsei@4ax.com>
Source record: 46196

On Thu, 01 Feb 2007 11:17:27 -0500, Michael Coslo <mjc5@psu.edu>
wrote:

> Of course, I never partook of such tomfoolery.

Mike, what a lightweight.

I took a cap out of TV Buck-Boost section of the flyback (couple of
hundred pF rated at 20,000V, what is called a doorknob cap) and
charged it with a van-deGraff generator. Unfortunately it was my
Physics teacher that wondered what strange item I had on my desk....

73's
Richard Clark, KB7QHC

1033. Re: Prophecies fulfilled

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 06:51:28 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <fql5s2p1cd0ver55sid8rvkk7nfi7rgpj3@4ax.com>
Source record: 46197

On Thu, 01 Feb 2007 22:38:15 -0600, Nate Bargmann
<n0nb.DO.NOT.SPAM@ME.networksplus.net> wrote:

>On Thu, 01 Feb 2007 21:11:09 -0600, Mike Coslo wrote:
>
>> Not in question. Richard might agree with me that his rejected post was
>> just a sneak preview.
>
>Of what, exactly? So a new group is planned that will be moderated. Big
>deal. The other groups are still wide open for anyone to post. I don't
>see the reason for alarm.

Hi Nate,

You confuse our amusement of impotent autocracy with alarm? Or are
you speaking of the very little effort required to alarm the school
hall monitors?

I visited the group to observe the response to my first reaction.
Basically their position is that taking responsibility for yourself
with your own killfile management is a task too great for the mass of
humanity. In clearer terms, the moderators have a very low opinion of
those they "protect." The veneer of respectability flaked off the
surface quite quickly.

The sand-bagged "proposal" comes with only one acceptable solution,
the justification for their thread of 120-odd follow-on responses
(white noise chatter) doesn't change that one iota. It was obvious my
solution's rejection was waiting in the wings like a coup de gras.

[Actually it is coup de grï¿½ce, pronounced grahs. Most americans
pronounce gras as grah. The difference is coup de grï¿½ce is the
killing blow for the grace of a quick death. A coup de gras is a blow
of fat - certainly more accurately rendered there (pun intended). If
I am to merit expulsion for rhetorically tweaking a nose, I may as
well murder them with panache.]

73's
Richard Clark, KB7QHC

1034. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 06:56:38 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <2tn5s2h3452tic43fijisose8g2borvidc@4ax.com>
Source record: 46198

On Thu, 01 Feb 2007 19:32:05 -1000, <Snoopy@BoiseSt.edu> wrote:

>signal reports on 80 have been very impressive.

You sound like a very good customer prospect weighed against the
testimonials offered to a German inventor of a 9 foot tall 160M
radiator.

Signal reports on 80 still doesn't make it work on 40M however. The
reasons have been explained for your difficulties, and solutions
offered. Are you looking for something different?

73's
Richard Clark, KB7QHC

1035. Re: Thevenin and s-parameters...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 12:47:31 UTC
From: wood@itd.nrl.navy.mil
Message-ID: <wood-0202070747310001@jbw-mac.itd.nrl.navy.mil>
Source record: 46199

In article <1170289788.459816.211150@v33g2000cwv.googlegroups.com>,
"K7ITM" <k7itm@msn.com> wrote:

> On Jan 30, 11:13 pm, "camelot" <sco...@tiscalinet.it> wrote:
> > Hi Tom,
> > well, after few researches on several books, I found that the formula
> > I provided by me works only for real Z0. The general formula valid in
> > case Z0 is complex is the follow:
> >
> > S11=(Zin-Z0*)/(Zin+Z0)
> >

Hello, and I don't know where you obtained that formula but it's
incorrect. S11 in terms of a reflection coefficient is given by your
formula above but without the complex conjugate of Z0. I have seen
reflection coefficients in technical journals defined with a complex
conjugate Z0 as you have shown but that's not consistent with scattering
or transmission line theory (unless Z0 is real). I know it seems
counterintuitve but a source of complex Z0 would be matched (no
voltage/current reflections) to a transmission line having the same
characteristic impedance. This condition does not in general correspond
to the condition of maximum power transfer from source to line.
Conversely a line of complex Z0 impedance connected to a source of complex
Z0* impedance represents maximum power transfer from source to line but we
still have voltage and current "reflections" RELATIVE to Z0. What you
have to keep in mind is that incident (forward) and reflected
voltages/currents only have meaning when they are referenced to an
impedance, say Z0. And to monitor steady-state incident and reflected
waves you need to separate the steady-state voltage (or current) into
these components using a bridge or directional coupler (sampling devices
that are also designed to use Z0 (e.g. 50 + j0 ohms) as a reference).

In most applications what I've said is moot since line impedance is
usually real or very close to real and we are dealing with sources having
real or very close to real impedances. Under these conditions the matched
condition coincides with maximum power transfer.

If you want an in-depth treatment of what I've attempted to summarize I
recommend the chapter on circuit analysis in the "Electronic Designers'
Handbook", ed. E.J. Giacoletto, published by McGraw-Hill. Sincerely,

John Wood (Code 5550) e-mail: wood@itd.nrl.navy.mil
Naval Research Laboratory
4555 Overlook Avenue, SW
Washington, DC 20375-5337

1036. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 14:15:07 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <MHHwh.51771$QU1.4062@newssvr22.news.prodigy.net>
Source record: 46200

Jim Kelley wrote:
> If the second were "smaller", then light could obviously no longer
> travel 3x10^8 of our meters in one of them.

It is the frequency that is red-shifted, not the
velocity. A shorter second results in a lower
frequency. Relativity won't allow the velocity
of light to change but everything else changes
including meters and seconds.
--
73, Cecil http://www.w5dxp.com

1037. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 14:18:02 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <tKHwh.51772$QU1.49732@newssvr22.news.prodigy.net>
Source record: 46201

Snoopy@BoiseSt.edu wrote:
>> I have
>> solved the problem at my QTH with a 148 foot
>> dipole and 90 feet of 450 ohm ladder-line.
>> That antenna system is simultaneously resonant
>> at my QTH on both 7.15 MHz and 3.8 MHz at the
>> same time. And it is also close to resonance on
>> 17m.
>
> can this be done with one feedline?

Yes, I have done it with one feedline and written
an article for "Worldradio" about it.
--
73, Cecil http://www.w5dxp.com

1038. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 14:19:17 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <ELHwh.51773$QU1.1967@newssvr22.news.prodigy.net>
Source record: 46202

Snoopy@BoiseSt.edu wrote:
> the physical antenna stays as is and works extremely well on 75.
> What has me asking the questions is that I was told a 1/4 wave piece of coax
> would get it to work on 40.

Was that a parallel stub by any chance?
--
73, Cecil http://www.w5dxp.com

1039. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 14:54:50 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <_gIwh.40542$Gr2.28528@newssvr21.news.prodigy.net>
Source record: 46203

Jim Kelley wrote:
> If the length of the second were different, then so would be the speed
> of light ...

Cesium clocks at sea level, on a mountain top, and
in an airplane all measure different lengths of the
second. Are you saying the speed of light is different
at those three locations?
--
73, Cecil, http://www.qsl.net/w5dxp

1040. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 15:53:13 UTC
From: Snoopy@BoiseSt.edu
Message-ID: <842dneJ4eOGmw17YnZ2dnUVZ_qninZ2d@hawaiiantel.net>
Source record: 46204

Cecil Moore wrote:

> Snoopy@BoiseSt.edu wrote:
>> the physical antenna stays as is and works extremely well on 75.
>> What has me asking the questions is that I was told a 1/4 wave piece of
>> coax would get it to work on 40.
>
> Was that a parallel stub by any chance?

hmmmm, thats not what I recall being told but would it work?
one feed line?

--
I SPILLED SPOT REMOVER ON MY DOG.....AND NOW HES GONE!!

1041. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 15:59:56 UTC
From: Snoopy@BoiseSt.edu
Message-ID: <wdednX6fUqVQwl7YnZ2dnUVZ_oytnZ2d@hawaiiantel.net>
Source record: 46205

Richard Clark wrote:

> On Thu, 01 Feb 2007 19:32:05 -1000, <Snoopy@BoiseSt.edu> wrote:
>
>>signal reports on 80 have been very impressive.
>
> You sound like a very good customer prospect weighed against the
> testimonials offered to a German inventor of a 9 foot tall 160M
> radiator.
>
> Signal reports on 80 still doesn't make it work on 40M however. The
> reasons have been explained for your difficulties, and solutions
> offered. Are you looking for something different?
>
> 73's
> Richard Clark, KB7QHC

Richard, I am not trying to be an ass here, but I was told BEFORE the antenna was built it would work on 40.
So it got built and doesnt work on 40 as is. It was suggested at the time to use a 1/4 wave section of coax to get it to work on 40, which as you know it doesnt.

All I want to do is figure out a way to get it to work on 40 now.

Believe me this antenna works extremely well on 80. 20 over 9 reports from ZL when the VK's there are only 10 over 9.

This configuration works well, I am sure someone could build a similar version just for 40 and be a big gun on 40.

--
I SPILLED SPOT REMOVER ON MY DOG.....AND NOW HES GONE!!

1042. Re: Prophecies fulfilled

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 16:47:20 UTC
From: "R. Scott" <lintardspamtrap@scotts-home.net>
Message-ID: <JCuHAw.89v@news.boeing.com>
Source record: 46207

"Nate Bargmann" <n0nb.DO.NOT.SPAM@ME.networksplus.net> wrote in message
news:MO-dnUGKl_iqXV_YnZ2dnUVZ_r7inZ2d@bluevalley.net...
> On Thu, 01 Feb 2007 21:11:09 -0600, Mike Coslo wrote:
>
>> Not in question. Richard might agree with me that his rejected post was
>> just a sneak preview.
>
> Of what, exactly? So a new group is planned that will be moderated. Big
> deal. The other groups are still wide open for anyone to post. I don't
> see the reason for alarm.
>
> - Nate >>

The reason for their alarm is they know people will go to the Moderated
group to get away from their
crap they are posting, thus they then wont have anyone left to hear their
drivel. The self imposed
importance thus will go away and they will be once again left to what they
really are.

1043. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 17:02:31 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <H8Kwh.1260$gj4.214@newssvr14.news.prodigy.net>
Source record: 46206

Snoopy@BoiseSt.edu wrote:
> hmmmm, thats not what I recall being told but would it work?
> one feed line?

A shorted 1/4WL 80m parallel stub will yield a
high impedance on 80m and a low impedance on 40m.
This is sometimes used with open-wire line to
achieve a match on both bands for a dipole that
is 1/2WL on 80m and 1WL on 40m. Also to open up
a 1WL 40m loop for use on 80m as a 1/2WL dipole.
--
73, Cecil, http://www.qsl.net/w5dxp

1044. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 17:26:48 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <epvs8v$13aq$1@f04n12.cac.psu.edu>
Source record: 46208

Cecil Moore wrote:
> Jim Kelley wrote:
>> If the second were "smaller", then light could obviously no longer
>> travel 3x10^8 of our meters in one of them.
>
> It is the frequency that is red-shifted, not the
> velocity. A shorter second results in a lower
> frequency. Relativity won't allow the velocity
> of light to change but everything else changes
> including meters and seconds.

Quantum mechanics does however:

http://science.nasa.gov/headlines/y2002/27mar_stoplight.htm

On a more humble level, Light changes speed as it passes through
different mediums, such as water.

- 73 de Mike KB3EIA -

1045. Re: Thevenin and s-parameters...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 17:46:29 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1170438389.647934.183420@h3g2000cwc.googlegroups.com>
Source record: 46209

On Feb 2, 4:47 am, w...@itd.nrl.navy.mil (J. B. Wood) wrote:
> In article <1170289788.459816.211...@v33g2000cwv.googlegroups.com>,
>
> "K7ITM" <k...@msn.com> wrote:
> > On Jan 30, 11:13 pm, "camelot" <sco...@tiscalinet.it> wrote:
> > > Hi Tom,
> > > well, after few researches on several books, I found that the formula
> > > I provided by me works only for real Z0. The general formula valid in
> > > case Z0 is complex is the follow:
>
> > > S11=(Zin-Z0*)/(Zin+Z0)
>
> Hello, and I don't know where you obtained that formula but it's
> incorrect. S11 in terms of a reflection coefficient is given by your
> formula above but without the complex conjugate of Z0. I have seen
> reflection coefficients in technical journals defined with a complex
> conjugate Z0 as you have shown but that's not consistent with scattering
> or transmission line theory (unless Z0 is real). I know it seems
> counterintuitve but a source of complex Z0 would be matched (no
> voltage/current reflections) to a transmission line having the same
> characteristic impedance. This condition does not in general correspond
> to the condition of maximum power transfer from source to line.
> Conversely a line of complex Z0 impedance connected to a source of complex
> Z0* impedance represents maximum power transfer from source to line but we
> still have voltage and current "reflections" RELATIVE to Z0. What you
> have to keep in mind is that incident (forward) and reflected
> voltages/currents only have meaning when they are referenced to an
> impedance, say Z0. And to monitor steady-state incident and reflected
> waves you need to separate the steady-state voltage (or current) into
> these components using a bridge or directional coupler (sampling devices
> that are also designed to use Z0 (e.g. 50 + j0 ohms) as a reference).
>
> In most applications what I've said is moot since line impedance is
> usually real or very close to real and we are dealing with sources having
> real or very close to real impedances. Under these conditions the matched
> condition coincides with maximum power transfer.
>
> If you want an in-depth treatment of what I've attempted to summarize I
> recommend the chapter on circuit analysis in the "Electronic Designers'
> Handbook", ed. E.J. Giacoletto, published by McGraw-Hill. Sincerely,
>
> John Wood (Code 5550) e-mail: w...@itd.nrl.navy.mil
> Naval Research Laboratory
> 4555 Overlook Avenue, SW

> Washington, DC 20375-5337

To amplify just a bit on what John wrote, it's convenient to express the S-parameters referenced to an impedance that's accepted by other people you want to exchange data with, so that they don't have to transform your data to match their reference. 50 ohms resistive is pretty universally accepted in the non-television RF industry. Bear in mind that the S parameters work just fine, even though the transmission lines you are working with may not be exactly 50 ohms resistive, or even close to 50 ohms. In such a case, of course, S11 will not have the same meaning as a reflection coefficient for that line.

Part of the "universally accepted" aspect is that the vast majority of RF test equipment is built to take readings referenced to 50 ohms resistive. We take great care to make sure that things look as close to 50+j0 as practical, over a wide frequency range. That said, there are particular industries where other impedances are used. 75 ohms is used in the video and television industry more commonly than 50 ohms, and you can buy vector network analyzers whose native impedance is 75 ohms. We've also made equipment to match the "standard" reference impedances used by telephone services and the audio industry.

Finally, to head off the nearly inevitable rant that (Z-Z0)/(Z+Z0), for a complex Z0, allows S11 to have a magnitude greater than unity for a passive load, yes, we know that's true, and it's really NOT a problem. Don't try to attach more physical significance to the reflection coefficient than is actually there.

(John, I do rather wish you'd dropped the line at the beginning of your post that said I had written the short segment you quoted from my posting, since I didn't write any of it; it was only lines I'd quoted from the original by "camelot"...but I trust that will be fairly obvious to readers.)

Cheers,
Tom

1046. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 17:50:26 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <q9u6s29ggsjc9hf2ofqq9pc3nb48i0pifn@4ax.com>
Source record: 46210

On Fri, 02 Feb 2007 12:26:48 -0500, Michael Coslo <mjc5@psu.edu>
wrote:

>On a more humble level, Light changes speed as it passes through
>different mediums, such as water.

WOW!

According to Cecileo, does this mean that time slows down (speeds up?)
TOO? Does the Vatican know about this?

Must be why bath time is resisted by so many children.

73's
Richard Clark, KB7QHC

1047. Re: Prophecies fulfilled

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 17:55:34 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <epvtun$1j46$1@f04n12.cac.psu.edu>
Source record: 46211

Nate Bargmann wrote:
> On Thu, 01 Feb 2007 21:11:09 -0600, Mike Coslo wrote:
>
>> Not in question. Richard might agree with me that his rejected post was
>> just a sneak preview.
>
> Of what, exactly? So a new group is planned that will be moderated. Big
> deal. The other groups are still wide open for anyone to post. I don't
> see the reason for alarm.

Lets take your postings here, Nate.

Richard and myself were making comments on his rejected post, and finding some humor in the whole process. Moderation has a certain inherent humor.

You apparently believe that our posts are somehow sour grapes, or simple bitterness. Perhaps if this were a moderated group, and you were the moderator, you would censor our posts.

No, Nate, what I find incredibly amusing might be displayed for all by the simple task of googling up rrap for the last couple years. What prompted the censored newgsroup (no Newspeak here, my good man!) is that filth. Which eventually spread over all the rra groups.

Fast forward to the present, and we see an example of comparative posting. Richards erudite, if sometimes acerbic, but always entertaining posts are apparently held in the same contempt as the filth spewed by a group of challenged folk.

And that is humor in the vein of "Look out what you ask for - you just might get it".

I could care less about the moderated group. I suspect that after an initial flurry of interest, many users will drift away.

I take care of my own self in the newsgroups, thankyouverymuch. I wonder about people who have to have a censor take care of them. I find them funny too.

- 73 de Mike KB3EIA -

1048. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 17:59:24 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <mgu6s2l8mji7ng3q531l7s5ct3kj1ts8hb@4ax.com>
Source record: 46212

On Fri, 02 Feb 2007 05:59:56 -1000, <Snoopy@BoiseSt.edu> wrote:

>I was told BEFORE the
>antenna was built it would work on 40.

You are a victim of poor information. That is evident in the false assurance (it simply doesn't make sense) and the positive proof of your measurements.

>So it got built and doesnt work on 40 as is.

No one here is surprised by that outcome.

>It was suggested at the time to
>use a 1/4 wave section of coax to get it to work on 40, which as you know
>it doesnt.

A quarter wave solution was offered by Owen which was the correct solution. This does not mean it would turn a dog into a performer, it simply meant it would match. Now, as to the matter of making it match using coax, THAT is a hash pipe dream. You may eventually succeed through luck and happenstance, but chances are that coax will glow at night.

>All I want to do is figure out a way to get it to work on 40 now.

As I offered, Owen has already done the work, but only you can build it and discover it works.

>Believe me this antenna works extremely well on 80. 20 over 9 reports from
>ZL when the VK's there are only 10 over 9.

That's nice, but it doesn't solve 40M.

73's
Richard Clark, KB7QHC

1049. Re: Prophecies fulfilled

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 18:04:50 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <epvug9$1j48$1@f04n12.cac.psu.edu>
Source record: 46213

Richard Clark wrote:
> On Thu, 01 Feb 2007 22:38:15 -0600, Nate Bargmann
> <n0nb.DO.NOT.SPAM@ME.networksplus.net> wrote:
>
>> On Thu, 01 Feb 2007 21:11:09 -0600, Mike Coslo wrote:
>>
>>> Not in question. Richard might agree with me that his rejected post was
>>> just a sneak preview.
>> Of what, exactly? So a new group is planned that will be moderated. Big
>> deal. The other groups are still wide open for anyone to post. I don't
>> see the reason for alarm.
>
> Hi Nate,
>
> You confuse our amusement of impotent autocracy with alarm? Or are
> you speaking of the very little effort required to alarm the school
> hall monitors?
>
> I visited the group to observe the response to my first reaction.
> Basically their position is that taking responsibility for yourself
> with your own killfile management is a task too great for the mass of
> humanity. In clearer terms, the moderators have a very low opinion of
> those they "protect." The veneer of respectability flaked off the
> surface quite quickly.

It's apparently hard to download a copy of a free newsreader and install it, RTFM, and set up the newsgroups to be as sanitary as I like. 4 keystrokes, and I never have to see a person's posts again.

> The sand-bagged "proposal" comes with only one acceptable solution,
> the justification for their thread of 120-odd follow-on responses
> (white noise chatter) doesn't change that one iota. It was obvious my
> solution's rejection was waiting in the wings like a coup de gras.

I wonder if anyone ever considered that maybe the censored group was just an extension of the infighting? The ultimate gigging, the neener, neener, neener to the whackies?

> [Actually it is coup de grï¿½ce, pronounced grahs. Most americans
> pronounce gras as grah. The difference is coup de grï¿½ce is the
> killing blow for the grace of a quick death. A coup de gras is a blow
> of fat - certainly more accurately rendered there (pun intended).

Don't pour water on that bacon fire, kids!

> If
> I am to merit expulsion for rhetorically tweaking a nose, I may as
> well murder them with panache.]

Always good with maple syrup.... psst, Richard, you spelled pancakes
wrong ....

- 73 de Mike KB3EIA -

1050. Re: Prophecies fulfilled

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 18:13:54 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <m4v6s29dtrgojcd7sved2v30mebnfe4fui@4ax.com>
Source record: 46214

On Fri, 2 Feb 2007 16:47:20 GMT, "R. Scott"
<lintardspamtrap@scotts-home.net> wrote:

>The reason for their alarm is they know people will go to the Moderated
>group to get away from their
>crap they are posting, thus they then wont have anyone left to hear their
>drivel. The self imposed
>importance thus will go away and they will be once again left to what they
>really are.
>
Two amazing things about this:
1. It's taken 25 years to figure it out;
2. It hasn't happened yet;
3. They have to ask permission to see if it sounds like a good idea?

This is second in competency only to the Department of Homeland
Security: "All Katrina victims, assemble for your safety at the Sport
Coliseum. Busses, food, and water will arrive someday. Excuse the
bathrooms that are out of order and use the hallway."

Actually I encourage the development of a moderated group, they
deserve it. I can imagine some of our erstwhile visitors moving there
to author 1000 one entry threads. It'll be like a virtual hair trap
in the tub.

73's
Richard Clark, KB7QHC

1051. Re: Prophecies fulfilled

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 18:37:55 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <d017s29nlage62h3rojtfpdilq50kpj14a@4ax.com>
Source record: 46215

On Fri, 02 Feb 2007 13:04:50 -0500, Michael Coslo <mjc5@psu.edu>
wrote:

>> If
>> I am to merit expulsion for rhetorically tweaking a nose, I may as
>> well murder them with panache.]
>
> Always good with maple syrup.... psst, Richard, you spelled pancakes
>wrong ....
>
Ah Mike! C'est un bon mot.

1052. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 18:40:10 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <eALwh.15682$ji1.11923@newssvr12.news.prodigy.net>
Source record: 46216

Richard Clark wrote:
> According to Cecileo, does this mean that time slows down ...

It means that light travels at the speed of light,
no matter what. One thing had to be nailed down
and Einstein chose the speed of light.
--
73, Cecil http://www.w5dxp.com

1053. Best Books/Websites for Antenna Theory and Building Recommendations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 19:14:29 UTC
From: Joaquin Tall <opalockamishabob@'86DASPAMnetscape.net>
Message-ID: <tfydnbr9O4IMEF7YnZ2dnUVZ_oOonZ2d@got.net>
Source record: 46217

Hello All,

I have just gotten my tech license and am eager to get my station up and running. I am starting on a shoestring; currently, I have no equipment whatsoever and don't know what I should buy just yet. In absence of a rig, I am now studying to pass my General license exam next month.

I am very interested in building my own HF/VHF/UHF antennas. I've seen the ARRL books, but I was hoping that you good folks might have some favorite websites, book titles or magazine issues [old or new] that you'd be willing to pass along that could get me started.

Many thanks for taking the time to respond!

73's to you all!

Alain...San Diego

1054. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 19:34:39 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <pa47s2549amhc1qctm5up9v4rt8hiprbd5@4ax.com>
Source record: 46218

On Fri, 02 Feb 2007 18:40:10 GMT, Cecil Moore <mycall@hotmail.com>
wrote:

>Richard Clark wrote:
>> According to Cecileo, does this mean that time slows down ...
>
>It means that light travels at the speed of light,
>no matter what. One thing had to be nailed down
>and Einstein chose the speed of light.

So Einstein is responsible for both setting the speed of light AND
time slowing down?

Is this a case of Einstein is all and Cecileo is his prophet? No
wonder the Vatican is turning the screws. Take two excedrin and write
us again in the morning if your thumbs don't hurt.

1055. Re: Best Books/Websites for Antenna Theory and Building Recommendations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 19:38:19 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <mj47s29rti9186bvccl344pb46hmt19nlq@4ax.com>
Source record: 46219

On Fri, 02 Feb 2007 11:14:29 -0800, Joaquin Tall
<opalockamishabob@'86DASPAMnetscape.net> wrote:
>I am very interested in building my own HF/VHF/UHF antennas. I've seen
>the ARRL books, but I was hoping that you good folks might have some
>favorite websites, book titles or magazine issues [old or new] that
>you'd be willing to pass along that could get me started.
>

Hi Alain,

You can certainly buy more books than there are antennas, but really,
the ARRL manual (any one of them) is enough to make your first foray.
This will make it easier to ask questions, and to focus on specific
needs instead of shotgunning what is available.

The best advice is to remark that all antenna designs can be scaled to
any other frequency. The building details are the sticky part.

73's
Richard Clark, KB7QHC

1056. Re: Prophecies fulfilled

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 19:56:28 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <eq051c$1nte$1@f04n12.cac.psu.edu>
Source record: 46220

R. Scott wrote:
> "Nate Bargmann" <n0nb.DO.NOT.SPAM@ME.networksplus.net> wrote in message
> news:MO-dnUGKl_iqXV_YnZ2dnUVZ_r7inZ2d@bluevalley.net...
>> On Thu, 01 Feb 2007 21:11:09 -0600, Mike Coslo wrote:
>>
>>> Not in question. Richard might agree with me that his rejected post was
>>> just a sneak preview.
>> Of what, exactly? So a new group is planned that will be moderated. Big
>> deal. The other groups are still wide open for anyone to post. I don't
>> see the reason for alarm.
>>
>> - Nate >>
>
> The reason for their alarm is they know people will go to the Moderated
> group to get away from their
> crap they are posting, thus they then wont have anyone left to hear their
> drivel. The self imposed
> importance thus will go away and they will be once again left to what they
> really are.

As the person who was once accused of being the "nicest person in
rrap". I can say

Wrongo!

Find out who is posting what before you go accusing people. Perhaps
accuracy is not important to you, In which case rram might just have an
opening.

- beep beep and 73 de Mike KB3EIA -

1057. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 20:07:02 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <GRMwh.1273$gj4.936@newssvr14.news.prodigy.net>
Source record: 46221

Richard Clark wrote:
> So Einstein is responsible for both setting the speed of light AND
> time slowing down?

In a way, the answer is "yes". If the length of a second
is inviolate, then the speed-of-light is not a constant
since those are contradictory concepts.

A system of physics could have been based on an "absolute
objective second" of time, but it results in a total package
with a lot of problems as yet unsolved. An absolute velocity
of light in a vacuum seems to solve a lot of those problems
but results in length being a variable and time being a
variable while length and time are the dimensions of velocity.

Personally, I think everything is a variable and therefore,
there are no constants, except of course, for your constant
kibitzing. :-)
--
73, Cecil http://www.w5dxp.com

1058. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 20:13:13 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <tk67s2li1svumm6938f6s1ctt7n2fsa3ge@4ax.com>
Source record: 46222

On Fri, 02 Feb 2007 20:07:02 GMT, Cecil Moore <mycall@hotmail.com>
wrote:
>> So Einstein is responsible for both setting the speed of light AND
>> time slowing down?
>
>In a way, the answer is "yes".

And now that he has been dead for 50 years, is it safe to say years
given he was responsible for the speed of light AND time slowing down?

Was in it fact a moment ago that he died? Or should that be an ï¿½on?

73's
Richard Clark, KB7QHC

1059. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 20:27:48 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <89Nwh.3176$MN.1935@newssvr23.news.prodigy.net>
Source record: 46223

Richard Clark wrote:
> Cecil Moore <mycall@hotmail.com> wrote:
>>> So Einstein is responsible for both setting the speed of light AND
>>> time slowing down?
>> In a way, the answer is "yes".
>
> And now that he has been dead for 50 years, is it safe to say years
> given he was responsible for the speed of light AND time slowing down?

I addressed that very point in the part that you
deleted. So I must ask: What was your ulterior
motive in those deliberate deletions? Are you
unwilling (or incapable) of discussing the
actual subject of this "thread gone astray"?

Is this akin to your assertion that the reflection
from a piece of anti-reflective coating of glass
is brighter than the surface of the sun?
--
73, Cecil http://www.w5dxp.com

1060. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 21:40:45 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <bfb7s2tnli5imsj75597aphtphh8lputto@4ax.com>
Source record: 46224

On Fri, 02 Feb 2007 14:27:48 -0600, Cecil Moore <mycall@hotmail.com>
wrote:

>>>> So Einstein is responsible for both setting the speed of light AND
>>>> time slowing down?
>>> In a way, the answer is "yes".
>>
>> And now that he has been dead for 50 years, is it safe to say years
>> given he was responsible for the speed of light AND time slowing down?
>
>I addressed that very point in the part that you
>deleted.

Hmm, research reveals nothing of your having said anything about
Einstein's death. Nothing about his being responsible for the speed
of light, and certainly nothing about his being responsible for
slowing time down.

Instead of making bland exclamations, can you actually offer us facts
that Einstein is responsible for both setting the speed of light AND
time slowing down? This God-like quality that you have invested in
him and then taken some of it away with the equivocation of
> In a way, the answer is "yes".
doesn't really say anything does it?

The world waits in wonder at your assertion of Einstein's ability to
set the speed of light and time - especially when it had been
investigated and quantified by many earlier workers, notably Michelson
and Morely.

1061. help- Mobile 10meters on a jeep

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 21:43:40 UTC
From: KE5MBX <nelson.blaha@gmail.com>
Message-ID: <1170452620.169633.215710@l53g2000cwa.googlegroups.com>
Source record: 46225

I have been advised by some hams that the best way I can hope to do 10-meters on my jeep is to mount my antenna ON THE WINDSHIELD to get a good ground plane. I read somewhere since then that the primary reason for cophasing CB antennas on trucks is NOT to direct the gain front and back, but to even the ground plane as though the antenna were in the center of the truck. Could I achieve the same effect with my Jeep by cophasing antennas on either side of the jeep by the doors? Even better- could I do this diagonally across from one corner of my jeep to the other? I heard the further apart the antennas are, the better, and I'm not really trying to get front/back gain for DXing.

1062. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-02 23:56:33 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <q9j7s2h1j55o5tih4t0ih3kjqih4rfgvjn@4ax.com>
Source record: 46226

On Fri, 02 Feb 2007 13:40:45 -0800, Richard Clark <kb7qhc@comcast.net>
wrote:

>The world waits in wonder at your assertion of Einstein's ability to
>set the speed of light and time - especially when it had been
>investigated and quantified by many earlier workers, notably Michelson
>and Morely.

Hi All,

Well it stands to reason there is nothing to be said in this regard

On Fri, 02 Feb 2007 18:40:10 GMT, Cecil Moore <mycall@hotmail.com>
wrote:
>One thing had to be nailed down and Einstein chose the speed of light.

as Einstein was never responsible for any such thing.

Fact of the matter was previous to Michelson and Morely's work, a
Scottish fellow by the name of Maxwell had already DEFINED the speed
of light. Michelson and Morely merely confirmed it in the absence of
a disturbing ï¿½ther. Their confirmation merely extended the
experimental resolution of a quantity already known.

Instead, Einstein took Maxwell's DEFINED speed of light, and observed
that it would be constant in any Inertial Frame of Reference. This
means that the same beam of light (whose source or origin is
immaterial) is measured in a fixed frame (nonsense of course, but this
is Einstein's thought experiment), it will be equally determined by a
moving frame.

73's
Richard Clark, KB7QHC

1063. Re: Best Books/Websites for Antenna Theory and Building Recommendations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 00:15:19 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <45c3d415$0$21248$39cecf19@news.twtelecom.net>
Source record: 46227

Joaquin Tall wrote:

> Hello All,
>
> I have just gotten my tech license and am eager to get my station up and
> running. I am starting on a shoestring; currently, I have no equipment
> whatsoever and don't know what I should buy just yet. In absence of a
> rig, I am now studying to pass my General license exam next month.
>
> I am very interested in building my own HF/VHF/UHF antennas. I've seen
> the ARRL books, but I was hoping that you good folks might have some
> favorite websites, book titles or magazine issues [old or new] that
> you'd be willing to pass along that could get me started.
>
> Many thanks for taking the time to respond!
>
> 73's to you all!
>
> Alain...San Diego

Alain

Here is one of the best single sources on the net, L. B. Cebik.
Worthwhile reading, and lots of it, about antennas of all types, and a
lot more besides.

Did I get the commas correct Richard?

http://www.cebik.com/radio.html

tom
K0TAR

1064. Re: Best Books/Websites for Antenna Theory and Building Recommendations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 00:31:06 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <u0l7s254ic2vfo7jjckl5k1q7g4rd1kdu8@4ax.com>
Source record: 46228

On Fri, 02 Feb 2007 18:15:19 -0600, Tom Ring <news0003@taring.org>
wrote:

>Did I get the commas correct Richard?

No.

Commas can be used to clear cloudy sentences. You did that in the
first sentence, but you also had the suggestion of a comma splice
later. Proper usage would have been to replace it with a semicolon,
or eliminate it (break the splice) to make another sentence. However
the second sentence is not a sentence, much less two of them. There
is no predicate. So discussion of proper comma usage is largely moot.

I am sure most followed the thoughts through to completion without a
blip in understanding. English is quite flexible in that regard.

73's
Richard Clark, KB7QHC

1065. Re: Best Books/Websites for Antenna Theory and Building Recommendations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 00:51:25 UTC
From: Caveat Lector <CL@nowhere.com>
Message-ID: <h0Rwh.25227$Lx2.818@newsfe14.phx>
Source record: 46229

Alain
The ARRL Antenna Hand book is considered a standard
http://www.arrl.org/catalog/?category=Antennas,+Transmission+Lines+%26+Propagation

L. B. Cebik, W4RNL has a weath of antenna information - see URL:
http://www.cebik.com/radio.html

Lots of Antenna projects on the web (homebrew) at URL:

http://ac6v.com/antprojects.htm
This links to many other web sites -- kinda of a roundup of antenna web
sites

Also a very popular author of Antennas is William I. Orr -- His books can be
found on Amazon.com
http://www.amazon.com/W6Sai-Hf-Antenna-Handbook/dp/0943016150/sr=8-2/qid=1170463484/ref=sr_1_2/102-5966852-2841725?ie=UTF8&s=books

73 and good radiating
CL

"Joaquin Tall" <opalockamishabob@'86DASPAMnetscape.net> wrote in message
news:tfydnbr9O4IMEF7YnZ2dnUVZ_oOonZ2d@got.net...
> Hello All,
>
> I have just gotten my tech license and am eager to get my station up and
> running. I am starting on a shoestring; currently, I have no equipment
> whatsoever and don't know what I should buy just yet. In absence of a rig,
> I am now studying to pass my General license exam next month.
>
> I am very interested in building my own HF/VHF/UHF antennas. I've seen the
> ARRL books, but I was hoping that you good folks might have some favorite
> websites, book titles or magazine issues [old or new] that you'd be
> willing to pass along that could get me started.
>
> Many thanks for taking the time to respond!
>
> 73's to you all!
>
> Alain...San Diego

1066. Re: Best Books/Websites for Antenna Theory and Building Recommendations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 01:26:27 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <45c3e4c1$0$21259$39cecf19@news.twtelecom.net>
Source record: 46230

Richard Clark wrote:

> On Fri, 02 Feb 2007 18:15:19 -0600, Tom Ring <news0003@taring.org>
> wrote:
>
>
>>Did I get the commas correct Richard?
>
>
> No.
>
> Commas can be used to clear cloudy sentences. You did that in the
> first sentence, but you also had the suggestion of a comma splice
> later. Proper usage would have been to replace it with a semicolon,
> or eliminate it (break the splice) to make another sentence. However
> the second sentence is not a sentence, much less two of them. There
> is no predicate. So discussion of proper comma usage is largely moot.
>
> I am sure most followed the thoughts through to completion without a
> blip in understanding. English is quite flexible in that regard.
>
> 73's
> Richard Clark, KB7QHC

Well, I knew it was botched up, since I botched it intentionally, which
is why I asked. I was sure that you would have an answer worth reading. ;)

I am curious as to why I seldom see my own posts, and even then only
after a long delay, while I get most others almost immediately.
Obviously my post showed on your news server within minutes of my
sending it. I still haven't seen it here.

tom
K0TAR

1067. Re: LATE MODEL MFJ ROLLER INDUCTOR IS ROUGH

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 01:27:58 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <45c3e51e$0$16982$4c368faf@roadrunner.com>
Source record: 46231

"Bob Miller" <NOSPAM@neosoft.com> wrote in message
news:6i10s2tue843sf1eqh2n8f19q7hi9e6agt@4ax.com...
> On Wed, 31 Jan 2007 01:59:08 GMT, solidgoldZZZ@optonline.net (Ron in
> NY) wrote:
>
>>Hi All,
>>
>> I have a couple of late model MFJ roller inductor antenna tuners with
>> the
>>roller on the inside of the inductor. My old 989C with an external roller
>>was
>>smooth as glass. These newer ones with the roller on the inside of the
>>inductor
>>really are rough. They have a knob with a finger hole, but cannot be spun
>>with 1
>>finger--you have to grab the entire knob to turn it. I have a 989D with a
>>crank
>>type knob that has a slip clutch as part of the knob, and if you try and
>>turn it
>>real slow, the clutch slips instead od the roller progressing slowly.
>>
>> Has anyone "fixed" this problem with their late model MFJ ???
>
> I fixed mine by just returning the 989D to AES -- they took it back.
> My old circa 1992 989C is a marvel of precision, in comparison :-)
>
> bob
> k5qwg

Last year the roller inductor on my 989C became a little bit dirty and
needed extensive cleaning after using it for several years at 1KW. I cleaned
it up but it was not easy. MFJ recommended that the only lubrication I
should use is pure graphite powder which I found available at the local ACE
hardware. It looks like it should be cleaned every year or so. That 989C
roller inductor is a work of art and MFJ sells replacements for about
$60.00. If I had a 989D I would probably buy a replacement 989C inductor.
When I checked other companies for their prices of roller inductors of
similar size/inductance/turns, they seemed to go for around $280.00, which
probably explains the EC for 989D.

1068. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 02:43:34 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <qFSwh.24482$yC5.15919@newssvr27.news.prodigy.net>
Source record: 46232

Richard Clark wrote:
> The world waits in wonder at your assertion of Einstein's ability to
> set the speed of light and time - especially when it had been
> investigated and quantified by many earlier workers, notably Michelson
> and Morely.

Please Google "relativity" and "Lorentz transforms"
for the technical facts as presented by Einstein.
--
73, Cecil http://www.w5dxp.com

1069. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 02:52:38 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <WNSwh.51866$QU1.35340@newssvr22.news.prodigy.net>
Source record: 46233

Richard Clark wrote:
> Cecil Moore <mycall@hotmail.com> wrote:
>> One thing had to be nailed down and Einstein chose the speed of light.
>
> Fact of the matter was previous to Michelson and Morely's work, a
> Scottish fellow by the name of Maxwell had already DEFINED the speed
> of light.

I never said or implied that Einstein "DEFINED the speed
of light", only that he "nailed it down" in his equations
as the one universal constant - while all other parameters
are subject to relativity effects.
--
73, Cecil http://www.w5dxp.com

1070. Re: Best Books/Websites for Antenna Theory and Building Recommendations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 03:03:32 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ohu7s2lglcf6g4d4ao2dhb815d0cc3m53o@4ax.com>
Source record: 46234

On Fri, 02 Feb 2007 19:26:27 -0600, Tom Ring <news0003@taring.org>
wrote:

>Well, I knew it was botched up, since I botched it intentionally, which
>is why I asked. I was sure that you would have an answer worth reading. ;)

Hi Tom,

Commas are a recent invention for language and quotation marks even
more modern. One writer, outraged by his publisher's demand that he
use punctuation put them all at the end of his book and invited
readers to draw from them and season his words as they pleased.

>I am curious as to why I seldom see my own posts, and even then only
>after a long delay, while I get most others almost immediately.
>Obviously my post showed on your news server within minutes of my
>sending it. I still haven't seen it here.

NNTP feeds are a strange thing. I'm surprised that it works. There
have been years when I had to wait quite long to see my own posts. I
am also surprised how computers can flip their bits a billion times a
second, and manage to not get lost (so often).

73's
Richard Clark, KB7QHC

1071. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 03:13:35 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <atu7s2h6spjqg2s0n1qp66mmdie9blktrt@4ax.com>
Source record: 46235

On Fri, 02 Feb 2007 20:52:38 -0600, Cecil Moore <mycall@hotmail.com>
wrote:

>I never said or implied that Einstein "DEFINED the speed
>of light", only that he "nailed it down" in his equations
>as the one universal constant - while all other parameters
>are subject to relativity effects.

Let's face it, you never really say anything in the end. We can see
this in the guff like that above. "nailed it down," now there's a
charming non-sequitur. Maxwell preceded him by decades with the
definition of the speed of light - Einstein certainly nailed nothing
there. Maxwell's equations are nothing if not universally applicable,
Einstein didn't add anything that pounded any nail there either. And
to hail-Mary it with
>while all other parameters
>are subject to relativity effects.
contradicts Einstein explicitly in that he taught that "all laws of
physics are the same within all inertial frames of reference."
Einstein did not exclude anything.

1072. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 03:25:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <qpbd94-bkr.ln1@mail.specsol.com>
Source record: 46236

Cecil Moore <mycall@hotmail.com> wrote:
> Richard Clark wrote:
> > Cecil Moore <mycall@hotmail.com> wrote:
> >> One thing had to be nailed down and Einstein chose the speed of light.
> >
> > Fact of the matter was previous to Michelson and Morely's work, a
> > Scottish fellow by the name of Maxwell had already DEFINED the speed
> > of light.

> I never said or implied that Einstein "DEFINED the speed
> of light", only that he "nailed it down" in his equations
> as the one universal constant - while all other parameters
> are subject to relativity effects.
> --
> 73, Cecil http://www.w5dxp.com

permittivity of free space, permeability of free space, radian...

--
Jim Pennino

Remove .spam.sux to reply.

1073. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 03:29:38 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <CkTwh.68080$qO4.50499@newssvr13.news.prodigy.net>
Source record: 46237

Richard Clark wrote:
> Let's face it, you never really say anything in the end. We can see
> this in the guff like that above. "nailed it down," now there's a
> charming non-sequitur. Maxwell preceded him by decades with the
> definition of the speed of light - Einstein certainly nailed nothing
> there.

Einstein was the first to nail down the speed of light
in free space as an absolute in his relativity equations.
You can verify that fact by Googling "relativity".
--
73, Cecil http://www.w5dxp.com

1074. Re: help- Mobile 10meters on a jeep

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 03:35:51 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <45c40317$0$5231$4c368faf@roadrunner.com>
Source record: 46238

"KE5MBX" <nelson.blaha@gmail.com> wrote in message
news:1170452620.169633.215710@l53g2000cwa.googlegroups.com...
>I have been advised by some hams that the best way I can hope to do 10-
> meters on my jeep is to mount my antenna ON THE WINDSHIELD to get a
> good ground plane. I read somewhere since then that the primary
> reason for cophasing CB antennas on trucks is NOT to direct the gain
> front and back, but to even the ground plane as though the antenna
> were in the center of the truck. Could I achieve the same effect with
> my Jeep by cophasing antennas on either side of the jeep by the
> doors? Even better- could I do this diagonally across from one corner
> of my jeep to the other? I heard the further apart the antennas are,
> the better, and I'm not really trying to get front/back gain for DXing.

What I did was purchase a 1/2 wave 11 meter whip from Radio shack and
trimmed it for 10m. Of course, for 1/2 wave you need not have a ground
plane, only a good ground point. I mounted it on the back bumper. It worked
very well on my Warngler.

1075. Re: help- Mobile 10meters on a jeep

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 04:41:22 UTC
From: KE5MBX <nelson.blaha@gmail.com>
Message-ID: <1170477682.342050.52840@l53g2000cwa.googlegroups.com>
Source record: 46239

On Feb 2, 9:35 pm, "Stefan Wolfe" <ste...@eml.com> wrote:
> "KE5MBX" <nelson.bl...@gmail.com> wrote in message
>
> news:1170452620.169633.215710@l53g2000cwa.googlegroups.com...
>
> >I have been advised by some hams that the best way I can hope to do 10-
> > meters on my jeep is to mount my antenna ON THE WINDSHIELD to get a
> > good ground plane. I read somewhere since then that the primary
> > reason for cophasing CB antennas on trucks is NOT to direct the gain
> > front and back, but to even the ground plane as though the antenna
> > were in the center of the truck. Could I achieve the same effect with
> > my Jeep by cophasing antennas on either side of the jeep by the
> > doors? Even better- could I do this diagonally across from one corner
> > of my jeep to the other? I heard the further apart the antennas are,
> > the better, and I'm not really trying to get front/back gain for DXing.
>
> What I did was purchase a 1/2 wave 11 meter whip from Radio shack and
> trimmed it for 10m. Of course, for 1/2 wave you need not have a ground
> plane, only a good ground point. I mounted it on the back bumper. It worked
> very well on my Warngler.

Wow, that is some excellent information I didn't know.. that a 1/2
wave antenna doesn't need a ground plane. I looked it up and sure
enough, you're right! However, I'm sad to say that I really doubt
Radio Shack sells a 1/2 wavelength antenna for either 10 or 11
meters. The classic 102" whip, as I understand, is a 1/4 wavelength.
For a second I even considered putting a 2.5-meter (16.4 ft) whip on
my jeep, but I finally decided that really isn't practical. So, any
opinions on the cophasing of two 1/4 waves?

1076. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 05:00:15 UTC
From: Snoopy@BoiseSt.edu
Message-ID: <8P-dnWB-0ZgTi1nYnZ2dnUVZ_oPinZ2d@hawaiiantel.net>
Source record: 46240

Cecil Moore wrote:

> Snoopy@BoiseSt.edu wrote:
>> hmmmm, thats not what I recall being told but would it work?
>> one feed line?
>
> A shorted 1/4WL 80m parallel stub will yield a
> high impedance on 80m and a low impedance on 40m.
> This is sometimes used with open-wire line to
> achieve a match on both bands for a dipole that
> is 1/2WL on 80m and 1WL on 40m. Also to open up
> a 1WL 40m loop for use on 80m as a 1/2WL dipole.

I have seen this before, but somehow I would have to be able to connect and
unconnect the stub.

--
I SPILLED SPOT REMOVER ON MY DOG.............AND NOW HES GONE!!

1077. Re: help- Mobile 10meters on a jeep

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 05:10:00 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <45c4192c$0$28110$4c368faf@roadrunner.com>
Source record: 46241

"KE5MBX" <nelson.blaha@gmail.com> wrote in message
news:1170477682.342050.52840@l53g2000cwa.googlegroups.com...
> On Feb 2, 9:35 pm, "Stefan Wolfe" <ste...@eml.com> wrote:
>> "KE5MBX" <nelson.bl...@gmail.com> wrote in message
>>
>> news:1170452620.169633.215710@l53g2000cwa.googlegroups.com...
>>
>> >I have been advised by some hams that the best way I can hope to do 10-
>> > meters on my jeep is to mount my antenna ON THE WINDSHIELD to get a
>> > good ground plane. I read somewhere since then that the primary
>> > reason for cophasing CB antennas on trucks is NOT to direct the gain
>> > front and back, but to even the ground plane as though the antenna
>> > were in the center of the truck. Could I achieve the same effect with
>> > my Jeep by cophasing antennas on either side of the jeep by the
>> > doors? Even better- could I do this diagonally across from one corner
>> > of my jeep to the other? I heard the further apart the antennas are,
>> > the better, and I'm not really trying to get front/back gain for DXing.
>>
>> What I did was purchase a 1/2 wave 11 meter whip from Radio shack and
>> trimmed it for 10m. Of course, for 1/2 wave you need not have a ground
>> plane, only a good ground point. I mounted it on the back bumper. It
>> worked
>> very well on my Warngler.
>
> Wow, that is some excellent information I didn't know.. that a 1/2
> wave antenna doesn't need a ground plane. I looked it up and sure
> enough, you're right! However, I'm sad to say that I really doubt
> Radio Shack sells a 1/2 wavelength antenna for either 10 or 11
> meters. The classic 102" whip, as I understand, is a 1/4 wavelength.
> For a second I even considered putting a 2.5-meter (16.4 ft) whip on
> my jeep, but I finally decided that really isn't practical. So, any
> opinions on the cophasing of two 1/4 waves?

You are right of course...sorry...I didn't caculate the wavelength and was
merely making statements comparing the shorter "loaded" whip (forgetting it
was loaded), concluding the longer whip was 1/2 wave . However, I knew it
was 1/4 wave GP at the time and sometimes I just get afflicted with
oldtimers didease, complicated to exposure of high EM fields. :-)) The
unloaded 1/4 whip still worked well using the frame as a ground plane.

1078. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 07:49:42 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <g6f8s25khkg42rkksli7m1bme1ess89pvr@4ax.com>
Source record: 46242

On Sat, 03 Feb 2007 03:29:38 GMT, Cecil Moore <mycall@hotmail.com>
wrote:
>You can verify that fact by Googling "relativity".

Sounds like Xerox logic. Appeal to the authority of Google pretty
much puts Einstein into the garbage can like a moldy rind.

1079. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 08:14:33 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <mlf8s2hp2vrdg981plf2vh1al0m24hpu9e@4ax.com>
Source record: 46243

On Sat, 03 Feb 2007 03:25:02 GMT, jimp@specsol.spam.sux.com wrote:

>> I never said or implied that Einstein "DEFINED the speed
>> of light", only that he "nailed it down" in his equations
>> as the one universal constant - while all other parameters
>> are subject to relativity effects.
>> --
>> 73, Cecil http://www.w5dxp.com
>
>permittivity of free space, permeability of free space, radian...

Hi Jim,

You are treading on Cecil's toes in this dance. Soon we may have to
reveal the Lorentzian transformation.

It was Lorentz that described time dilation (using the speed of light)
in 1887 and formalized in 1899, and it was Poincarï¿½ who introduced
this math in 1905, not Einstein.
>>he "nailed it down" in his equations
is an slur on Maxwell, Lamor, Lorentz, and Poincarï¿½'s contributions
that predate Einstein by decades.

But I am not surprised. Lorentzian transformations are alluded to
here in this forum in recent speculations; and they are thoroughly
botched because so few are even vaguely familiar with his work.

Cecil, your habit of hugging the corpses of intellectuals does not
raise your IQ.

73's
Richard Clark, KB7QHC

1080. Re: Parallel Lines?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 08:31:46 UTC
From: "James M. Potter" <jpotter@jpaw.com>
Message-ID: <huh8s2tphptpks39q5vji1jvovtrapa3p2@4ax.com>
Source record: 46244

Good explanation.

You might add that this applies to coaxial libes whose fields do not
interact. For open wire line the picture is considerably different
because the eleccctric and magnetic fields overlap.

Jim

On Wed, 01 Jun 2005 07:50:06 -0500, Cecil Moore <w5dxp@hotmail.com>
wrote:

>Asimov wrote:
>> This is a hypothetical question, if one needs to send more power down
>> a line than its capacity can 2 or more lines be paralleled? Is the
>> equivalent characteristic impedance of the combined lines the same as
>> that of a single individual line?
>
>Let's say we parallel two pieces of lossless 50 ohm coax such
>that the voltages at the load (V1 and V2) are equal magnitude
>and phase. The currents at the load (I1 and I2) will be equal
>magnitude and phase.
>
>For matched line operation, V1/I1 = V2/I2 = 50 ohms.
>Pload = (V1*I1)+(V2*I2) = 2*(V1*I1)
>Vload = V1 = V2
>Iload = I1 + I2
>Rload *for matched line operation* = V1/(I1+I2) = V1/(2*I1).
>Rload = 1/2(V1/I1) = 50/2 = 25 ohms. So 25 ohms is the
>equivalent Z0 of two pieces of 50 ohm coax in *parallel*.
>
>Conversely, if you use one piece of 50 ohm coax going to the
>load and one piece of 50 ohm coax coming back from the load
>to achieve a shielded balanced feedline, the Z0 of that
>feedline is 2*Z0 = 100 ohms and the two lines are in *series*.

1081. Re: Parallel Lines?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 08:42:28 UTC
From: "James M. Potter" <jpotter@jpaw.com>
Message-ID: <a8i8s257nmj1ublvqn5v66l98u7rghll8g@4ax.com>
Source record: 46245

Good explanation.

I would like to add that this applies to coaxial cables only because the fields of the individual lines do not interact.

For parallel lines the situation is quite different due to the overlapping fields and much more difficult to calculate.

The calculation described rlate to a broad band impedance transformer that can easliy be made with coax. The coaxes are connected in parallel on one end and in series on the other. This yields a transformer from 25 ohms unbalanced to 100 ohms balance in the case of 50 ohm line.

It is necessary to make the impedance high for the currents that will flow on the shields. There are two ways to accomplish this. One is to wind the lines onto a ferrite core. The other is to coil the lines to form an air core inductor. The latter is the best approach for high power coax which is a bit big to wind on a core. Also it eliminates any issues of core heating and saturation effects.

73 de K9GXC, Jim

On Wed, 01 Jun 2005 07:50:06 -0500, Cecil Moore <w5dxp@hotmail.com> wrote:

>Asimov wrote:
>> This is a hypothetical question, if one needs to send more power down
>> a line than its capacity can 2 or more lines be paralleled? Is the
>> equivalent characteristic impedance of the combined lines the same as
>> that of a single individual line?
>
>Let's say we parallel two pieces of lossless 50 ohm coax such
>that the voltages at the load (V1 and V2) are equal magnitude
>and phase. The currents at the load (I1 and I2) will be equal
>magnitude and phase.
>
>For matched line operation, V1/I1 = V2/I2 = 50 ohms.
>Pload = (V1*I1)+(V2*I2) = 2*(V1*I1)
>Vload = V1 = V2
>Iload = I1 + I2
>Rload *for matched line operation* = V1/(I1+I2) = V1/(2*I1).
>Rload = 1/2(V1/I1) = 50/2 = 25 ohms. So 25 ohms is the
>equivalent Z0 of two pieces of 50 ohm coax in *parallel*.
>
>Conversely, if you use one piece of 50 ohm coax going to the

>load and one piece of 50 ohm coax coming back from the load
>to achieve a shielded balanced feedline, the Z0 of that
>feedline is 2*Z0 = 100 ohms and the two lines are in *series*.

1082. Re: help- Mobile 10meters on a jeep

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 12:25:44 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <cb%wh.6644$zH1.4578@newssvr29.news.prodigy.net>
Source record: 46246

KE5MBX wrote:
> Wow, that is some excellent information I didn't know.. that a 1/2
> wave antenna doesn't need a ground plane. I looked it up and sure
> enough, you're right! However, I'm sad to say that I really doubt
> Radio Shack sells a 1/2 wavelength antenna for either 10 or 11
> meters. The classic 102" whip, as I understand, is a 1/4 wavelength.
> For a second I even considered putting a 2.5-meter (16.4 ft) whip on
> my jeep, but I finally decided that really isn't practical. So, any
> opinions on the cophasing of two 1/4 waves?

I have a GMC pickup with a three magnet magmount on top
of the cab and I use Hamsticks for 20m-10m. There's hardly
any noticeable difference when I move that magmount to
the hood of the pickup. Why not use a three magnet mag-
mount on your Jeep hood with a 10m Hamstick?

Do you have a roll bar on the Jeep? Lots of Jeep drivers
mount their CB antennas in the middle of the roll bar.
--
73, Cecil http://www.w5dxp.com

1083. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 12:32:52 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <Uh%wh.6646$zH1.1562@newssvr29.news.prodigy.net>
Source record: 46247

Snoopy@BoiseSt.edu wrote:
> Cecil Moore wrote:
>
>> Snoopy@BoiseSt.edu wrote:
>>> hmmmm, thats not what I recall being told but would it work?
>>> one feed line?
>> A shorted 1/4WL 80m parallel stub will yield a
>> high impedance on 80m and a low impedance on 40m.
>> This is sometimes used with open-wire line to
>> achieve a match on both bands for a dipole that
>> is 1/2WL on 80m and 1WL on 40m. Also to open up
>> a 1WL 40m loop for use on 80m as a 1/2WL dipole.
>
> I have seen this before, but somehow I would have to be able to connect and
> unconnect the stub.

No you don't. The stub is a high impedance on 80m in
parallel with a low feedpoint impedance and therefore
has a negligible effect on 80m. It can be left in the
circuit.

The stub is a low impedance on 40m in parallel with
a high feedpoint impedance which lowers the SWR and
makes your transmitter happy. On 40m, the stub acts
as a low impedance load that eventually delivers most
of its stored energy to the high impedance antenna
(assuming the stub is made from low-loss transmission
line).
--
73, Cecil http://www.w5dxp.com

1084. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 13:12:24 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <YS%wh.41213$Gr2.25837@newssvr21.news.prodigy.net>
Source record: 46248

Richard Clark wrote:
> It was Lorentz that described time dilation (using the speed of light)
> in 1887 and formalized in 1899, and it was Poincarï¿½ who introduced
> this math in 1905, not Einstein.

It was Einstein who first recognized that the Lorentz
transforms actually applied to reality and were not
just another useful set of purely mathematical
transforms. If Lorentz and Poincare had recognized
that fact, they would have gotten credit for the
theory of relativity but guess who got the credit?
Hint: The guy who nailed down the speed of light as
an absolute in his relativity equations. Nowhere have
I ever read that the mathematicians, Lorentz or Poincare,
ever suspected that the speed of light in a vacuum was
a fixed absolute. That concept was left to a physicist.

>>> he "nailed it down" in his equations

> is an slur on Maxwell, Lamor, Lorentz, and Poincarï¿½'s contributions
> that predate Einstein by decades.

No slur intended or implied so it must be a mistaken
inference on your part. You obviously jumped to a wrong
conclusion and do not understand what I meant by "nailed
it down". If everything is relative, then nothing is
fixed. By declaring the speed of light in a vacuum to be
a fixed absolute, Einstein nailed down the cornerstone
of his theory. Relativity needed a reference nailed down.
Einstein nailed down the speed of light as that reference.
In my context, "set it in concrete" would be synonym for
"nailed it down". I do believe the speed of light in a
vacuum is set in concrete within the theory of relativity.

You are walking around a vacant lot and find a rope. You
want to experiment with waves using the rope. You "nail
down" one end of the rope and apply energy at the other
end. Are you slurring the inventors and/or manufacturers
of the rope? Please explain how.
--
73, Cecil http://www.w5dxp.com

1085. Advice for 75m Mobile Field Strength measurements

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 13:24:08 UTC
From: k1drw <k1drw@comcast.net>
Message-ID: <1170509048.239078.207990@a34g2000cwb.googlegroups.com>
Source record: 46249

Hello:
I am looking words of advice on conducting an informal exercise to evaluate performance of 75m mobile systems. I have done much reading of rec.radio.amateur.antenna threads and have learned much from Cecil, Reg, Keith, Roy, et al. The msg threads addressing how measurements were taken during past shootouts have been very helpful but equipment used in those events seem to be beyond my capabilities.

I am part of an ARES/RACES HF Mobile team. We are in the early stages of assembling our team and have conducted a couple of field exercises. I believe I adequately understand many of the issues related to operating 75m mobile and have concluded (from assessing our mobile configurations) that our systems are VERY compromised. As we conduct our EmComm field exercises we take the opportunity to experiment and make system adjustments that clearly improve performance. Primarily we are using 100w mobile hf rigs with 75m Hamsticks or Hustler resonators. We understand that the vehicle, the antenna, the ground, etc comprise the "System". One important note is that we are not focused on achieving DX communications. Our field of operations is primarily Groundwave within a tri-county area in Eastern Pa (many 600-700 ft ridges and valleys, heavily forrested), perhaps 100 miles max. We do use and experiment with NVIS (using restricted space configurations: tilted whip, Hamstick dipoles, etc) however, this query is relative to Groundwave.

I would like to add an occassional field exercise expressly for the purpose of measuring the performance of our systems (for improvement and detecting problems). We currently have no equipment for this purpose. One device I see advertised and would like some feedback on, is the MFJ-802 Field Strength Meter.

- Would the MFJ-802 be an adequate measuring device for our use ? Any caveats ?
- What test FIELD environment should we try to arrange (e.g. large empty parking lot, or a rural open field) ?
- When testing each vehicle, what space should separate it from other vehicles waiting to be tested ?
- Should the vehicle sit stationery, or be moving in a circle ?

Any suggestions offerred to assist with this effort will be sincerely appreciated.

regards,
Dennis, K1DRW

1086. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 13:37:19 UTC
From: Ian Jackson <IanJacksonRemoveThisBit@g3ohx.demon.co.uk>
Message-ID: <$hl1VhCPAJxFFwyT@g3ohx.demon.co.uk>
Source record: 46250

In message <Uh%wh.6646$zH1.1562@newssvr29.news.prodigy.net>, Cecil Moore
<mycall@hotmail.com> writes
>> I have seen this before, but somehow I would have to be able to
>>connect and
>> unconnect the stub.
>
>No you don't. The stub is a high impedance on 80m in
>parallel with a low feedpoint impedance and therefore
>has a negligible effect on 80m. It can be left in the
>circuit.
>
>The stub is a low impedance on 40m in parallel with
>a high feedpoint impedance which lowers the SWR and
>makes your transmitter happy. On 40m, the stub acts
>as a low impedance load that eventually delivers most
>of its stored energy to the high impedance antenna
>(assuming the stub is made from low-loss transmission
>line).

I don't understand that, Cecil. Yes, the stub will be a halfwave on 40m,
and therefore add a low impedance in parallel with the antenna
feedpoint. Depending on the exact resonant length of the stub, the
impedance will be either a very low value resistor, a low value
inductor, or a large value capacitor. None of these is going to help to
convert the resistive part of the input impedance of the antenna to
something around 50 ohms.

However, I suspect that what the matching arrangement actually consists
of a stub which is connected across the feeder AT SOME DISTANCE from the
antenna feedpoint. If the antenna feedpoint presents a high impedance on
40m, there will be a point at some distance (less than a quarterwave)
back along the feeder (towards the TX) where the resistive part of the
impedance (at that point) is 50 ohm, in parallel with a considerable
capacitive reactance. By choosing the correct length of stub and the
correct distance between the connection of the stub and the antenna
feedpoint, you can probably get a 'reasonable' match for both 80m and
40m.

If this IS the actual physical arrangement, it's time to get the Smith
Charts out!

Ian.
--

1087. Re: Advice for 75m Mobile Field Strength measurements

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 14:33:03 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <z21xh.41217$Gr2.40586@newssvr21.news.prodigy.net>
Source record: 46251

k1drw wrote:
> Any suggestions offerred to assist with this effort will be sincerely
> appreciated.

Palomar manufactured a PFS-1 Field Strength Meter
for awhile. You might be able to find a used one.
It works very well in the absence of other strong
signals.

But you can take advantage of what is known already.
A 75m hamstick is 12 dB down from a good center-
loaded bugcatcher or screwdriver. That's at least
2 S-units and maybe more. Hustler systems are 8 dB
down, more than one S-unit. One S-unit can make or
break an emergency communications.

Anyone serious about 75m emergency communications
should replace those dummy loads (hamsticks) with a
real antennas. :-) A well-designed, well-installed
bugcatcher or screwdriver system is hard to beat
on 75m.

Here's my 75m mobile antenna guaranteed to beat
the socks off of a hamstick:

http://www.w5dxp.com/mobscrew.jpg

It is a High Sierra HS-1600 with the optional RV
bottom section. It has a top hat with eight radials
two feet above the coil. The top hat is at a
height of about 10.5 feet above the ground. Watch
out for trees.
--
73, Cecil http://www.w5dxp.com

1088. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 14:50:34 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <_i1xh.51945$QU1.20541@newssvr22.news.prodigy.net>
Source record: 46252

Ian Jackson wrote:
> I don't understand that, Cecil. Yes, the stub will be a halfwave on 40m,
> and therefore add a low impedance in parallel with the antenna
> feedpoint. Depending on the exact resonant length of the stub, the
> impedance will be either a very low value resistor, a low value
> inductor, or a large value capacitor. None of these is going to help to
> convert the resistive part of the input impedance of the antenna to
> something around 50 ohms.

You're right, Ian. I was trying to apply the same
principles that causes the stub to turn a full-wave
40m loop into a 1/2WL 75m dipole and had a senior
moment. But that idea would work with RG-174. With
a 3 dB loss in the stub, the impedance looking into
the stub would be around 50 ohms. :-)
--
73, Cecil http://www.w5dxp.com

1089. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 15:35:40 UTC
From: Ian Jackson <IanJacksonRemoveThisBit@g3ohx.demon.co.uk>
Message-ID: <fSlNZdCMvKxFFwlX@g3ohx.demon.co.uk>
Source record: 46253

In message <_i1xh.51945$QU1.20541@newssvr22.news.prodigy.net>, Cecil
Moore <mycall@hotmail.com> writes
>Ian Jackson wrote:
>> I don't understand that, Cecil. Yes, the stub will be a halfwave on
>>40m, and therefore add a low impedance in parallel with the antenna
>>feedpoint. Depending on the exact resonant length of the stub, the
>>impedance will be either a very low value resistor, a low value
>>inductor, or a large value capacitor. None of these is going to help
>>to convert the resistive part of the input impedance of the antenna to
>>something around 50 ohms.
>
>You're right, Ian. I was trying to apply the same
>principles that causes the stub to turn a full-wave
>40m loop into a 1/2WL 75m dipole and had a senior
>moment. But that idea would work with RG-174. With
>a 3 dB loss in the stub, the impedance looking into
>the stub would be around 50 ohms. :-)

I'm not an antenna person, Cecil. Are you going to do the hono(u)rable
thing and calculate the dimensions?
Ian
--

1090. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 15:44:16 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <k52xh.57811$wc5.28273@newssvr25.news.prodigy.net>
Source record: 46254

Ian Jackson wrote:
> I'm not an antenna person, Cecil. Are you going to do the hono(u)rable
> thing and calculate the dimensions?

What I am lacking is the feedpoint impedance on 40m.
I'll try to get time to model the antenna.
--
73, Cecil http://www.w5dxp.com

1091. Re: Advice for 75m Mobile Field Strength measurements

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 16:12:13 UTC
From: nm5k@wt.net
Message-ID: <1170519133.763527.310720@h3g2000cwc.googlegroups.com>
Source record: 46255

On Feb 3, 7:24 am, "k1drw" <k...@comcast.net> wrote:

>
> - Would the MFJ-802 be an adequate measuring device for our use ? Any
> caveats ?

Almost any FS meter can be used as long as it's not overloaded and
saturated to a full peg reading on everything..
Also a distant receiver is ok as long as the signal is stable. Ground
wave is
usually pretty stable if you test quickly.

> - What test FIELD environment should we try to arrange (e.g. large
> empty parking lot, or a rural open field) ?

Doesn't matter, except I would use the same exact spot for every rig
tested. The only thing moving from field to lot, would effect the
ground
quality. The cdx of the ground doesn't really matter as long as each
rig is tested from the same spot. Improvement of the ground would
effect
all rigs equally.

> - When testing each vehicle, what space should separate it from other
> vehicles waiting to be tested ?

I would move and park each one in the same exact spot if I wanted
to be fairly accurate. Ground cdx could possibly change a few feet
away.
Or maybe not, but if I'm doing a test, I want things as equal as
possible.

> - Should the vehicle sit stationery, or be moving in a circle ?

I would sit it still. You are not measuring pattern. Just efficiency.
Any improvement in effeciency will effect all angles or directions
equally. No point in moving around, and could in fact degrade the test
if the ground changes under the vehicle.
MK

1092. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 16:31:55 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <%N2xh.41230$Gr2.2512@newssvr21.news.prodigy.net>
Source record: 46256

Ian Jackson wrote:
> I'm not an antenna person, Cecil. Are you going to do the hono(u)rable
> thing and calculate the dimensions?

I took a look at the Force 12 Sigma-80 and Sigma-40.
Nowhere do they say a Sigma-80 will work on 40m.

The Sigma antennas appear to be center-loaded vertical
dipoles with end hats as in the following fixed font.
FP is the feedpoint.

```
| |
| coil coil |
+-------------/////FP/////-------------+
| || |
| || |
```

I estimated the dimensions of the Sigma-80 from pictures
on the Force 12 web page. The center section is about
36 feet long and the end caps are about 22 feet long.
Plugging those values into EZNEC says that simply
shorting out the loading coils will make the antenna
resonant very close to 40m.
--
73, Cecil http://www.w5dxp.com

1093. Re: Best Books/Websites for Antenna Theory and Building Recommendations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 16:48:19 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <d33xh.16144$p%6.4370@bignews7.bellsouth.net>
Source record: 46257

"Caveat Lector" <CL@nowhere.com> wrote in message
news:h0Rwh.25227$Lx2.818@newsfe14.phx...
> Alain
> The ARRL Antenna Hand book is considered a standard
> http://www.arrl.org/catalog/?category=Antennas,+Transmission+Lines+%26+Propagation
>
> L. B. Cebik, W4RNL has a weath of antenna information - see URL:
> http://www.cebik.com/radio.html
>
> Lots of Antenna projects on the web (homebrew) at URL:
>
> http://ac6v.com/antprojects.htm
> This links to many other web sites -- kinda of a roundup of antenna web
> sites
>
> Also a very popular author of Antennas is William I. Orr -- His books can
> be found on Amazon.com
> http://www.amazon.com/W6Sai-Hf-Antenna-Handbook/dp/0943016150/sr=8-2/qid=1170463484/ref=
sr_1_2/102-5966852-2841725?ie=UTF8&s=books
>
> 73 and good radiating
> CL
>
>
> "Joaquin Tall" <opalockamishabob@'86DASPAMnetscape.net> wrote in message
> news:tfydnbr9O4IMEF7YnZ2dnUVZ_oOonZ2d@got.net...
>> Hello All,
>>
>> I have just gotten my tech license and am eager to get my station up and
>> running. I am starting on a shoestring; currently, I have no equipment
>> whatsoever and don't know what I should buy just yet. In absence of a
>> rig, I am now studying to pass my General license exam next month.
>>
>> I am very interested in building my own HF/VHF/UHF antennas. I've seen
>> the ARRL books, but I was hoping that you good folks might have some
>> favorite websites, book titles or magazine issues [old or new] that you'd
>> be willing to pass along that could get me started.
>>
>> Many thanks for taking the time to respond!
>>
>> 73's to you all!
>>
>> Alain...San Diego

>
>
Some elementary books have some strange explanations, this is because they are trying to explain something to someone who probably doesnt have the proper background yet.They are well meaning and are a great help at getting the novice on the air. One such mistake is calling a 4 ft long antenna that has a coil to make it resonate on the 10M band a "10M loaded 1/4 wavelength antenna" . Actually this would be an 1/8 wl antenna more or less. So watch out

Jimmie

1094. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 16:53:45 UTC
From: Ian Jackson <IanJacksonRemoveThisBit@g3ohx.demon.co.uk>
Message-ID: <6Bw0NUJZ4LxFFwQr@g3ohx.demon.co.uk>
Source record: 46258

In message <%N2xh.41230$Gr2.2512@newssvr21.news.prodigy.net>, Cecil Moore <mycall@hotmail.com> writes

```
>Ian Jackson wrote:
>> I'm not an antenna person, Cecil. Are you going to do the
>>hono(u)rable thing and calculate the dimensions?
>
>I took a look at the Force 12 Sigma-80 and Sigma-40.
>Nowhere do they say a Sigma-80 will work on 40m.
>
>The Sigma antennas appear to be center-loaded vertical
>dipoles with end hats as in the following fixed font.
>FP is the feedpoint.
>
>| |
>| coil coil |
>+-------------/////FP/////-------------+
>| || |
>| || |
>
>I estimated the dimensions of the Sigma-80 from pictures
>on the Force 12 web page. The center section is about
>36 feet long and the end caps are about 22 feet long.
>Plugging those values into EZNEC says that simply
>shorting out the loading coils will make the antenna
>resonant very close to 40m.
```

That's it then.
Connect a 80m quarterwave S/C stub (preferably twin feeder) across both coils (ie from the outer end to the outer end). That will leave the coils O/C on 80m and S/C the coils on 40m.
Should work!
Ian.
--

1095. Re: Advice for 75m Mobile Field Strength measurements

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 17:08:27 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <6m3xh.16150$p%6.5649@bignews7.bellsouth.net>
Source record: 46260

"k1drw" <k1drw@comcast.net> wrote in message
news:1170509048.239078.207990@a34g2000cwb.googlegroups.com...
> Hello:
> I am looking words of advice on conducting an informal exercise to
> evaluate performance of 75m mobile systems. I have done much reading
> of rec.radio.amateur.antenna threads and have learned much from Cecil,
> Reg, Keith, Roy, et al. The msg threads addressing how measurements
> were taken during past shootouts have been very helpful but equipment
> used in those events seem to be beyond my capabilities.
>
> I am part of an ARES/RACES HF Mobile team. We are in the early stages
> of assembling our team and have conducted a couple of field
> exercises. I believe I adequately understand many of the issues
> related to operating 75m mobile and have concluded (from assessing our
> mobile configurations) that our systems are VERY compromised. As we
> conduct our EmComm field exercises we take the opportunity to
> experiment and make system adjustments that clearly improve
> performance. Primarily we are using 100w mobile hf rigs with 75m
> Hamsticks or Hustler resonators. We understand that the vehicle, the
> antenna, the ground, etc comprise the "System". One important note
> is that we are not focused on achieving DX communications. Our field
> of operations is primarily Groundwave within a tri-county area in
> Eastern Pa (many 600-700 ft ridges and valleys, heavily forrested),
> perhaps 100 miles max. We do use and experiment with NVIS (using
> restricted space configurations: tilted whip, Hamstick dipoles, etc)
> however, this query is relative to Groundwave.
>
> I would like to add an occassional field exercise expressly for the
> purpose of measuring the performance of our systems (for improvement
> and detecting problems). We currently have no equipment for this
> purpose. One device I see advertised and would like some feedback on,
> is the MFJ-802 Field Strength Meter.
>
> - Would the MFJ-802 be an adequate measuring device for our use ? Any
> caveats ?
> - What test FIELD environment should we try to arrange (e.g. large
> empty parking lot, or a rural open field) ?
> - When testing each vehicle, what space should separate it from other
> vehicles waiting to be tested ?
> - Should the vehicle sit stationery, or be moving in a circle ?
>
> Any suggestions offerred to assist with this effort will be sincerely
> appreciated.
>

> regards,
> Dennis, K1DRW
>

One thing I would do is get a portable antennna, maybe one of those 30+ft fiberglass whips. Tried one of thes several years ago and could fairly reliably talk from Charlotte NC to Atlanta Ga using a freq near the 40M band. An antenna like this can be setup in just a few minutes. The antenna we used broke down into sections about 4 ft long so its something you could keep in the trunk of a sedan.

Jimmie

1096. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 17:09:10 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <Wk3xh.16110$ji1.884@newssvr12.news.prodigy.net>
Source record: 46259

Ian Jackson wrote:
> Cecil Moore <mycall@hotmail.com> writes

>> | |
>> | coil coil |
>> +-------------/////FP/////-------------+
>> | || |
>> | || |

> Connect a 80m quarterwave S/C stub (preferably twin feeder) across both
> coils (ie from the outer end to the outer end). That will leave the
> coils O/C on 80m and S/C the coils on 40m.

A somewhat weird looking modification for a center-fed
vertical antenna. I suppose the two stubs could double
as guy wires. I might be tempted to accomplish the switching
with a large open frame relay or two.
--
73, Cecil http://www.w5dxp.com

1097. Re: help- Mobile 10meters on a jeep

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 17:09:34 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <9n3xh.16151$p%6.13082@bignews7.bellsouth.net>
Source record: 46261

"KE5MBX" <nelson.blaha@gmail.com> wrote in message
news:1170477682.342050.52840@l53g2000cwa.googlegroups.com...
> On Feb 2, 9:35 pm, "Stefan Wolfe" <ste...@eml.com> wrote:
>> "KE5MBX" <nelson.bl...@gmail.com> wrote in message
>>
>> news:1170452620.169633.215710@l53g2000cwa.googlegroups.com...
>>
>> >I have been advised by some hams that the best way I can hope to do 10-
>> > meters on my jeep is to mount my antenna ON THE WINDSHIELD to get a
>> > good ground plane. I read somewhere since then that the primary
>> > reason for cophasing CB antennas on trucks is NOT to direct the gain
>> > front and back, but to even the ground plane as though the antenna
>> > were in the center of the truck. Could I achieve the same effect with
>> > my Jeep by cophasing antennas on either side of the jeep by the
>> > doors? Even better- could I do this diagonally across from one corner
>> > of my jeep to the other? I heard the further apart the antennas are,
>> > the better, and I'm not really trying to get front/back gain for DXing.
>>
>> What I did was purchase a 1/2 wave 11 meter whip from Radio shack and
>> trimmed it for 10m. Of course, for 1/2 wave you need not have a ground
>> plane, only a good ground point. I mounted it on the back bumper. It
>> worked
>> very well on my Warngler.
>
> Wow, that is some excellent information I didn't know.. that a 1/2
> wave antenna doesn't need a ground plane. I looked it up and sure
> enough, you're right! However, I'm sad to say that I really doubt
> Radio Shack sells a 1/2 wavelength antenna for either 10 or 11
> meters. The classic 102" whip, as I understand, is a 1/4 wavelength.
> For a second I even considered putting a 2.5-meter (16.4 ft) whip on
> my jeep, but I finally decided that really isn't practical. So, any
> opinions on the cophasing of two 1/4 waves?
>
IF they dont they used to.

1098. Re: help- Mobile 10meters on a jeep

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 17:16:48 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <Wt3xh.16152$p%6.10824@bignews7.bellsouth.net>
Source record: 46262

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:cb%wh.6644$zH1.4578@newssvr29.news.prodigy.net...
> KE5MBX wrote:
>> Wow, that is some excellent information I didn't know.. that a 1/2
>> wave antenna doesn't need a ground plane. I looked it up and sure
>> enough, you're right! However, I'm sad to say that I really doubt
>> Radio Shack sells a 1/2 wavelength antenna for either 10 or 11
>> meters. The classic 102" whip, as I understand, is a 1/4 wavelength.
>> For a second I even considered putting a 2.5-meter (16.4 ft) whip on
>> my jeep, but I finally decided that really isn't practical. So, any
>> opinions on the cophasing of two 1/4 waves?
>
> I have a GMC pickup with a three magnet magmount on top
> of the cab and I use Hamsticks for 20m-10m. There's hardly
> any noticeable difference when I move that magmount to
> the hood of the pickup. Why not use a three magnet mag-
> mount on your Jeep hood with a 10m Hamstick?
>
> Do you have a roll bar on the Jeep? Lots of Jeep drivers
> mount their CB antennas in the middle of the roll bar.
> --
> 73, Cecil http://www.w5dxp.com

When I had my CJ I had a CB antenna mounted on a ball mount back behind the
rear wheel well.

1099. Re: Best Books/Websites for Antenna Theory and Building Recommendations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 17:18:21 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <xt3xh.16185$ji1.3587@newssvr12.news.prodigy.net>
Source record: 46263

Jimmie D wrote:
> One such mistake is calling a 4 ft long antenna that
> has a coil to make it resonate on the 10M band a "10M
> loaded 1/4 wavelength antenna".

They should be more careful and specify that they are
talking about electrical lengths, not physical lengths.

For instance, the following stub is electrically 90
degrees long even though it is physically only 38
degrees long.

1/4WL stub
------------------+--------
27 deg, Z0=500 11 deg, Z0=50

Incidentally, this is how a loaded antenna can be
90 degrees long electrically while being physically
much shorter than 90 degrees.
--
73, Cecil http://www.w5dxp.com

1100. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 17:35:30 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <e8h9s2pb4salmv6gbn63ulm7je8ia7aku8@4ax.com>
Source record: 46264

On Sat, 03 Feb 2007 13:12:24 GMT, Cecil Moore <mycall@hotmail.com>
wrote:

-Sigh- Special relativity cowboy rope tricks snipped....

>You are walking around a vacant lot and find a rope. You
>want to experiment with waves using the rope.

No one expects the Spanish Inquisition! Whip your rope twice and you
are forgiven, whip your rope more and you are sinning.

1101. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 17:42:46 UTC
From: Ian Jackson <IanJacksonRemoveThisBit@g3ohx.demon.co.uk>
Message-ID: <uwzhx8RWmMxFFwhq@g3ohx.demon.co.uk>
Source record: 46265

In message <Wk3xh.16110$ji1.884@newssvr12.news.prodigy.net>, Cecil Moore
<mycall@hotmail.com> writes
>Ian Jackson wrote:
>> Cecil Moore <mycall@hotmail.com> writes
>
>>> | |
>>> | coil coil |
>>> +-------------/////FP/////-------------+
>>> | || |
>>> | || |
>
>> Connect a 80m quarterwave S/C stub (preferably twin feeder) across
>>both coils (ie from the outer end to the outer end). That will leave
>>the coils O/C on 80m and S/C the coils on 40m.
>
>A somewhat weird looking modification for a center-fed
>vertical antenna. I suppose the two stubs could double
>as guy wires. I might be tempted to accomplish the switching
>with a large open frame relay or two.

From the original ASCII diagram, it isn't too clear what the
configuration is. Is it actually a 'single-ended' vertical version of
your diagram above of the horizontal balanced antenna? The two loading
coils (original diagram) would in series on 80m, with the stub shorting
out the lower one on 40m. This would enable freer adjustments of the
resonances of the antenna on the two bands. It would also help explain
the original description that the stub was connected 'across the
feedpoint' (although it isn't).
Ian.
--

1102. Re: help- Mobile 10meters on a jeep

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 18:02:09 UTC
From: Fred McKenzie <fmmck@aol.com>
Message-ID: <fmmck-68A007.13020903022007@nntp.aioe.org>
Source record: 46266

In article <cb%wh.6644$zH1.4578@newssvr29.news.prodigy.net>,
Cecil Moore <mycall@hotmail.com> wrote:

> Do you have a roll bar on the Jeep? Lots of Jeep drivers
> mount their CB antennas in the middle of the roll bar.

If the roll bar is thick enough, you can drill and tap it to mount the whip directly. Then use a gamma match so you don't have to worry about insulating the mount.

Fred
K4DII

1103. Re: Advice for 75m Mobile Field Strength measurements

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 18:08:41 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <vni9s2h19unv683lhcfvl8eeuu5dmihc9n@4ax.com>
Source record: 46267

On 3 Feb 2007 05:24:08 -0800, "k1drw" <k1drw@comcast.net> wrote:

>- Would the MFJ-802 be an adequate measuring device for our use ? Any
>caveats ?

Hi Dennis,

Only that its purchase may be to lend the appearance of credibility beyond the instrument's capacity to deliver it. This instrument, as it should be, is dirt-simple to construct; and for your purposes should have a digital readout. You can achieve the same thing by using a DVM connected to the meter's terminals, but by that time you could as easily build a detector box with DVM pin jacks and an antenna connector.

>- What test FIELD environment should we try to arrange (e.g. large
>empty parking lot, or a rural open field) ?

As others point out, consistency in testing is paramount. All those tested will suffer/benefit equally under same conditions.

>- When testing each vehicle, what space should separate it from other
>vehicles waiting to be tested ?

Where do you want to aim the signal? Think about it, you have an array of antennas, one driven and the rest parasitic and parked nearby. Does this remind you of something? Does spacing and proximity count? Same admonition applies if you have the test group near your detector antenna.

Think in terms of wavelength. Stay out of near fields.

>- Should the vehicle sit stationery, or be moving in a circle ?

As long as you are as far away so as to not perceive the shift in signal strength on the basis of path length variation. Is a 30 foot turning radius tested 300 feet away going to matter? Terrain may have some bearing here.

A dry run is encouraged.

73's
Richard Clark, KB7QHC

1104. Re: help- Mobile 10meters on a jeep

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 18:16:44 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <sbk9s210hqs5bbg33csctm62kfejd7pae9@4ax.com>
Source record: 46268

On Sat, 03 Feb 2007 13:02:09 -0500, Fred McKenzie <fmmck@aol.com>
wrote:

>If the roll bar is thick enough, you can drill and tap it to mount the
>whip directly. Then use a gamma match so you don't have to worry about
>insulating the mount.

Hi Fred,

Gamma match the roll bar.

73's
Richard Clark, KB7QHC

1105. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 18:43:11 UTC
From: Snoopy@BoiseSt.edu
Message-ID: <E-SdnZW4Wt-TSlnYnZ2dnUVZ_v_inZ2d@hawaiiantel.net>
Source record: 46269

Cecil Moore wrote:

> Ian Jackson wrote:
>> I'm not an antenna person, Cecil. Are you going to do the hono(u)rable
>> thing and calculate the dimensions?
>
> I took a look at the Force 12 Sigma-80 and Sigma-40.
> Nowhere do they say a Sigma-80 will work on 40m.

I did say modified and similar. I also stated that the top horizontal
portion was now vertical.

>
> The Sigma antennas appear to be center-loaded vertical
> dipoles with end hats as in the following fixed font.
> FP is the feedpoint.

this one ia asymmetrical feed about 6 ft off the ground which I also
mentioned previously.

>
> | |
> | coil coil |
> +-------------/////FP/////-------------+
> | || |
> | || |
>
> I estimated the dimensions of the Sigma-80 from pictures
> on the Force 12 web page. The center section is about
> 36 feet long and the end caps are about 22 feet long.
> Plugging those values into EZNEC says that simply
> shorting out the loading coils will make the antenna
> resonant very close to 40m.

--
I SPILLED SPOT REMOVER ON MY DOG.............AND NOW HES GONE!!

1106. Re: Advice for 75m Mobile Field Strength measurements

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 18:43:18 UTC
From: You <You@shadow.orgs>
Message-ID: <You-7FBAAD.09435303022007@netnews.worldnet.att.net>
Source record: 46270

In article <1170509048.239078.207990@a34g2000cwb.googlegroups.com>,
"k1drw" <k1drw@comcast.net> wrote:

> Hello:
> I am looking words of advice on conducting an informal exercise to
> evaluate performance of 75m mobile systems. I have done much reading
> of rec.radio.amateur.antenna threads and have learned much from Cecil,
> Reg, Keith, Roy, et al. The msg threads addressing how measurements
> were taken during past shootouts have been very helpful but equipment
> used in those events seem to be beyond my capabilities.
>
> I am part of an ARES/RACES HF Mobile team. We are in the early stages
> of assembling our team and have conducted a couple of field
> exercises. I believe I adequately understand many of the issues
> related to operating 75m mobile and have concluded (from assessing our
> mobile configurations) that our systems are VERY compromised. As we
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> experiment and make system adjustments that clearly improve
> performance. Primarily we are using 100w mobile hf rigs with 75m
> Hamsticks or Hustler resonators. We understand that the vehicle, the
> antenna, the ground, etc comprise the "System". One important note
> is that we are not focused on achieving DX communications. Our field
> of operations is primarily Groundwave within a tri-county area in
> Eastern Pa (many 600-700 ft ridges and valleys, heavily forrested),
> perhaps 100 miles max. We do use and experiment with NVIS (using
> restricted space configurations: tilted whip, Hamstick dipoles, etc)
> however, this query is relative to Groundwave.
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> I would like to add an occassional field exercise expressly for the
> purpose of measuring the performance of our systems (for improvement
> and detecting problems). We currently have no equipment for this
> purpose. One device I see advertised and would like some feedback on,
> is the MFJ-802 Field Strength Meter.
>
> - Would the MFJ-802 be an adequate measuring device for our use ? Any
> caveats ?
> - What test FIELD environment should we try to arrange (e.g. large
> empty parking lot, or a rural open field) ?
> - When testing each vehicle, what space should separate it from other
> vehicles waiting to be tested ?
> - Should the vehicle sit stationery, or be moving in a circle ?
>
> Any suggestions offerred to assist with this effort will be sincerely
> appreciated.

>
> regards,
> Dennis, K1DRW
>

If you really want to get yourself a better antenna, you should look
at a Ballon Elevated Longwire, and use your Portable MF/HF Stations to
connect VHF/UHF Mobile Stations together in a network, to cover your
Service Area. Mobile MF/HF from vehicals is ALWAYS going to have a
compromised antenna, and VHF/UHF Mobiles and Handhelds are significantly
less powerhungry, and can cover large chunks of country, and report
back to a centrally located, designated High Point Elevated MF/HF
Portable Station, where antennas with less compromised parameters
can be employed, to communicate between local VHF/UHF Groups.
This approch isn't Rocket Science, and has been well thought out for
such purposes, by folks that design Comm's Systems to actually work.....

1107. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 18:46:25 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <5M4xh.3279$MN.1259@newssvr23.news.prodigy.net>
Source record: 46271

Ian Jackson wrote:
> From the original ASCII diagram, it isn't too clear what the
> configuration is.

As I understand it, the antenna under discussion is like
the Sigma-80 except the top hat is omitted and the upper
element is instead extended upward - like this.

```
|
coil coil |
---------------------/////FP/////-------------+
|| |
|| |
```

So I'm assuming whatever works for the Sigma-80
will work for this antenna.
--
73, Cecil http://www.w5dxp.com

1108. Re: help- Mobile 10meters on a jeep

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 18:47:26 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <0N4xh.3280$MN.233@newssvr23.news.prodigy.net>
Source record: 46272

Fred McKenzie wrote:
> If the roll bar is thick enough, you can drill and tap it to mount the
> whip directly. Then use a gamma match so you don't have to worry about
> insulating the mount.

Just don't touch the roll bar. :-)
--
73, Cecil http://www.w5dxp.com

1109. Re: help- Mobile 10meters on a jeep

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 19:33:25 UTC
From: KE5MBX <nelson.blaha@gmail.com>
Message-ID: <1170531205.305515.5450@a34g2000cwb.googlegroups.com>
Source record: 46273

On Feb 3, 12:47 pm, Cecil Moore <myc...@hotmail.com> wrote:
> Fred McKenzie wrote:
> > If the roll bar is thick enough, you can drill and tap it to mount the
> > whip directly. Then use a gamma match so you don't have to worry about
> > insulating the mount.
>
> Just don't touch the roll bar. :-)
> --
> 73, Cecil http://www.w5dxp.com

Thanks for all the ideas guys. I'm still really interested in the
cophasing thing. I have mounted a CB whip on the roll bar before, but
it has two disadvantages: Extreme height of the antenna and the
inability to close the soft top while the antenna's up. Could I not
cophase diagonally and therefore center the patten ?

1110. Re: help- Mobile 10meters on a jeep

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 20:02:07 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <3T5xh.24599$yC5.19156@newssvr27.news.prodigy.net>
Source record: 46274

KE5MBX wrote:
> I'm still really interested in the
> cophasing thing. I have mounted a CB whip on the roll bar before, but
> it has two disadvantages: Extreme height of the antenna and the
> inability to close the soft top while the antenna's up. Could I not
> cophase diagonally and therefore center the patten ?

First a few thoughts. Co-phasing doubles the cost of
the antenna without outperforming a single whip (unless
the elements are separated by 1/4WL or more). So
why not a magmount on the hood with a single whip?
That would be my solution but I'm not very "cool". :-)
My contacts could not tell the difference between the
magmount on the roof of my pickup Vs on my hood.

Phasing would work best front-to-back. With 135 degree
phasing in elements separated by 1/8WL, a whopping 4 dB
gain is possible switchable from front to back. If 1/4WL
spacing is possible, bidirectional front and back gain
of 3.5 dB is possible with 180 degree phasing. If I were
driving an 18 wheeler, this is what I would do. Changing
the phasing to 90 degrees would give me a front or back
vertical beam.

There's no reason why your co-phasing idea will not work.
The feedpoint impedance of the two elements in parallel
will be 1/2 of the impedance of each element transformed
by the length of coax chosen. If you put the coax 'T' 1/4WL
back from each element, the impedance at that point should
be close to the feedpoint impedance of each element (assuming
35 ohms).
--
73, Cecil http://www.w5dxp.com

1111. Re: Advice for 75m Mobile Field Strength measurements

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 20:07:32 UTC
From: chuck <nospam@nospam.org>
Message-ID: <1170533310_23203@sp6iad.superfeed.net>
Source record: 46275

k1drw wrote:
> Hello:
> I am looking words of advice on conducting an informal exercise to
> evaluate performance of 75m mobile systems. I have done much reading
> of rec.radio.amateur.antenna threads and have learned much from Cecil,
> Reg, Keith, Roy, et al. The msg threads addressing how measurements
> were taken during past shootouts have been very helpful but equipment
> used in those events seem to be beyond my capabilities.
>
> I am part of an ARES/RACES HF Mobile team. We are in the early stages
> of assembling our team and have conducted a couple of field
> exercises. I believe I adequately understand many of the issues
> related to operating 75m mobile and have concluded (from assessing our
> mobile configurations) that our systems are VERY compromised. As we
> conduct our EmComm field exercises we take the opportunity to
> experiment and make system adjustments that clearly improve
> performance. Primarily we are using 100w mobile hf rigs with 75m
> Hamsticks or Hustler resonators. We understand that the vehicle, the
> antenna, the ground, etc comprise the "System". One important note
> is that we are not focused on achieving DX communications. Our field
> of operations is primarily Groundwave within a tri-county area in
> Eastern Pa (many 600-700 ft ridges and valleys, heavily forrested),
> perhaps 100 miles max. We do use and experiment with NVIS (using
> restricted space configurations: tilted whip, Hamstick dipoles, etc)
> however, this query is relative to Groundwave.
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> I would like to add an occassional field exercise expressly for the
> purpose of measuring the performance of our systems (for improvement
> and detecting problems). We currently have no equipment for this
> purpose. One device I see advertised and would like some feedback on,
> is the MFJ-802 Field Strength Meter.
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> - Would the MFJ-802 be an adequate measuring device for our use ? Any
> caveats ?
> - What test FIELD environment should we try to arrange (e.g. large
> empty parking lot, or a rural open field) ?
> - When testing each vehicle, what space should separate it from other
> vehicles waiting to be tested ?
> - Should the vehicle sit stationery, or be moving in a circle ?
>
> Any suggestions offerred to assist with this effort will be sincerely
> appreciated.
>
> regards,

> Dennis, K1DRW
>

If the option is available to you, consider choosing a meter with an external antenna connected through a coax connector. By placing a calibrated attenuator between the antenna and the meter, you can readily obtain resolution and repeatability approaching 1 dB. When coupled with a DMM, as Richard Clark suggested, you will have very effective instrumentation.

If you rely instead only on the meter dial, most likely calibrated in volts, your measurements will be affected by circuit and meter nonlinearities and the need to convert voltage readings into dB.

Good luck,

Chuck
NT3G

-----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

1112. Re: help- Mobile 10meters on a jeep

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 20:35:06 UTC
From: KE5MBX <nelson.blaha@gmail.com>
Message-ID: <1170534906.402754.56920@m58g2000cwm.googlegroups.com>
Source record: 46126

On Feb 3, 2:02 pm, Cecil Moore <myc...@hotmail.com> wrote:
> KE5MBX wrote:
> > I'm still really interested in the
> > cophasing thing. I have mounted a CB whip on the roll bar before, but
> > it has two disadvantages: Extreme height of the antenna and the
> > inability to close the soft top while the antenna's up. Could I not
> > cophase diagonally and therefore center the patten ?
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> First a few thoughts. Co-phasing doubles the cost of
> the antenna without outperforming a single whip (unless
> the elements are separated by 1/4WL or more). So
> why not a magmount on the hood with a single whip?
> That would be my solution but I'm not very "cool". :-)
> My contacts could not tell the difference between the
> magmount on the roof of my pickup Vs on my hood.
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> gain is possible switchable from front to back. If 1/4WL
> spacing is possible, bidirectional front and back gain
> of 3.5 dB is possible with 180 degree phasing. If I were
> driving an 18 wheeler, this is what I would do. Changing
> the phasing to 90 degrees would give me a front or back
> vertical beam.
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> There's no reason why your co-phasing idea will not work.
> The feedpoint impedance of the two elements in parallel
> will be 1/2 of the impedance of each element transformed
> by the length of coax chosen. If you put the coax 'T' 1/4WL
> back from each element, the impedance at that point should
> be close to the feedpoint impedance of each element (assuming
> 35 ohms).
> --
> 73, Cecil http://www.w5dxp.com

Excellent.. If I put my antennas on opposite corners of the Jeep as I was thinking, I find that they will be 4.2 meters apart. I promise to go home and see what the ARRL handbook says about cophasing, but I only understood what you just told me partially. Are you describing a way to get better front/back gain from a system with one antenna in front and one in back, as opposed to the conventional "trucker" setup? I have no particular use for directional gain on 10 meters, by the way.

I know a lot of people are reluctant to do the superior front-to-back cophasing because it looks goofy, but I can assure I'm not interested in being "cool" either! I want the most efficient 10-m operation I can get out of a Jeep Wrangler.

1113. element 4 test

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 21:59:45 UTC
From: merlin-7 <merlin-7@sc.rr.com>
Message-ID: <45c50612$0$9437$4c368faf@roadrunner.com>
Source record: 46127

I passed my element 4 test today!

I just had to tell someone!

Ki4ilb

1114. Re: element 4 test

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-03 22:24:37 UTC
From: Caveat Lector <CL@nowhere.com>
Message-ID: <EY7xh.44823$Ej7.17725@newsfe15.phx>
Source record: 46128

"merlin-7" <merlin-7@sc.rr.com> wrote in message
news:45c50612$0$9437$4c368faf@roadrunner.com...
> I passed my element 4 test today!
>
> I just had to tell someone!
>
> Ki4ilb

Hey congrads Joe -- way to go. You now have full band privileges -- lots of DX lurking in the extra band.

CL

1115. On 144MHz J-Pole vs EDZ - Some mad ramblings.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 00:29:41 UTC
From: Bob Bob <bob3bob3@suddenlink.net>
Message-ID: <m0mf94-qms.ln1@p400bob.personal.cox.net>
Source record: 46129

Hi NG

I am in the throes of building an omni for 2m and am trying to decide between a "super jpole" and an extended double zepp. I have more or less gone for 5/8 over 5/8 radiators with a center "hairpin" phasing section.

The J-Pole is of course fed through the usual "hairpin" arrangement at the bottom of the antenna. The EDZ at the center phasing/hairpin section.

Okay so here are the questions/thoughts.

- I don't mind mind mounting on the side of the mast. The whole thing will eventually be rotatable and the mast itself might be a useful reflector for a few more dB of fwd gain. This also makes the EDZ reasonably easy to feed.

- I know of the issues with radiating feedline and pattern lifting for the jpole. Wondering if a 4:1 coaxial balun would resolve this and also give a wider VSWR bandwidth?

- I also note the J-Pole hairpin/matching section is never quite balanced as the load Z at the connected vs non connected ends skews it some. (From cebik) To my mind this has two thoughts, is it worth skewing the feed point (eg one side of the feedpoint 1/2" below the other) and does (static/lighting) grounding the supposed electrically neutral point affect the efficiency/pattern of the thing.

- Wondering if feeding from one end results in ohmic losses reducing the radiation from the upper element. Thus skewing the pattern undesirably upwards. I heard this use to be a big problem with early UHF coaxial collinear antennas. Mounting upside down was supposedly a good fix!

- I had thought for ages that skying radiation from ground effects is actually a function of the amount of radiation that goes at a downwards angle. (ie a perfect antenna is one that doesn't radiate below the "horizon" in free space) If one uses a 5/8 element for the antenna's mentioned above the normal high lobe one gets might contribute to this problem. In other words is it better to (say) use 3x1/2 wave rather than 2x5/8 wave elements in either an EDZ or JPole setup. (I'll be modeling this for my own interest but would appreciate feedback)

- This of course begs the question as to whether one should even be concerned about ground reflection on 2m with a 30ft mast!

This topic can of course be very exhausting. In my case though it is more to decide which device to build.

Tnxs for any thoughts and ideas.

Bob W5/VK2YQA

1116. Re: On 144MHz J-Pole vs EDZ - Some mad ramblings.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 01:52:08 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <r2eas21ht3ei84dn6fp50ra64ngh129q8i@4ax.com>
Source record: 46130

On Sat, 03 Feb 2007 18:29:41 -0600, Bob Bob <bob3bob3@suddenlink.net>
wrote:

>- I know of the issues with radiating feedline and pattern lifting for
>the jpole. Wondering if a 4:1 coaxial balun would resolve this and also
>give a wider VSWR bandwidth?

Hi Bobï¿½,

Nope. The width is determined by Q. Pattern is determined by
physical vs. electrical size. Neither of those is dependent on a
BalUn. Now a BalUn as Choke may aid in pattern; and this is the
conventional failing point for J-poles. As for using a 4:1, what for?
Isn't the J-pole designed for a match already? If not, go a more
conventional route.

>- I also note the J-Pole hairpin/matching section is never quite
>balanced as the load Z at the connected vs non connected ends skews it
>some. (From cebik) To my mind this has two thoughts, is it worth skewing
>the feed point (eg one side of the feedpoint 1/2" below the other) and

Skewing, as you use it, is somewhat ambiguous. Moving the tap will
move the match, not the balance. Further, it will probably increase
what you perceive to be a problem.

>does (static/lighting) grounding the supposed electrically neutral point
>affect the efficiency/pattern of the thing.

It is actually, electrically grounded. Being neutral is a condition
of wavelength and distance. The combination of those two find a point
that is insensitive to attachment (there are folded dipoles that mount
this way).

>- Wondering if feeding from one end results in ohmic losses reducing the
>radiation from the upper element.

Ohmic losses will remain regardless of where you excite an antenna.
That is, unless you remove the loss. You don't say how you accomplish
THAT by moving the feed.

>Thus skewing the pattern undesirably upwards.

A different skewing I see.

>I heard this use to be a big problem with early UHF coaxial
>collinear antennas. Mounting upside down was supposedly a good fix!

Yeh, sure.

>- I had thought for ages that skying radiation from ground effects is

Skying? More skewing? Ground "effects?" An air dam for the bumper
of your antenna?

>actually a function of the amount of radiation that goes at a downwards
>angle. (ie a perfect antenna is one that doesn't radiate below the
>"horizon" in free space)

Umm, perhaps.

>If one uses a 5/8 element for the antenna's
>mentioned above the normal high lobe one gets might contribute to this
>problem.

5/8ths antennas were never built for problems, how did they suddenly
arrive at this juncture?

>In other words is it better to (say) use 3x1/2 wave rather than
>2x5/8 wave elements in either an EDZ or JPole setup. (I'll be modeling
>this for my own interest but would appreciate feedback)

No. They are two distinctly different antennas. Note that 12/8ths
does not equal 10/8ths. Note even remotely.

>- This of course begs the question as to whether one should even be
>concerned about ground reflection on 2m with a 30ft mast!

Concerned? You sure have your priorities mixed. Maybe you should
dive right into modeling and resolve this through lifting a simpler
antenna through various elevations to find out what the consequences
are. They are many and varied.

73's
Richard Clark, KB7QHC

1117. Re: Advice for 75m Mobile Field Strength measurements

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 01:55:48 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98CD839078239nonenowhere@61.9.191.5>
Source record: 46131

"k1drw" <k1drw@comcast.net> wrote in news:1170509048.239078.207990
@a34g2000cwb.googlegroups.com:

> Hello:
> I am looking words of advice on conducting an informal exercise to
> evaluate performance of 75m mobile systems. I have done much reading
> of rec.radio.amateur.antenna threads and have learned much from Cecil,
> Reg, Keith, Roy, et al. The msg threads addressing how measurements
> were taken during past shootouts have been very helpful but equipment
> used in those events seem to be beyond my capabilities.

I am aware that the traditional method of comparing mobile whips is by some form of field strength measurement near to the transmitter antenna. The measurement needs to be performed sufficiently far from the antena to be in the "radiation far field" zone for meaningful results... but is still potentially affected by the nearby environment (ground, structures etc), and is a measurement of performance at near zero elevation.

I did some thinking on a more meaningful end-to-end test, and described a technique at http://www.vk1od.net/lost/mobiletest/index.htm , which may be of interest.

>
> I am part of an ARES/RACES HF Mobile team. We are in the early stages
> of assembling our team and have conducted a couple of field
> exercises. I believe I adequately understand many of the issues
> related to operating 75m mobile and have concluded (from assessing our
> mobile configurations) that our systems are VERY compromised. As we
> conduct our EmComm field exercises we take the opportunity to
> experiment and make system adjustments that clearly improve
> performance. Primarily we are using 100w mobile hf rigs with 75m
> Hamsticks or Hustler resonators. We understand that the vehicle, the
> antenna, the ground, etc comprise the "System". One important note
> is that we are not focused on achieving DX communications. Our field
> of operations is primarily Groundwave within a tri-county area in
> Eastern Pa (many 600-700 ft ridges and valleys, heavily forrested),
> perhaps 100 miles max. We do use and experiment with NVIS (using
> restricted space configurations: tilted whip, Hamstick dipoles, etc)
> however, this query is relative to Groundwave.
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> I would like to add an occassional field exercise expressly for the
> purpose of measuring the performance of our systems (for improvement
> and detecting problems). We currently have no equipment for this
> purpose. One device I see advertised and would like some feedback on,
> is the MFJ-802 Field Strength Meter.

As far as I can understand from its meagre online manual, it is an e-field probe (at low frequencies), and uncalibrated.

I have peformed some field strength measurements using an untuned small square loop, with balun and (50 ohm) crystal detector feeding a digital multimeter. Knowing the Antenna Factor of the loop from NEC models (http://www.vk1od.net/SmallUntunedSquareLoop/ssulNEC.htm) and having a measured the crystal detector DC output vs RF input, I was able to make measurments of absolute field strength which reconciled with other (albeit non-traceable) measurements and modelled expectations. I am working on a development of this kit that uses a LCD panel meter / diode detector / termination for a self contained portable field strength meter. Another variation being considered is using a log detector IC (DC - ~500MHz) for the termination / detector.

Anyway, it may be of interest.

As for calculating efficiency, won't you need to integrate the power flux density over the hemisphere... a much bigger task than making FS measurements on the ground at a hundred paces.

Owen

1118. Re: Thread gone astray was Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 02:52:40 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <YTbxh.46588$qt.4069@bignews5.bellsouth.net>
Source record: 46132

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:qFSwh.24482$yC5.15919@newssvr27.news.prodigy.net...
> Richard Clark wrote:
>> The world waits in wonder at your assertion of Einstein's ability to
>> set the speed of light and time - especially when it had been
>> investigated and quantified by many earlier workers, notably Michelson
>> and Morely.
>
> Please Google "relativity" and "Lorentz transforms"
> for the technical facts as presented by Einstein.
> --
> 73, Cecil http://www.w5dxp.com

Einstien contribution was that he made the connection between matter and
energy. The fact that the speed of light appeared to be constant regardless
of the observers reference was already fairly well established before
Einstien began his work. He just proposed a possible explanation

1119. Re: help- Mobile 10meters on a jeep

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 03:06:17 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <J4cxh.46590$qt.18131@bignews5.bellsouth.net>
Source record: 46133

"KE5MBX" <nelson.blaha@gmail.com> wrote in message
news:1170534906.402754.56920@m58g2000cwm.googlegroups.com...
> On Feb 3, 2:02 pm, Cecil Moore <myc...@hotmail.com> wrote:
>> KE5MBX wrote:
>> > I'm still really interested in the
>> > cophasing thing. I have mounted a CB whip on the roll bar before, but
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>> the antenna without outperforming a single whip (unless
>> the elements are separated by 1/4WL or more). So
>> why not a magmount on the hood with a single whip?
>> That would be my solution but I'm not very "cool". :-)
>> My contacts could not tell the difference between the
>> magmount on the roof of my pickup Vs on my hood.
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>> Phasing would work best front-to-back. With 135 degree
>> phasing in elements separated by 1/8WL, a whopping 4 dB
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>> There's no reason why your co-phasing idea will not work.
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>> be close to the feedpoint impedance of each element (assuming
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>> 73, Cecil http://www.w5dxp.com
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> Excellent.. If I put my antennas on opposite corners of the Jeep as I
> was thinking, I find that they will be 4.2 meters apart. I promise to
> go home and see what the ARRL handbook says about cophasing, but I
> only understood what you just told me partially. Are you describing a
> way to get better front/back gain from a system with one antenna in
> front and one in back, as opposed to the conventional "trucker"
> setup? I have no particular use for directional gain on 10 meters, by

> the way.
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> I know a lot of people are reluctant to do the superior front-to-back
> cophasing because it looks goofy, but I can assure I'm not interested
> in being "cool" either! I want the most efficient 10-m operation I
> can get out of a Jeep Wrangler.
>

Just go with one antenna.

1120. Re: Advice for 75m Mobile Field Strength measurements

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 03:44:28 UTC
From: Jerry <joxendi@bellsouth.net>
Message-ID: <Szwxh.46084$jA.27946@bignews1.bellsouth.net>
Source record: 46162

"k1drw" <k1drw@comcast.net> wrote in message
news:1170509048.239078.207990@a34g2000cwb.googlegroups.com...
> Hello:
> I am looking words of advice on conducting an informal exercise to
> evaluate performance of 75m mobile systems. I have done much reading
> of rec.radio.amateur.antenna threads and have learned much from Cecil,
> Reg, Keith, Roy, et al. The msg threads addressing how measurements
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> experiment and make system adjustments that clearly improve
> performance. Primarily we are using 100w mobile hf rigs with 75m
> Hamsticks or Hustler resonators. We understand that the vehicle, the
> antenna, the ground, etc comprise the "System". One important note
> is that we are not focused on achieving DX communications. Our field
> of operations is primarily Groundwave within a tri-county area in
> Eastern Pa (many 600-700 ft ridges and valleys, heavily forrested),
> perhaps 100 miles max. We do use and experiment with NVIS (using
> restricted space configurations: tilted whip, Hamstick dipoles, etc)
> however, this query is relative to Groundwave.
>
> I would like to add an occassional field exercise expressly for the
> purpose of measuring the performance of our systems (for improvement
> and detecting problems). We currently have no equipment for this
> purpose. One device I see advertised and would like some feedback on,
> is the MFJ-802 Field Strength Meter.
>
> - Would the MFJ-802 be an adequate measuring device for our use ? Any
> caveats ?
> - What test FIELD environment should we try to arrange (e.g. large
> empty parking lot, or a rural open field) ?
> - When testing each vehicle, what space should separate it from other
> vehicles waiting to be tested ?
> - Should the vehicle sit stationery, or be moving in a circle ?
>
> Any suggestions offerred to assist with this effort will be sincerely
> appreciated.
>

> regards,
> Dennis, K1DRW

If you are actually looking for EmComm antennas (as well as the test equipment, I would strongly urge you to look at the screwdriver. In addition to blowing the socks off the hamstick/Hustler, it has a flexibility that is amazing. For example, if you are looking at fixed and fixed-portable operation, the screwdriver can be used as BOTH a mobile system OR a FIXED antenna. Simply make a "half-dipole" arrangement with a random length of wire, a rope and the usual insulator. Remove the whip, and, using a 3/8" X 24 TPI bolt, attach one end of this one-pole(?) antenna to the top of the screwdriver and sling the other end (rope) into a nearby tree. You can then tinker with NVIS, high-angle slopers, height of the wire, or the mobile whip to get whatever configuration that works at the time PLUS quickly QSY to ALL frequencies of interest. Of course, the longer the wire, the better it works on the lower frequencies and you will lose the higher ones. But you can make more 'poles to put in your kit to account for this and/or place the whip in a variety of positions. LOTS of ways to play with this. The screwdriver is definitely the way to go!

73

Jerry
K4KWH

1121. antenna with out of line elements

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 03:51:02 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <GKcxh.18103$pQ3.7539@newsread4.news.pas.earthlink.net>
Source record: 46134

Has anyone modeled what happens to the signal of a triband 3 element antenna that has one or more of the elements that has slipped on the boom say 10 or 20 deg ?

Also saw in an old magazine an antenna for 2 meters that had each element offset by about 5 or 10 deg around the boom to produce circular polarization. Will this actually work or is it wishful thinking ?

1122. Re: help- Mobile 10meters on a jeep

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 03:59:04 UTC
From: Jerry <joxendi@bellsouth.net>
Message-ID: <Tzwxh.46085$jA.29844@bignews1.bellsouth.net>
Source record: 46161

"KE5MBX" <nelson.blaha@gmail.com> wrote in message
news:1170452620.169633.215710@l53g2000cwa.googlegroups.com...
>I have been advised by some hams that the best way I can hope to do 10-
> meters on my jeep is to mount my antenna ON THE WINDSHIELD to get a
> good ground plane. I read somewhere since then that the primary
> reason for cophasing CB antennas on trucks is NOT to direct the gain
> front and back, but to even the ground plane as though the antenna
> were in the center of the truck. Could I achieve the same effect with
> my Jeep by cophasing antennas on either side of the jeep by the
> doors? Even better- could I do this diagonally across from one corner
> of my jeep to the other? I heard the further apart the antennas are,
> the better, and I'm not really trying to get front/back gain for DXing.

When it is all said and done, *I* would go with a single 102" whip cut for
10 Meters and mounted via ball mount on the left rear fender. This will
work well, it is simple, and you will not be able to measure any appreciable
benefit as to pattern or gain with any phasing arrangement. The thing about
"cophasing" is more hype from the CB world (gullible people buy MORE
antennas if they think some gadget will work better ;))! To each his own,
but I wouldn't go to all the trouble.

73

K4KWH
>

1123. Re: Matching Issue ..... I think!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 04:37:44 UTC
From: Snoopy@BoiseSt.edu
Message-ID: <LsCdnfJjcJxM_FjYnZ2dnUVZ_o_inZ2d@hawaiiantel.net>
Source record: 46135

Cecil Moore wrote:

> Ian Jackson wrote:
>> From the original ASCII diagram, it isn't too clear what the
>> configuration is.
>
> As I understand it, the antenna under discussion is like
> the Sigma-80 except the top hat is omitted and the upper
> element is instead extended upward - like this.
>
> |
> coil coil |
> ---------------------/////FP/////-------------+
> || |
> || |
>
> So I'm assuming whatever works for the Sigma-80
> will work for this antenna.

it does work and very well!

--
I SPILLED SPOT REMOVER ON MY DOG.............AND NOW HES GONE!!

1124. Re: antenna with out of line elements

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 04:58:57 UTC
From: jimlux@earthlink.net
Message-ID: <1170565137.712201.43470@s48g2000cws.googlegroups.com>
Source record: 46136

On Feb 3, 7:51 pm, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
> Has anyone modeled what happens to the signal of a triband 3 element antenna
> that has one or more of the elements that has slipped on the boom say 10 or
> 20 deg ?
>
> Also saw in an old magazine an antenna for 2 meters that had each element
> offset by about 5 or 10 deg around the boom to produce circular
> polarization. Will this actually work or is it wishful thinking ?

I've modeled similar things for sensitivity analysis of a design.
>From a theoretical standpoint, what happens is that the mutual coupling between the elements is reduced (to a first order, by cosine(angle)), which changes the amplitudes and phases of currents in the elements.

Net result.. not much change in forward gain (unless it's a very high gain design with a lot of superdirectivity), pretty big changes in F/B, if it was previously optimized for that. (that is, the nulls get shallower.. a 1% change in currents can make a 20 dB null into a 17 dB null)

As for making CP.. it might work, it might not. depends a lot on the design. A Lindenblad makes CP with two elements about 60 degrees apart. On CP in general.. it's easy to make elliptical pol.. tough to make perfectly circular. This is particularly true if you want CP in multiple directions (and it may not even be possible, depending on how many directions.. viz the "hairy ball theorem").

1125. Re: help- Mobile 10meters on a jeep

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 05:00:36 UTC
From: KE5MBX <nelson.blaha@gmail.com>
Message-ID: <1170565236.276296.285780@v33g2000cwv.googlegroups.com>
Source record: 46137

On Feb 3, 9:06 pm, "Jimmie D" <jimmie...@bellsouth.net> wrote:
> "KE5MBX" <nelson.bl...@gmail.com> wrote in message
>
> news:1170534906.402754.56920@m58g2000cwm.googlegroups.com...
>
>
>
> > On Feb 3, 2:02 pm, Cecil Moore <myc...@hotmail.com> wrote:
> >> KE5MBX wrote:
> >> > I'm still really interested in the
> >> > cophasing thing. I have mounted a CB whip on the roll bar before, but
> >> > it has two disadvantages: Extreme height of the antenna and the
> >> > inability to close the soft top while the antenna's up. Could I not
> >> > cophase diagonally and therefore center the patten ?
>
> >> First a few thoughts. Co-phasing doubles the cost of
> >> the antenna without outperforming a single whip (unless
> >> the elements are separated by 1/4WL or more). So
> >> why not a magmount on the hood with a single whip?
> >> That would be my solution but I'm not very "cool". :-)
> >> My contacts could not tell the difference between the
> >> magmount on the roof of my pickup Vs on my hood.
>
> >> Phasing would work best front-to-back. With 135 degree
> >> phasing in elements separated by 1/8WL, a whopping 4 dB
> >> gain is possible switchable from front to back. If 1/4WL
> >> spacing is possible, bidirectional front and back gain
> >> of 3.5 dB is possible with 180 degree phasing. If I were
> >> driving an 18 wheeler, this is what I would do. Changing
> >> the phasing to 90 degrees would give me a front or back
> >> vertical beam.
>
> >> There's no reason why your co-phasing idea will not work.
> >> The feedpoint impedance of the two elements in parallel
> >> will be 1/2 of the impedance of each element transformed
> >> by the length of coax chosen. If you put the coax 'T' 1/4WL
> >> back from each element, the impedance at that point should
> >> be close to the feedpoint impedance of each element (assuming
> >> 35 ohms).
> >> --
> >> 73, Cecil http://www.w5dxp.com
>
> > Excellent.. If I put my antennas on opposite corners of the Jeep as I
> > was thinking, I find that they will be 4.2 meters apart. I promise to

> > go home and see what the ARRL handbook says about cophasing, but I
> > only understood what you just told me partially. Are you describing a
> > way to get better front/back gain from a system with one antenna in
> > front and one in back, as opposed to the conventional "trucker"
> > setup? I have no particular use for directional gain on 10 meters, by
> > the way.
>
> > I know a lot of people are reluctant to do the superior front-to-back
> > cophasing because it looks goofy, but I can assure I'm not interested
> > in being "cool" either! I want the most efficient 10-m operation I
> > can get out of a Jeep Wrangler.
>
> Just go with one antenna.

With all due respect, Jimmie, I am looking into creating a better
antenna system than the conventional dipole-on-the-back-of-the-CJ,
even if it was adequate for you. I like antenna theory.

1126. Re: Best Books/Websites for Antenna Theory and Building Recommendations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 05:09:32 UTC
From: jimlux@earthlink.net
Message-ID: <1170565772.729040.281790@q2g2000cwa.googlegroups.com>
Source record: 46138

On Feb 2, 11:14 am, Joaquin Tall
<opalockamishabob@'86DASPAMnetscape.net> wrote:
> Hello All,
>
> I have just gotten my tech license and am eager to get my station up and
> running. I am starting on a shoestring; currently, I have no equipment
> whatsoever and don't know what I should buy just yet. In absence of a
> rig, I am now studying to pass my General license exam next month.
>
> I am very interested in building my own HF/VHF/UHF antennas. I've seen
> the ARRL books, but I was hoping that you good folks might have some
> favorite websites, book titles or magazine issues [old or new] that
> you'd be willing to pass along that could get me started.
>
> Many thanks for taking the time to respond!

After you thrash your way through the ARRL Antenna book (which
includes a CD with the entire searchable text.. very handy, as well as
some useful planning programs like HFTA)...

Another book that is quite useful are ON4UN's Low Band DXing... yes,
the focus is on 40m and down, but there's lots of good construction
info, as well as matching networks, etc.

And, finally, I think everyone who's seriously fooling with antennas
should get a copy of J. Kraus, "Antennas". This is a standard
textbook on the subject, and I find it much more accessible than, say,
Balanis, although the theoreticians tend to prefer Balanis, because of
the rigor.

Finally, if you need math stuff for antennas.. Sophocles Orfanidis at
Rutgers has an online electromagnetics and antennas textbook that I
find very handy (because it's online, and you can download the pdfs
and carry it with you on your laptop)... http://www.ece.rutgers.edu/
~orfanidi/ewa/ Orfanidis also has a bunch of very useful Matlab (or
Octave) routines as an appendix to the book.
>

Jim, W6RMK

1127. Re: element 4 test

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 10:14:45 UTC
From: Tiger Bob <tigrbobNOSPAM@gmail.com>
Message-ID: <m1cbs21s7kkv7ukhtcs3mm73nu35sjhncc@4ax.com>
Source record: 46139

On Sat, 3 Feb 2007 16:59:45 -0500, "merlin-7" <merlin-7@sc.rr.com>
wrote:

> I passed my element 4 test today!
>
> I just had to tell someone!
>
> Ki4ilb
>

Congratulations!

Now you can put the aspirin bottle away. :)

Bob - W9WTF

1128. Re: help- Mobile 10meters on a jeep

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 11:36:44 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <fzjxh.46680$qt.42610@bignews5.bellsouth.net>
Source record: 46140

"KE5MBX" <nelson.blaha@gmail.com> wrote in message
news:1170565236.276296.285780@v33g2000cwv.googlegroups.com...
> On Feb 3, 9:06 pm, "Jimmie D" <jimmie...@bellsouth.net> wrote:
>> "KE5MBX" <nelson.bl...@gmail.com> wrote in message
>>
>> news:1170534906.402754.56920@m58g2000cwm.googlegroups.com...
>>
>>
>>
>> > On Feb 3, 2:02 pm, Cecil Moore <myc...@hotmail.com> wrote:
>> >> KE5MBX wrote:
>> >> > I'm still really interested in the
>> >> > cophasing thing. I have mounted a CB whip on the roll bar before,
>> >> > but
>> >> > it has two disadvantages: Extreme height of the antenna and the
>> >> > inability to close the soft top while the antenna's up. Could I not
>> >> > cophase diagonally and therefore center the patten ?
>>
>> >> First a few thoughts. Co-phasing doubles the cost of
>> >> the antenna without outperforming a single whip (unless
>> >> the elements are separated by 1/4WL or more). So
>> >> why not a magmount on the hood with a single whip?
>> >> That would be my solution but I'm not very "cool". :-)
>> >> My contacts could not tell the difference between the
>> >> magmount on the roof of my pickup Vs on my hood.
>>
>> >> Phasing would work best front-to-back. With 135 degree
>> >> phasing in elements separated by 1/8WL, a whopping 4 dB
>> >> gain is possible switchable from front to back. If 1/4WL
>> >> spacing is possible, bidirectional front and back gain
>> >> of 3.5 dB is possible with 180 degree phasing. If I were
>> >> driving an 18 wheeler, this is what I would do. Changing
>> >> the phasing to 90 degrees would give me a front or back
>> >> vertical beam.
>>
>> >> There's no reason why your co-phasing idea will not work.
>> >> The feedpoint impedance of the two elements in parallel
>> >> will be 1/2 of the impedance of each element transformed
>> >> by the length of coax chosen. If you put the coax 'T' 1/4WL
>> >> back from each element, the impedance at that point should
>> >> be close to the feedpoint impedance of each element (assuming
>> >> 35 ohms).
>> >> --
>> >> 73, Cecil http://www.w5dxp.com

>>
>> > Excellent.. If I put my antennas on opposite corners of the Jeep as I
>> > was thinking, I find that they will be 4.2 meters apart. I promise to
>> > go home and see what the ARRL handbook says about cophasing, but I
>> > only understood what you just told me partially. Are you describing a
>> > way to get better front/back gain from a system with one antenna in
>> > front and one in back, as opposed to the conventional "trucker"
>> > setup? I have no particular use for directional gain on 10 meters, by
>> > the way.
>>
>> > I know a lot of people are reluctant to do the superior front-to-back
>> > cophasing because it looks goofy, but I can assure I'm not interested
>> > in being "cool" either! I want the most efficient 10-m operation I
>> > can get out of a Jeep Wrangler.
>>
>> Just go with one antenna.
>
> With all due respect, Jimmie, I am looking into creating a better
> antenna system than the conventional dipole-on-the-back-of-the-CJ,
> even if it was adequate for you. I like antenna theory.
>

I do to, but I also have learned from experience. I think co-phased mobiles has become just a CB trick to sell more antennas. I do undurstand it has a pratical side when truckers use them to overcome blind spots but this is nt needed on a small vehicle(more experience). Where else have you ever seen dual antennas except for CB. Let me be the last one who would ever discourage a person from learning by trying as I have tried some really wierd stuff before.

Jimmie

1129. Re: Best Books/Websites for Antenna Theory and Building Recommendations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 13:19:21 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <eq4mgq$4fv$1@aioe.org>
Source record: 46141

"Cecil Moore":
> Jimmie D wrote:
>> One such mistake is calling a 4 ft long antenna that has a coil to make
>> it resonate on the 10M band a "10M loaded 1/4 wavelength antenna".
>
> They should be more careful and specify that they are
> talking about electrical lengths, not physical lengths.

They also should point out that, although a radiator physically/electrically shorter than needed for first self-resonance can be "loaded" to resonance, this does not mean that loaded and self-resonant radiators perform equally well in an installed system. In some applications there can be as much as a 100:1 difference in their radiated powers, for a given power at the transmitter output connector.

RF

1130. Re: Best Books/Websites for Antenna Theory and Building Recommendations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 14:00:01 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <BFIxh.24772$yC5.21346@newssvr27.news.prodigy.net>
Source record: 46142

Richard Fry wrote:
> "Cecil Moore":
>> Jimmie D wrote:
>>> One such mistake is calling a 4 ft long antenna that has a coil to
>>> make it resonate on the 10M band a "10M loaded 1/4 wavelength antenna".
>>
>> They should be more careful and specify that they are
>> talking about electrical lengths, not physical lengths.
>
> They also should point out that, although a radiator
> physically/electrically shorter than needed for first self-resonance can
> be "loaded" to resonance, this does not mean that loaded and
> self-resonant radiators perform equally well in an installed system. In
> some applications there can be as much as a 100:1 difference in their
> radiated powers, for a given power at the transmitter output connector.

Good point, Richard. An antenna's ability to "load"
is proportional to its electrical length. An antenna's
ability to radiate seems to be proportional to the
physical length of the antenna that is carrying the
highest current. In 75m shootouts, the mobile antennas
with the loading coil furtherest away from the feedpoint
(closest to top-loaded) generally won the shootout.
--
73, Cecil http://www.w5dxp.com

1131. Yagi antenna design question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 14:39:49 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <45c5f035$0$36013$4fafbaef@reader4.news.tin.it>
Source record: 46143

I wonder whether anyone can formulate a convincing answer to the following question.

Let us assume you wish to design a 3-element Yagi antenna for good performances, but with NO REGARD AT ALL TO ITS IMPEDANCE (i.e. assume that you anyway intend to have a matchbox at the antenna terminals, so that the antenna impedance is of no concern at all for you).

At this point you run a good antenna design program, giving it no constrain in terms of antenna impedance. The program will give you the "optimal" solution in terms of element length and spacing, typically also showing the antenna impedance at the feedpoint, that we here assume to be e.g. 30 ohm.

At this point you change your mind and, instead of using a 30-to-50 ohm matchbox, you decide to match the antenna to the cable using the well known hairpin technique, by which the radiator length is reduced somewhat (to create some capacitive reactance in series with the antenna resistance) and an inductor is put in parallel to the antenna (to resonate the residual capacitance after resistance transformation).

Doing so the radiator length will result to be shorter that the length calculated by the computer program, and one could then presume that the actual antenna radiation characteristics (gain & front-to-back performance, radiation pattern) do not correspond to those calculated by the program any longer.

Even though the changes may be small, I would anyway be interested to understand whether, in principle, the hairpin technique results in a change of the antenna radiation characteristics.

If the change is confirmed, we would inevitably also come to the conclusion that the antenna radiation characteristics depend on the technique which is adopted to match the antenna to the cable (e.g. matchbox or hairpin). This would sound real odd!

Thanks and 73

Tony I0JX

1132. Re: Best Books/Websites for Antenna Theory and Building Recommendations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 15:41:53 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <eq4us4$n3h$1@aioe.org>
Source record: 46144

"Cecil Moore" :
> An antenna's abilty to "load"
> is proportional to its electrical length. An antenna's
> ability to radiate seems to be proportional to the
> physical length of the antenna that is carrying the
> highest current.

Perhaps unexpectedly, the intrinsic pattern and directivity of a physically/electrically short, unloaded monopole radiator are not greatly different than those of a self-resonant 1/4-wave monopole. The big problem with an unloaded, short radiator is the reactance at its feedpoint, which means that very little current will flow into the short radiator from any practical r-f source. But for the current that DOES flow in it, its radiation performance will not be much different than that of a self-resonant 1/4-wave monopole, at that same current flow (as NEC will show).

Using a "loading" reactance to resonate the radiator allows maximum power transfer from the r-f source into the feedpoint. But the remaining issue is the low radiation resistance of the short radiator even when it is resonant, which is a small fraction of the other series resistances in the antenna system (ground and coil loss, mostly). As a result, much of the available transmitter power produces heat rather than EM radiation.

RF

1133. Re: Best Books/Websites for Antenna Theory and Building Recommendations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 16:12:14 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <yBnxh.30882$uW.26525@bignews3.bellsouth.net>
Source record: 46145

"Richard Fry" <rfry@adams.net> wrote in message
news:eq4us4$n3h$1@aioe.org...
> "Cecil Moore" :
>> An antenna's abilty to "load"
>> is proportional to its electrical length. An antenna's
>> ability to radiate seems to be proportional to the
>> physical length of the antenna that is carrying the
>> highest current.
> __________
>
> Perhaps unexpectedly, the intrinsic pattern and directivity of a
> physically/electrically short, unloaded monopole radiator are not greatly
> different than those of a self-resonant 1/4-wave monopole. The big
> problem with an unloaded, short radiator is the reactance at its
> feedpoint, which means that very little current will flow into the short
> radiator from any practical r-f source. But for the current that DOES
> flow in it, its radiation performance will not be much different than that
> of a self-resonant 1/4-wave monopole, at that same current flow (as NEC
> will show).
>
> Using a "loading" reactance to resonate the radiator allows maximum power
> transfer from the r-f source into the feedpoint. But the remaining issue
> is the low radiation resistance of the short radiator even when it is
> resonant, which is a small fraction of the other series resistances in the
> antenna system (ground and coil loss, mostly). As a result, much of the
> available transmitter power produces heat rather than EM radiation.
>
> RF I had an electronics instructor (not sure what he knew about antennas)
> say thet there was a 10/90 rule about antennas. That an antenna 10 % as
> long as a 1/4 wl will radiate 90%as well, wile he didnt say it I assume
> this means with all other sources of loss minimized. Is this anywhere near
> true?
/Jimmie

1134. Re: element 4 test

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 16:17:56 UTC
From: Nate Bargmann <n0nb.DO.NOT.SPAM@ME.networksplus.net>
Message-ID: <R86dnVc6zbipmlvYnZ2dnUVZ_v7inZ2d@bluevalley.net>
Source record: 46146

On Sat, 03 Feb 2007 16:59:45 -0500, merlin-7 wrote:

> I passed my element 4 test today!
>
> I just had to tell someone!
>
> Ki4ilb

Good on ya! Have fun!

Now you can sign up as a VE and help everyone that comes after. ;-)

- Nate >>

--

"The optimist proclaims that we live in the best of all possible worlds,
the pessimist fears this is true."

1135. Re: LATE MODEL MFJ ROLLER INDUCTOR IS ROUGH

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 16:24:34 UTC
From: Nate Bargmann <n0nb.DO.NOT.SPAM@ME.networksplus.net>
Message-ID: <R86dnVY6zbhflVvYnZ2dnUVZ_v7inZ2d@bluevalley.net>
Source record: 46147

On Wed, 31 Jan 2007 01:59:08 +0000, Ron in NY wrote:

> Has anyone "fixed" this problem with their late model MFJ ???

I have an earlier "Differntial-T" model 986 that I bought in 1992. After a couple of years it would get very stiff in certain places. I disassembled it enough clean the grime out of the bearings and then used petroleum jelly as "grease" sparingly applied. It still works very freely and I haven't had to do it again.

I have to say that the finger dimple knob has not impressed me on the later tuners when I've played with them at hamfests as they just seem very stiff. Mine has the extra sub-spinner knob which works very well even after all these years. Hopefully this 986 won't give up for a while yet, but I only use it at 100 watts.

- Nate >>

--

"The optimist proclaims that we live in the best of all possible worlds, the pessimist fears this is true."

1136. Free Pc To Phone Calling

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 16:41:49 UTC
From: "coolguy17111987@gmail.com" <coolguy17111987@gmail.com>
Message-ID: <1170607309.525118.210100@h3g2000cwc.googlegroups.com>
Source record: 46148

Now you can call anywhere in world for free
...hurry up...Its Globe 7..
you are paid to watch free videos(of your choice)...
Now its no. 1 VOIP service in the world....Click on the link
below...download the software, register for free and start calling....
What are you waiting for now....
Call any phone anywhere Free! - Globe 7
http://surl.in/HLGB7268591UXYDPMK-google

Weather Report Toolbar
Hi all..Now you can get the weather report of your area
instantly...Just Install the toolbar and get the weather report on
it..Instant report..Go for it...What is you waiting for...
Download the toolbar only 400Kb, Install it..and thats it...
Download Weather Toolbar - Instant weather reports, forecasts, and
radar images anytime for FREE! - http://surl.in/HLWTD268591UXYDPMK-
google

Search Profiles - FREE! Intimate Dating. Start Chatting within seconds
- http://surl.in/HLMAT268591UXYDPMK-google

Unlimited iPod Music, Movies, TV Shows Downloads. No Monthly or Per
Downloads Fees! - http://surl.in/HLMID268591UXYDPMK-google

Webmasters - Earn Money from your Website. Get Paid Daily! -
http://surl.in/HLAXR268591UXYDPMK-google

1137. Re: Best Books/Websites for Antenna Theory and Building Recommendations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 17:12:55 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <eq546q$3gp$1@aioe.org>
Source record: 46149

"Jimmie D":
> RF I had an electronics instructor (not sure what he knew about antennas)
> say thet there was a 10/90 rule about antennas. That an antenna 10 % as
> long as a 1/4 wl will radiate 90%as well, wile he didnt say it I assume
> this means with all other sources of loss minimized. Is this anywhere near
> true?

Theoretically yes, but not so much in practice.

Without losses, an "infinitesimally short" linear dipole has >91% of the peak directivity of a self-resonant 1/2-wave dipole (1.5 vs 1.64). And for a given applied power both of them would radiate the same total amount of power, just with marginally different pattern shapes.

The problem is that system losses in a real, "loaded" short antenna can be much higher than the radiation resistance, so a loaded short antenna may not radiate much of the available power -- in some applications not even 1% of it.

RF

1138. Re: Yagi antenna design question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 18:23:30 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <lc8cs2hncd4rhie89iqmgbcamr21ic219b@4ax.com>
Source record: 46150

On Sun, 4 Feb 2007 15:39:49 +0100, "Antonio Vernucci"
<vernucci@tin.it> wrote:

>I wonder whether anyone can formulate a convincing answer to the following
>question.
>
>Let us assume you wish to design a 3-element Yagi antenna for good performances,
>but with NO REGARD AT ALL TO ITS IMPEDANCE (i.e. assume that you anyway intend
>to have a matchbox at the antenna terminals, so that the antenna impedance is of
>no concern at all for you).

Hi Tony,

That is a good start for discussion, but you abandon this care-free
attitude almost immediately:

>...that we here assume to be e.g. 30 ohm.

Chances are it will be much less, possibly 5 Ohms. So, you see, you
have already introduced a constraint, and you continue adding more:

>At this point you change your mind and, instead of using a 30-to-50 ohm
>matchbox, you decide to match the antenna to the cable using the well known
>hairpin technique, ...

Which leads to another constraint:

>Doing so the radiator length will result to be shorter ...

As you are using a modeler from the beginning, you should also use
these constraints from the beginning.

Perhaps you are thinking of this as a two step process starting with
no constraints and then adding them. That works too and it requires
you to perform successive refinement. You can not escape this anyway.

>If the change is confirmed, we would inevitably also come to the conclusion that
>the antenna radiation characteristics depend on the technique which is adopted
>to match the antenna to the cable (e.g. matchbox or hairpin). This would sound
>real odd!

The change could be small. The question is how much change makes it a
"real odd" result?

73's
Richard Clark, KB7QHC

1139. Re: On 144MHz J-Pole vs EDZ - Some mad ramblings.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 19:17:13 UTC
From: "Fred Ferley"
Message-ID: <38ccs2hb61grv0585odlmg3duj0r03mspi@4ax.com>
Source record: 46151

Hi,
Hey, those "J" pole designs from off the `web you see are pretty
much Plug & Play for the most part. If you go through the steps
listed in the construction plans, everything's been already worked out
for you. . . These antennas are extremely solid for the most part,
and I've found that they work darn well at thirty feet up, grounded
and un-grounded too.

The only reason I could see for re-working this wheel, is if you
were going to mount it real close to a metal structure or of you were
going to try and parallel them for some strange reason, then you'd
need to do the required math. However, that would only be relative to
the distance between items, not the individual matching. .. Just a
simple attachment to the right location on the antenna, and you are up
and running.

Trying to tweak anymore out of one of these things nowadays with all
the bugs already worked out for you is like trying to squeeze out a
few more ounces of torque from your lawnmower: It may be possible
with great effort, time, and money. . . But why bother?

With my copper pipe "J" pole, I had a 1.1:1 match, and was hitting
repeaters 200 miles away on 50 watts. . . No calcs. Just lay it out,
solder it up and stick it up into the air! About three hours from
"Pipe" to "Antenna".

On Sat, 03 Feb 2007 18:29:41 -0600, Bob Bob <bob3bob3@suddenlink.net>
wrote:

>Hi NG
>
>I am in the throes of building an omni for 2m and am trying to decide
>between a "super jpole" and an extended double zepp. I have more or less
>gone for 5/8 over 5/8 radiators with a center "hairpin" phasing section.
>
>The J-Pole is of course fed through the usual "hairpin" arrangement at
>the bottom of the antenna. The EDZ at the center phasing/hairpin section.
>
>Okay so here are the questions/thoughts.
>
>- I don't mind mind mounting on the side of the mast. The whole thing
>will eventually be rotatable and the mast itself might be a useful
>reflector for a few more dB of fwd gain. This also makes the EDZ
>reasonably easy to feed.
>
>- I know of the issues with radiating feedline and pattern lifting for

>the jpole. Wondering if a 4:1 coaxial balun would resolve this and also
>give a wider VSWR bandwidth?
>
>- I also note the J-Pole hairpin/matching section is never quite
>balanced as the load Z at the connected vs non connected ends skews it
>some. (From cebik) To my mind this has two thoughts, is it worth skewing
>the feed point (eg one side of the feedpoint 1/2" below the other) and
>does (static/lighting) grounding the supposed electrically neutral point
>affect the efficiency/pattern of the thing.
>
>- Wondering if feeding from one end results in ohmic losses reducing the
>radiation from the upper element. Thus skewing the pattern undesirably
>upwards. I heard this use to be a big problem with early UHF coaxial
>collinear antennas. Mounting upside down was supposedly a good fix!
>
>- I had thought for ages that skying radiation from ground effects is
>actually a function of the amount of radiation that goes at a downwards
>angle. (ie a perfect antenna is one that doesn't radiate below the
>"horizon" in free space) If one uses a 5/8 element for the antenna's
>mentioned above the normal high lobe one gets might contribute to this
>problem. In other words is it better to (say) use 3x1/2 wave rather than
>2x5/8 wave elements in either an EDZ or JPole setup. (I'll be modeling
>this for my own interest but would appreciate feedback)
>
>- This of course begs the question as to whether one should even be
>concerned about ground reflection on 2m with a 30ft mast!
>
>This topic can of course be very exhausting. In my case though it is
>more to decide which device to build.
>
>Tnxs for any thoughts and ideas.
>
>Bob W5/VK2YQA

1140. antena conertposie

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 19:42:51 UTC
From: an old fiend <Mark@kornstains.com>
Message-ID: <45c62aa4$0$16322$88260bb3@free.teranews.com>
Source record: 46155
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.policy,alt.ham-radio.vhf-uhf,rec.radio.amateur.equipment

is tis the poper way two insall my antena? I tying two use teh trash as a
conterposie thier are lot beer cans in bag sor conmductian affect.

http://i12.tinypic.com/30i9xj6.jpg

--
Posted via a free Usenet account from http://www.teranews.com

1141. Re: help- Mobile 10meters on a jeep

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 21:34:54 UTC
From: Nate Bargmann <n0nb.DO.NOT.SPAM@ME.networksplus.net>
Message-ID: <R86dnVE6zbjjzFvYnZ2dnUVZ_v7inZ2d@bluevalley.net>
Source record: 46152

Maxrad makes a base loaded quarterwave that looks like their other land mobile offerings that covers the 10m band. I bought two with NMO style mounts and they worked very well for 10m several years ago. The reason I had two whips was one cut for the low end of the band and the other cut for the FM portion. When 10m was open I had no problem working everyone I heard.

The nice thing is that they are reasonably low profile--on the order of a 5/8 wave whip on 2m--and work very well with a typical NMO magnet mount on the roof of my S-10 pickup.

Have fun!

- Nate >>

--

"The optimist proclaims that we live in the best of all possible worlds, the pessimist fears this is true."

1142. Re: Yagi antenna design question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 21:35:53 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <1lsxh.1090$TQ7.479@newsfe12.lga>
Source record: 46153

"Antonio Vernucci" <vernucci@tin.it> wrote in message
news:45c5f035$0$36013$4fafbaef@reader4.news.tin.it...
>I wonder whether anyone can formulate a convincing answer to the following
>question.
>
> Let us assume you wish to design a 3-element Yagi antenna for good
> performances, but with NO REGARD AT ALL TO ITS IMPEDANCE (i.e. assume that
> you anyway intend to have a matchbox at the antenna terminals, so that the
> antenna impedance is of no concern at all for you).
>
> At this point you run a good antenna design program, giving it no
> constrain in terms of antenna impedance. The program will give you the
> "optimal" solution in terms of element length and spacing, typically also
> showing the antenna impedance at the feedpoint, that we here assume to be
> e.g. 30 ohm.
>
> At this point you change your mind and, instead of using a 30-to-50 ohm
> matchbox, you decide to match the antenna to the cable using the well
> known hairpin technique, by which the radiator length is reduced somewhat
> (to create some capacitive reactance in series with the antenna
> resistance) and an inductor is put in parallel to the antenna (to resonate
> the residual capacitance after resistance transformation).
>
> Doing so the radiator length will result to be shorter that the length
> calculated by the computer program, and one could then presume that the
> actual antenna radiation characteristics (gain & front-to-back
> performance, radiation pattern) do not correspond to those calculated by
> the program any longer.
>
> Even though the changes may be small, I would anyway be interested to
> understand whether, in principle, the hairpin technique results in a
> change of the antenna radiation characteristics.
>
> If the change is confirmed, we would inevitably also come to the
> conclusion that the antenna radiation characteristics depend on the
> technique which is adopted to match the antenna to the cable (e.g.
> matchbox or hairpin). This would sound real odd!
>
> Thanks and 73
>
> Tony I0JX
>

Tony,
by using hairpin matching, you take out portion of the highest current on the element and fold it into the hairpin where it is taken out of antenna "participation" for the price of match.

Better solution is to feed the element off center (K7GCO idea), find the 50 ohm point, insert the insulator and feed it with balun. This way you preserve the full size of the driven element and its coupling to parasites and higher antenna efficiency.

Better way is to use quad elements where the stacked elements, higher impedance and full size elements produce most gain per boom length (up to 5 elements)

73 Yuri, K3BU

1143. howto measure the freq of a received signal

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 21:46:55 UTC
From: Caveat Lector <CL@nowhere.com>
Message-ID: <ivsxh.26637$Lx2.15796@newsfe14.phx>
Source record: 46154

Depends on how accurate a result you want.
I just use a signal generator and zero beat it against the received signal.
Use a counter to measure the sig gen freq. Accuracy all dependent on your
equipment.

But here is the accurate way to do it --- The ARRL sponsers a Frequency
Measuring Contest each year

See URL:
http://www.arrl.org/w1aw/fmt/index.html

Details and equipment
http://www.arrl.org/w1aw/fmt/2006/2006fmt.pdf

More detail at URL:
http://www.arrl.org/w1aw/fmt/0210051.pdf

CL

<chasm@texas.net> wrote in message
news:pqjcs21i2hd49v03k8aqii5000uu7qrdn7@4ax.com...
> WANT TO BUY a copy of each of his books
> also looking for a DSI 3600A freq counter
> finally, how do you measure the freq of a received signal? what equipment
> do
> you need?
> thanks
> chas
>
>
>
> ...

1144. Re: LATE MODEL MFJ ROLLER INDUCTOR IS ROUGH

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 23:34:06 UTC
From: Jim - NN7K <NN7K@NOWAY.NET>
Message-ID: <O3uxh.16424$ji1.7751@newssvr12.news.prodigy.net>
Source record: 46156

One other possibility: tho dont know if they still
supply samples, and the stuff is SPENDY! An
outfit , in Portland Ore. has couple of products
geared to power companies/ electricians. It is
Cool-Amp , and has a powder that will silver plate
copper (and other) metals. They also have a
SILVER bearing grease called Conducto-Lube. and
as stated, would use VERY,VERY SPAREINGLY, but,
would lube a roller inductor's bearings,
provideing great continuity . Don't think would
be something you want to use on the inductor
surface, tho.
(this stuff made for knife switch and breaker box
repair, of high resistance problems) . Also great
for UHF/ Microwave DYA components, to silver
plate them ! Try Cool-AMP.com Even if cost
$5.00 for sample,
would be worth it! Jim NN7K

Nate Bargmann wrote:
> On Wed, 31 Jan 2007 01:59:08 +0000, Ron in NY wrote:
>
>> Has anyone "fixed" this problem with their late model MFJ ???
>
> I have an earlier "Differntial-T" model 986 that I bought in 1992. After
> a couple of years it would get very stiff in certain places. I
> disassembled it enough clean the grime out of the bearings and then used
> petroleum jelly as "grease" sparingly applied. It still works very freely
> and I haven't had to do it again.
>
> I have to say that the finger dimple knob has not impressed me on the
> later tuners when I've played with them at hamfests as they just seem
> very stiff. Mine has the extra sub-spinner knob which works very well even
> after all these years. Hopefully this 986 won't give up for a while yet,
> but I only use it at 100 watts.
>
> - Nate >>
>

1145. Re: antena conertposie

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 23:41:05 UTC
From: Jim - NN7K <NN7K@NOWAY.NET>
Message-ID: <lauxh.16428$ji1.15922@newssvr12.news.prodigy.net>
Source record: 46157
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.policy,alt.ham-radio.vhf-uhf,rec.radio.amateur.equipment

Trying to be a "Hi "Q" Circuit" ? (Heck of a
Capacity; and Damn Little Restinance) ?? :)

an old fiend wrote:
> is tis the poper way two insall my antena? I tying two use teh trash as a
> conterposie thier are lot beer cans in bag sor conmductian affect.
>
> http://i12.tinypic.com/30i9xj6.jpg
>
>
>
>
>

1146. Re: element 4 test

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 23:49:42 UTC
From: merlin-7 <merlin-7@sc.rr.com>
Message-ID: <45c67158$0$28098$4c368faf@roadrunner.com>
Source record: 46158

> Good on ya! Have fun!
>
> Now you can sign up as a VE and help everyone that comes after. ;-)
>
> - Nate >>
>
> --
>
I plan on signing up as a VE

But should I hand out asprin or advil ????

KI4ILB

1147. Re: help- Mobile 10meters on a jeep

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-04 23:56:30 UTC
From: Dave <W1MCE@comcast.net>
Message-ID: <qKudnbD8H40w71vYnZ2dnUVZ_vipnZ2d@comcast.com>
Source record: 46159

Simple! Mount a 1/4 wavelength vertical on a mount that is well fastened to the bumper/frame with good ground straps or spot welded.

Forget about the whole CB thing of co-phasing.

Ten meter mobile is the easiest HF mobile installation you can ever do.

/s/ DD, W1MCE [50+ years active. 40+ years mobile]

KE5MBX wrote:

> I have been advised by some hams that the best way I can hope to do 10-
> meters on my jeep is to mount my antenna ON THE WINDSHIELD to get a
> good ground plane. I read somewhere since then that the primary
> reason for cophasing CB antennas on trucks is NOT to direct the gain
> front and back, but to even the ground plane as though the antenna
> were in the center of the truck. Could I achieve the same effect with
> my Jeep by cophasing antennas on either side of the jeep by the
> doors? Even better- could I do this diagonally across from one corner
> of my jeep to the other? I heard the further apart the antennas are,
> the better, and I'm not really trying to get front/back gain for DXing.
>

1148. Re: The Awesome Razor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-05 01:33:37 UTC
From: Christopher Cox <chrisTOPHERcOX@coboxincORORATED.com>
Message-ID: <45c689b4$0$24499$4c368faf@roadrunner.com>
Source record: 46160

>>73 Yuri da BUm da father of Razors

QST April 1972

1149. Re: The Awesome Razor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-05 03:11:26 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <Cfxxh.4468$IS1.1525@newsfe08.lga>
Source record: 46163

"Christopher Cox" <chrisTOPHERcOX@coboxincORORATED.com> wrote in message
news:45c689b4$0$24499$4c368faf@roadrunner.com...
>
>>>73 Yuri da BUm da father of Razors
>
> QST April 1972

What about it?

BUm

1150. Re: element 4 test

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-05 04:02:31 UTC
From: jawod <jawod@fuse.net>
Message-ID: <45C6AC57.6080103@fuse.net>
Source record: 46164

merlin-7 wrote:
> I passed my element 4 test today!
>
> I just had to tell someone!
>
> Ki4ilb
>
>
Congratulations!!! Have fun!

John
AB8O

1151. Re: help- Mobile 10meters on a jeep

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-05 07:31:49 UTC
From: KE5MBX <nelson.blaha@gmail.com>
Message-ID: <1170660709.784521.90000@q2g2000cwa.googlegroups.com>
Source record: 46165

On Feb 3, 9:59 pm, "Jerry" <joxe...@bellsouth.net> wrote:
> "KE5MBX" <nelson.bl...@gmail.com> wrote in message
>
> news:1170452620.169633.215710@l53g2000cwa.googlegroups.com...
>
> >I have been advised by some hams that the best way I can hope to do 10-
> > meters on my jeep is to mount my antenna ON THE WINDSHIELD to get a
> > good ground plane. I read somewhere since then that the primary
> > reason for cophasing CB antennas on trucks is NOT to direct the gain
> > front and back, but to even the ground plane as though the antenna
> > were in the center of the truck. Could I achieve the same effect with
> > my Jeep by cophasing antennas on either side of the jeep by the
> > doors? Even better- could I do this diagonally across from one corner
> > of my jeep to the other? I heard the further apart the antennas are,
> > the better, and I'm not really trying to get front/back gain for DXing.
>
> When it is all said and done, *I* would go with a single 102" whip cut for
> 10 Meters and mounted via ball mount on the left rear fender. This will
> work well, it is simple, and you will not be able to measure any appreciable
> benefit as to pattern or gain with any phasing arrangement. The thing about
> "cophasing" is more hype from the CB world (gullible people buy MORE
> antennas if they think some gadget will work better ;))! To each his own,
> but I wouldn't go to all the trouble.
>
> 73
>
> K4KWH
>
>

All right, all right. I'm thinking about maybe just using the CB whip
ball mount I currently have on the front/left fender. If anyone can
think of a good reason to charge ahead with the cophased stuff,
"please come with your call sign".

73, and thanks so much for all the inputs

Nelson Blaha KE5MBX

1152. Re: The Awesome Razor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-05 13:31:25 UTC
From: Christopher Cox <chrisTOPHERcOX@coboxincORORATED.com>
Message-ID: <45c731f7$0$9007$4c368faf@roadrunner.com>
Source record: 46166

Yuri Blanarovich wrote:
> "Christopher Cox" <chrisTOPHERcOX@coboxincORORATED.com> wrote in message
> news:45c689b4$0$24499$4c368faf@roadrunner.com...
>
>>>>73 Yuri da BUm da father of Razors
>>
>>QST April 1972
>
>
> What about it?
>
> BUm
>
>

Apr-72 Fundamental Raser Principles Pg56

Whoop's swapped a 's' with the 'z'... :-)

I believe Wes had the right idea though.

1153. Re: Yagi antenna design question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-05 14:29:40 UTC
From: Wes <n7ws@yahoo.com>
Message-ID: <1170685780.735146.30130@k78g2000cwa.googlegroups.com>
Source record: 46168

On Feb 4, 2:35 pm, "Yuri Blanarovich" <K...@optonline.net> wrote:
[snip]
>
> Tony,
> by using hairpin matching, you take out portion of the highest current on
> the element and fold it into the hairpin where it is taken out of antenna
> "participation" for the price of match.

You're kidding right?

Disclosure: I use a hairpin (beta) match on my HB Yagi.

1154. Re: The Awesome Razor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-05 14:29:44 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <xbHxh.4$Ry2.1@newsfe10.lga>
Source record: 46167

"Christopher Cox" <chrisTOPHERcOX@coboxincORORATED.com> wrote in message
news:45c731f7$0$9007$4c368faf@roadrunner.com...
> Yuri Blanarovich wrote:
>> "Christopher Cox" <chrisTOPHERcOX@coboxincORORATED.com> wrote in message
>> news:45c689b4$0$24499$4c368faf@roadrunner.com...
>>
>>>>>73 Yuri da BUm da father of Razors
>>>
>>>QST April 1972
>>
>>
>> What about it?
>>
>> BUm
>
> Apr-72 Fundamental Raser Principles Pg56
>
> Whoop's swapped a 's' with the 'z'... :-)
>
> I believe Wes had the right idea though.

..and "e" for "o" - seems that was April fool's take on Laser - Raser.

Are you challenging my fatherhood of Razors? :-)
Razor Beam applies to optimized Quad - Yagi elementary antenna design, not to be confused with Overback's "Quagi" - where he replaced reflector and driven element in a particular Yagi design.
I have series of designs from 3 el. quad to 10 el. Razors.

Razor was named after being so sharp, cutting through the pileups and shaving the bands clean, jus' one chapter in my fooling with antennas.

73 Yuri, K3BU, VE3BMV
still da father of da Razor Beam

1155. Re: element 4 test

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-05 14:32:20 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <ZdHxh.5$Ry2.4@newsfe10.lga>
Source record: 46169

>> I passed my element 4 test today!
>>
>> I just had to tell someone!
>>
>> Ki4ilb

Congrats, now you have to get 4 elements up in the air and enjoy the most wonderful hobby/sport known to man (and some women :-)

Catch the contest bug!

73 Yuri, K3BU

1156. Re: Yagi antenna design question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-05 14:59:02 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <%CHxh.3$9R1.0@newsfe12.lga>
Source record: 46170

"Wes" <n7ws@yahoo.com> wrote in message
news:1170685780.735146.30130@k78g2000cwa.googlegroups.com...
> On Feb 4, 2:35 pm, "Yuri Blanarovich" <K...@optonline.net> wrote:
> [snip]
>>
>> Tony,
>> by using hairpin matching, you take out portion of the highest current on
>> the element and fold it into the hairpin where it is taken out of antenna
>> "participation" for the price of match.
>
> You're kidding right?
>
> Disclosure: I use a hairpin (beta) match on my HB Yagi.
>

In that case I must be :-)

Can you elaborate why would I be kidding?

As far as I know:

If you use hair pin inserted in the middle of the element, you get the shorter physical length of the element - smaller high current carrying length.
Half wave resonant element has maximum current in the center, by folding portion of that element into a hair pin we take that portion "out of the picture". Just like a loading coil at the base of the vertical - current drop along the coil.

Hairpin is usually folded back on the boom, 90 deg. to radiator, with any current left, not participating in the plane of the elements.

Hairpin loading stubs were proven to be worse loading elements than good quality coils.

You would be better off by inserting coil at the feedpoint instead of (Beta match) hairpin, or use Delta match, or offset feeding at the 50 ohm pointas mentioned before.

We might be splitting hairs here, but I hate to lose even fraction of dB if there is a better way.

I know Beta match works, I used it in some antennas (don't like Gamma matches), even made a QSO with a ligthbulb as an antenna. It's all relative. Contesters like to chase every fraction of a dB lost, soon they can add up to some noticeable real dBs.

YMMV

73 Yuri, K3BU

1157. Re: The Awesome Razor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-05 15:41:57 UTC
From: Christopher Cox <chrisTOPHERcOX@coboxincORORATED.com>
Message-ID: <45c75089$0$16982$4c368faf@roadrunner.com>
Source record: 46171

> ..and "e" for "o" - seems that was April fool's take on Laser - Raser.

It absolutely is!

>
> Are you challenging my fatherhood of Razors? :-)

I absolutely was!

> Razor Beam applies to optimized Quad - Yagi elementary antenna design, not
> to be confused with Overback's "Quagi" - where he replaced reflector and
> driven element in a particular Yagi design.
> I have series of designs from 3 el. quad to 10 el. Razors.
>
> Razor was named after being so sharp, cutting through the pileups and
> shaving the bands clean, jus' one chapter in my fooling with antennas.
>

And there is/was my confusion. You were referring to a valid antenna
design where I thought you were joking around.

Sorry.

But being interested in quad endfire arrays, I will read of your work
with great interest.

Regards,

Chris

1158. Re: help- Mobile 10meters on a jeep

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-05 16:47:58 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <eq7n46$16vk$1@f04n12.cac.psu.edu>
Source record: 46172

Jerry wrote:
> "KE5MBX" <nelson.blaha@gmail.com> wrote in message
> news:1170452620.169633.215710@l53g2000cwa.googlegroups.com...
>> I have been advised by some hams that the best way I can hope to do 10-
>> meters on my jeep is to mount my antenna ON THE WINDSHIELD to get a
>> good ground plane. I read somewhere since then that the primary
>> reason for cophasing CB antennas on trucks is NOT to direct the gain
>> front and back, but to even the ground plane as though the antenna
>> were in the center of the truck. Could I achieve the same effect with
>> my Jeep by cophasing antennas on either side of the jeep by the
>> doors? Even better- could I do this diagonally across from one corner
>> of my jeep to the other? I heard the further apart the antennas are,
>> the better, and I'm not really trying to get front/back gain for DXing.
>
> When it is all said and done, *I* would go with a single 102" whip cut for
> 10 Meters and mounted via ball mount on the left rear fender.

Then it wouldn't be 102 inches any more... Sorry, I couldn't help it...;^)

> This will
> work well, it is simple, and you will not be able to measure any appreciable
> benefit as to pattern or gain with any phasing arrangement. The thing about
> "cophasing" is more hype from the CB world (gullible people buy MORE
> antennas if they think some gadget will work better ;))! To each his own,
> but I wouldn't go to all the trouble.

Nelson, I would agree with Jerry as to the antenna choice. Cophasing
won't do much for ya, and halfwave is getting out of hand for 10 meters
mobile.

As a thought, in amateur mobile, where Ops are trying to pull out every
last bit of efficiency, the cophase antenna just isn't to be seen. The
biggest problem with them is that the logic is almost irresistible. Two
antennas just *seem* like they would be so much better than one.

That being said, experimentation is great fun, and you can get mobile
antenna parts at hamfests, or even make your own.

- 73 de Mike KB3EIA -

1159. Re: help- Mobile 10meters on a jeep

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-05 17:05:08 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <8tJxh.41556$Gr2.39434@newssvr21.news.prodigy.net>
Source record: 46173

Michael Coslo wrote:
> Jerry wrote:
>> When it is all said and done, *I* would go with a single 102" whip cut
>> for 10 Meters and mounted via ball mount on the left rear fender.
>
> Then it wouldn't be 102 inches any more... Sorry, I couldn't help
> it...;^)

Actually, a 102 inch whip has a feedpoint resistance
closer to 50 ohms than does a 98 inch whip. A series
cap will get rid of the inductive reactance and then
one does have a fully function 102 inch 10m whip.
--
73, Cecil http://www.w5dxp.com

1160. Re: DK Johnson's books on mobillering

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-05 18:08:15 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1170698895.468655.299850@q2g2000cwa.googlegroups.com>
Source record: 46174

On Feb 4, 1:27 pm, <c...@texas.net> wrote:

> finally, how do you measure the freq of a received signal? what equipment do
> you need?

There are many ways. It depends some on just what signal you are receiving. If there's a carrier, you can use different techniques than if there is not. From simple and not terribly accurate to pretty good...you can simply look at the dial (analog or digital) on your receiver. The old BC221 and LM military frequency meters were basically just reasonably stable VFOs with a built-in crystal calibrator and a calibration book, and you could use one of those to zero-beat with the signal and read off the frequency. You can use a frequency counter to measure the generator you've zero-beat with the signal, or alternatively, the local oscillator(s) in your receiver. For an SSB signal, you should be able to get within 10Hz or so if you tune the receiver for the most natural-sounding audio; closer, perhaps, if your ear is good. Then you have the frequency of the carrier that was removed from the SSB signal. For best accuracy, I like FFT techniques. I can connect an antenna directly to an FFT-based spectrum analyzer, and measure carriers to a tiny fraction of a Hertz in a relatively short time, better than a frequency counter if you understand the filter shape of the FFT "bins". But if you're receiving the signal via a path that is not absolutely stable, you are only determining the frequency of the received signal, not the transmitted one. During the ARRL frequency-measuring tests, I'm limited by propagation from Newington to the West Coast. But another advantage of FFT techniques is that you can see the spectral "spreading" that accompanies a varying path (or a carrier that's not stable), and estimate the error. If you measure during a time that the path is changing monotonically, there may well be a shift that makes it difficult to figure out just what the error might be; that happens typically twice a day, whenever the receiving point and transmitting point are not both in daylight or darkness. Of course, you need a way to calibrate your frequency reference for the best possible accuracy. A GPS-conditioned oven crystal standard is probably about the best you'll be able to do economically most places.

Cheers,
Tom

1161. Re: element 4 test

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-05 18:21:08 UTC
From: Nate Bargmann <n0nb.DO.NOT.SPAM@ME.networksplus.net>
Message-ID: <K6ednTSfnLcJ6FrYnZ2dnUVZ_rbinZ2d@bluevalley.net>
Source record: 46175

On Sun, 04 Feb 2007 18:49:42 -0500, merlin-7 wrote:

> I plan on signing up as a VE
>
> But should I hand out asprin or advil ????

I'm a Tylenol (or it's generic equivalent) guy myself, so pick your
poison. ;)

- Nate >>

--

"The optimist proclaims that we live in the best of all possible worlds,
the pessimist fears this is true."

1162. Re: The Awesome Razor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-05 20:41:38 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <aEMxh.2856$286.2199@newsfe09.lga>
Source record: 46076

>> Razor Beam applies to optimized Quad - Yagi elementary antenna design,
>> not
>> to be confused with Overback's "Quagi" - where he replaced reflector and
>> driven element in a particular Yagi design.
>> I have series of designs from 3 el. quad to 10 el. Razors.
>>
>> Razor was named after being so sharp, cutting through the pileups and
>> shaving the bands clean, jus' one chapter in my fooling with antennas.
>>
>
> And there is/was my confusion. You were referring to a valid antenna
> design where I thought you were joking around.
>
> Sorry.
>
> But being interested in quad endfire arrays, I will read of your work with
> great interest.
>
> Regards,
>
> Chris

Hi Chris,

Based on my hardware 2m modeling, my and others conclusion is that going over 5 elements, quad array does not provide more gain per boomlength than Yagi.
This is why I tried to come up with design that would provide maximum gain per boom length, 50 ohm impedance and clean pattern - Quad/Yagi combination.
My conclusion then was that one quad element before and after driven (cell) element and rest should be Yagis.
Now I am playing with dual polarization designs, where quad elements are only "dumb" enough to not know which polarization they are at. By switching or phasing driven element one can take advantage of that property.
That, combined with new SDR and DSP radios is opening up whole new area.

73 Yuri, K3BU

1163. Re: antenna with out of line elements

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-05 21:09:38 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1170709778.797380.179660@s48g2000cws.googlegroups.com>
Source record: 46077

On 3 Feb, 19:51, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
> Has anyone modeled what happens to the signal of a triband 3 element antenna
> that has one or more of the elements that has slipped on the boom say 10 or
> 20 deg ?
>
> Also saw in an old magazine an antenna for 2 meters that had each element
> offset by about 5 or 10 deg around the boom to produce circular
> polarization. Will this actually work or is it wishful thinking ?

Ralph you are getting very close to reality.If all your elements are
close to individual
resonance then slippage upto 30 degrees will be to your advantage. At
the same
time your total gain will consist of the addition of all other
polarizations including circular

With respect to the 2 meter antenna, if I remember correctly the
successive angles must
be between around 20 to 30 degrees and none of the elements will
measure a half wave
length since they must all be resonant despite the coupling effects
which adds to
complications in manufacture.
Still if you feed one element at a time you can eventually get to
Eldorado, if not then
get in touch with your requirements and I will provide the dimensions
and if you have
any doubt you can use your own program to check its validity.
Have fun
Art

1164. Re: The Awesome Razor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-05 23:28:53 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1170718133.000510.72650@a34g2000cwb.googlegroups.com>
Source record: 46078

snip
> Yagi.
> snip.
> That, combined with new SDR and DSP radios is opening up whole new area.
>
> 73 Yuri, K3BU- Hide quoted text -
>
> - Show quoted text -

What is this 'whole new area do you see opening up' have with respect
to antennas and how is it connected to polarization ?
Myself, I anticipate some movement to more compact forms of arrays to
meet WIFI trends , erther way antenna interest is sure to increase in
the
next decade.
Art

1165. Re: The Awesome Razor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-05 23:48:38 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <unPxh.2865$286.139@newsfe09.lga>
Source record: 46079

"art" <aunwin@insightbb.com> wrote in message
news:1170718133.000510.72650@a34g2000cwb.googlegroups.com...
> snip
>> Yagi.
>> snip.
>> That, combined with new SDR and DSP radios is opening up whole new area.
>>
>> 73 Yuri, K3BU- Hide quoted text -
>>
>> - Show quoted text -
>
>
> What is this 'whole new area do you see opening up' have with respect
> to antennas and how is it connected to polarization ?

With two antennas and dual SDR receiver you can already swing the pattern
from the antennas in the software. Using dual polarization you can minimize
the efects of fading and take advantage of some noise canceling in DSP -
software. Even now you can see the signals before you can hear them.

> Myself, I anticipate some movement to more compact forms of arrays to
> meet WIFI trends , erther way antenna interest is sure to increase in
> the
> next decade.
> Art
>

Good for you!

73 Yuri

1166. test

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-05 23:58:06 UTC
From: Dave <noone@nowhere.com>
Message-ID: <iwPxh.3175$yH3.1726@trndny07>
Source record: 46080

```
testing new account access...
```

1167. Re: The Awesome Razor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-06 00:08:31 UTC
From: ricknj10@hotmail.com
Message-ID: <45c7c651.133188640@news.optonline.net>
Source record: 46081

On Mon, 5 Feb 2007 15:41:38 -0500, "Yuri Blanarovich" <K3BU@optonline.net>
wrote:

>
>>> Razor Beam applies to optimized Quad - Yagi elementary antenna design,
>>> not
>>> to be confused with Overback's "Quagi" - where he replaced reflector and
>>> driven element in a particular Yagi design.
>>> I have series of designs from 3 el. quad to 10 el. Razors.
>>>
>>> Razor was named after being so sharp, cutting through the pileups and
>>> shaving the bands clean, jus' one chapter in my fooling with antennas.
>>>
>>
>> And there is/was my confusion. You were referring to a valid antenna
>> design where I thought you were joking around.

>Now I am playing with dual polarization designs, where quad elements are
>only "dumb" enough to not know which polarization they are at.

Hey Yuri,
Will a Razor work better if it is looking out over an infinite salt marsh with
3000 miles of ocean on the horizon, or a sand-soil forested area? Just
curious. Assume 40 meters or maybe 80 meters and lots of height.

Rick K2XT

1168. Re: The Awesome Razor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-06 01:52:28 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <BbRxh.35$Ry2.15@newsfe10.lga>
Source record: 46082

> Hey Yuri,
> Will a Razor work better if it is looking out over an infinite salt marsh
> with
> 3000 miles of ocean on the horizon, or a sand-soil forested area? Just
> curious. Assume 40 meters or maybe 80 meters and lots of height.
>
> Rick K2XT

Anything works better over salt marsh or water. Vertical polarization takes more advantage of the "salty" effect.

73 Yuri

1169. Re: Yagi antenna design question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-06 02:54:18 UTC
From: Wes <n7ws@yahoo.com>
Message-ID: <1170730458.753829.258240@s48g2000cws.googlegroups.com>
Source record: 46083

On Feb 5, 7:59 am, "Yuri Blanarovich" <K...@optonline.net> wrote:
> "Wes" <n...@yahoo.com> wrote in message
>
> news:1170685780.735146.30130@k78g2000cwa.googlegroups.com...
>
> > On Feb 4, 2:35 pm, "Yuri Blanarovich" <K...@optonline.net> wrote:
> > [snip]
>
> >> Tony,
> >> by using hairpin matching, you take out portion of the highest current on
> >> the element and fold it into the hairpin where it is taken out of antenna
> >> "participation" for the price of match.
>
> > You're kidding right?
>
> > Disclosure: I use a hairpin (beta) match on my HB Yagi.
>
> In that case I must be :-)
>
> Can you elaborate why would I be kidding?
>
> As far as I know:
>
> If you use hair pin inserted in the middle of the element, you get the
> shorter physical length of the element - smaller high current carrying
> length.

I believe that your first problem is that you are considering the
hairpin (Beta) to be part of the radiator instead of considering the
actual case; it's part of the matching network.

> Half wave resonant element has maximum current in the center, by folding
> portion of that element into a hair pin we take that portion "out of the
> picture". Just like a loading coil at the base of the vertical - current
> drop along the coil.

op cit. I'm not "folding a portion of the element." If you subscribe
to the idea that part of the antenna can be "folded into" the feeder
and that by selecting the right feeder length you can "lengthen the
antenna" (as shown in a lot of old ARRL literature) then I have a new
limited space antenna for you. It's a one foot long radiator with a
variable length feeder (a la Cecil) that "makes up" the missing
antenna length.

>
> Hairpin is usually folded back on the boom, 90 deg. to radiator, with any
> current left, not participating in the plane of the elements.

If I placed a discrete (lumped element) L-network at the feedpoint the
current in it would not be "participating" either.

>
> Hairpin loading stubs were proven to be worse loading elements than good
> quality coils.

When, where, by whom, etc? Oh, BTW, did I mention "THE HAIRPIN IS NOT
A LOADING ELEMENT. It's the inductance in an LC L-network.

>
> You would be better off by inserting coil at the feedpoint instead of (Beta
> match) hairpin, or use Delta match, or offset feeding at the 50 ohm pointas
> mentioned before.

Why? The hairpin will handle all the power an amateur can supply, it
can (does in my case) form an integral balun and it DC grounds the
element.
>

> We might be splitting hairs here, but I hate to lose even fraction of dB if
> there is a better way.

No gain is lost. I can model my Yagi with and without the Beta,
resonating the antenna without it by lengthening the element and the
gain remains the same within 0.01 dB.

>
> I know Beta match works, I used it in some antennas (don't like Gamma
> matches), even made a QSO with a ligthbulb as an antenna. It's all relative.
> Contesters like to chase every fraction of a dB lost, soon they can add up
> to some noticeable real dBs.

I've been a moonbouncer, I know all about fractions of a dB.

1170. Re: Yagi antenna design question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-06 03:49:20 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <aVSxh.29$Pf7.18@newsfe11.lga>
Source record: 46084

```
"Wes" <n7ws@yahoo.com> wrote in message
news:1170730458.753829.258240@s48g2000cws.googlegroups.com...
> On Feb 5, 7:59 am, "Yuri Blanarovich" <K...@optonline.net> wrote:
>> "Wes" <n...@yahoo.com> wrote in message
>>
>> news:1170685780.735146.30130@k78g2000cwa.googlegroups.com...
>>
>> > On Feb 4, 2:35 pm, "Yuri Blanarovich" <K...@optonline.net> wrote:
>> > [snip]
>>
>> >> Tony,
>> >> by using hairpin matching, you take out portion of the highest current
>> >> on
>> >> the element and fold it into the hairpin where it is taken out of
>> >> antenna
>> >> "participation" for the price of match.
>>
>> > You're kidding right?
>>
>> > Disclosure: I use a hairpin (beta) match on my HB Yagi.
>>
>> In that case I must be :-)
>>
>> Can you elaborate why would I be kidding?
>>
>> As far as I know:
>>
>> If you use hair pin inserted in the middle of the element, you get the
>> shorter physical length of the element - smaller high current carrying
>> length.
>
> I believe that your first problem is that you are considering the
> hairpin (Beta) to be part of the radiator instead of considering the
> actual case; it's part of the matching network.
>

Do you have to shorten the (driven) element if you insert the hairpin in the
middle or not (to maintain the resonant frequency)? Telrex 40m Yagis did use
hairpins at the center of the element as a loading and shortening the
element length. To me that is the matching network too, but at the expenses
of shortening the element length - center loading, similar to base loading
the resonant quarter wave vertical.

>> Half wave resonant element has maximum current in the center, by folding
>> portion of that element into a hair pin we take that portion "out of the
```

>> picture". Just like a loading coil at the base of the vertical - current
>> drop along the coil.
>
> op cit. I'm not "folding a portion of the element." If you subscribe
> to the idea that part of the antenna can be "folded into" the feeder
> and that by selecting the right feeder length you can "lengthen the
> antenna" (as shown in a lot of old ARRL literature) then I have a new
> limited space antenna for you. It's a one foot long radiator with a
> variable length feeder (a la Cecil) that "makes up" the missing
> antenna length.
>

You fold the portion of the element, it's called loading, at the base, in the middle or anywhere along the element length. The folded hairpin has inductance, just like a coil, and can be replaced with the coil of similar inductance. The loading element is not the limited space antenna, look at the currents at its ends and see the difference in curent distribution along it and how it participates in the overall radiator current distribution and corresponding area under the cosine curve representative of the efficiency. We are back to the loading coil "problem" and that's why we pointed out the efect and its impact on the antenna performance.

>>
>> Hairpin is usually folded back on the boom, 90 deg. to radiator, with any
>> current left, not participating in the plane of the elements.
>
> If I placed a discrete (lumped element) L-network at the feedpoint the
> current in it would not be "participating" either.
>

Not much, but help with cleaner pattern.

>>
>> Hairpin loading stubs were proven to be worse loading elements than good
>> quality coils.
>
> When, where, by whom, etc? Oh, BTW, did I mention "THE HAIRPIN IS NOT
> A LOADING ELEMENT. It's the inductance in an LC L-network.
>

Here we go again? We are talking about standing wave circuit - antenna radiator or element. So inductance is not a loading element? As far as I know inductance (coil, hairpin) or capacitance (top hat, L, T loading) are used as a loading elements to shorten the physical length of the antenna element, while maintaining electrical length.
There was an article by W6?? in CQ and other examples when they replaced hairpin loading on Yagi elements with coils and got significant improvement in the performance of KLM 3 el 80 Yagi, better gain, much better pattern due to less interference of the folded back hairpin with the element. Measurements and modeling before and after showed that.

pointas
>> mentioned before.
>
> Why? The hairpin will handle all the power an amateur can supply, it
> can (does in my case) form an integral balun and it DC grounds the
> element.
>>
>
No argument here, you can do that with coil and gain some edge.

>> We might be splitting hairs here, but I hate to lose even fraction of dB
>> if
>> there is a better way.
>
> No gain is lost. I can model my Yagi with and without the Beta,
> resonating the antenna without it by lengthening the element and the
> gain remains the same within 0.01 dB.
>

No gain lost would be 0.0000 dB :-)

>>
>> I know Beta match works, I used it in some antennas (don't like Gamma
>> matches), even made a QSO with a ligthbulb as an antenna. It's all
>> relative.
>> Contesters like to chase every fraction of a dB lost, soon they can add
>> up
>> to some noticeable real dBs.
>
> I've been a moonbouncer, I know all about fractions of a dB.

Then you should appreciate the above.

73 Yuri, K3BU

1171. Re: Optimum length for ladder-fed dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-06 04:08:55 UTC
From: mcalhoun@ksu.edu
Message-ID: <eq8v0n$j76@unix1.cc.ksu.edu>
Source record: 46085

>I'm planning a dipole installation fed with ladder line and a
>wide-range antenna tuner.
>I'd like to be able to use it on 160 through 10. A half wave at 160
>meters is a bit under 260 feet. Is there any particular reason I
>should limit its length to 260 feet? I have enough room to make it
>about 320 feet... any particular reason I shouldn' t do that?

I used to have a "dipole" which was about 150 feet on one side and
closer to 200 feet on the other, fed with true ladder line (little
plastic insulators spaced every 6 inches, not the plastic-covered
stuff) up maybe 35 feet. Worked like gangbusters. Locals often
explained that I "got out" so well because my signal was halfway
there before it had to leave the wire. VSWR was often greater
than 10:1, but I didn't care.

--
--Myron A. Calhoun; 2001 Dunbar Road; Manhattan, KS 66502-3907
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
NRA Life Member and Rifle, Pistol, & Home Firearm Safety Certified Instructor
Certified Instructor for the Kansas Concealed-Carry Handgun license

1172. Re: help- Mobile 10meters on a jeep

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-06 05:27:48 UTC
From: Jerry <joxendi@bellsouth.net>
Message-ID: <v69yh.1100$%e3.734@bigfe9>
Source record: 46092

"Michael Coslo" <mjc5@psu.edu> wrote in message
news:eq7n46$16vk$1@f04n12.cac.psu.edu...
> Jerry wrote:
>> "KE5MBX" <nelson.blaha@gmail.com> wrote in message
>> news:1170452620.169633.215710@l53g2000cwa.googlegroups.com...
>>> I have been advised by some hams that the best way I can hope to do 10-
>>> meters on my jeep is to mount my antenna ON THE WINDSHIELD to get a
>>> good ground plane. I read somewhere since then that the primary
>>> reason for cophasing CB antennas on trucks is NOT to direct the gain
>>> front and back, but to even the ground plane as though the antenna
>>> were in the center of the truck. Could I achieve the same effect with
>>> my Jeep by cophasing antennas on either side of the jeep by the
>>> doors? Even better- could I do this diagonally across from one corner
>>> of my jeep to the other? I heard the further apart the antennas are,
>>> the better, and I'm not really trying to get front/back gain for DXing.
>>
>> When it is all said and done, *I* would go with a single 102" whip cut
>> for 10 Meters and mounted via ball mount on the left rear fender.
>
> Then it wouldn't be 102 inches any more... Sorry, I couldn't help it...;^)
>
NOW CUT THAT OUT!! :) Just because I was about to go to bed when I posted
that.....................LOL!
;) ;)

73

Jerry
> - 73 de Mike KB3EIA -

1173. Re: DK Johnson's books on mobillering

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-06 05:57:22 UTC
From: Art Clemons <n8blk@aolSPAM.com>
Message-ID: <CdGdnTRVsfZfhVXYnZ2dnUVZ_uXinZ2d@comcast.com>
Source record: 46086

chasm@texas.net wrote:

> WANT TO BUY a copy of each of his books

At this stage, you're unlikely to find paper versions of his books, however WorldRadio sells a CD with what you wish. It's about $25 plus shipping.

http://www.wr6wr.com/newSite/products/software_cd/wr2000.html

1174. Re: Yagi antenna design question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-06 12:28:19 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <Dv_xh.16150$zH1.15847@newssvr29.news.prodigy.net>
Source record: 46087

Wes wrote:
> op cit. I'm not "folding a portion of the element." If you subscribe
> to the idea that part of the antenna can be "folded into" the feeder
> and that by selecting the right feeder length you can "lengthen the
> antenna" (as shown in a lot of old ARRL literature) then I have a new
> limited space antenna for you. It's a one foot long radiator with a
> variable length feeder (a la Cecil) that "makes up" the missing
> antenna length.

Why didn't I think of that? The SWR on the ladder line on 40m
would only be 47,000,000:1 and the feedpoint impedance would
be 10 micro-ohms at system resonance.
--
73, Cecil http://www.w5dxp.com

1175. Re: Prophecies fulfilled

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-06 13:41:25 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <eqa0i5$15re$1@f04n12.cac.psu.edu>
Source record: 46088

Richard Clark wrote:
> On Fri, 2 Feb 2007 16:47:20 GMT, "R. Scott"
> <lintardspamtrap@scotts-home.net> wrote:
>
>> The reason for their alarm is they know people will go to the Moderated
>> group to get away from their
>> crap they are posting, thus they then wont have anyone left to hear their
>> drivel. The self imposed
>> importance thus will go away and they will be once again left to what they
>> really are.
>>
> Two amazing things about this:
> 1. It's taken 25 years to figure it out;
> 2. It hasn't happened yet;
> 3. They have to ask permission to see if it sounds like a good idea?
>
> This is second in competency only to the Department of Homeland
> Security: "All Katrina victims, assemble for your safety at the Sport
> Coliseum. Busses, food, and water will arrive someday. Excuse the
> bathrooms that are out of order and use the hallway."
>
> Actually I encourage the development of a moderated group, they
> deserve it. I can imagine some of our erstwhile visitors moving there
> to author 1000 one entry threads. It'll be like a virtual hair trap
> in the tub.

Your "one post thread" statement got me to wondering. If the moderator doesn't like any of the answers to a question, do they "moderate" the answers? (I'd use censor, but I fear I may have been abusive of the more delicate readers here) Is the moderator duty bound to m-moderate incorrect answers?

Is there any legal responsibility in all this? Which is to say would the cen... dammit! Moderator have any responsibility to block our posts about charging up capacitors in school, and shocking people with them? Are they leaving themselves open to litigation?

Would posts about Isotron Antennas be allowed??

- 73 de Mike KB3EIA -

1176. Re: Prophecies fulfilled

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-06 14:01:17 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <NS%xh.59194$wc5.56686@newssvr25.news.prodigy.net>
Source record: 46089

Michael Coslo wrote:
> Is the moderator duty bound to m-moderate incorrect answers?

One way to handle such is the same way as "editor's
note" is handled in technical publications.
--
73, Cecil http://www.w5dxp.com

1177. Re: Prophecies fulfilled

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-06 16:28:31 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <r5ahs25eevms2lclsk5140cie3cq7595uj@4ax.com>
Source record: 46090

On Tue, 06 Feb 2007 08:41:25 -0500, Michael Coslo <mjc5@psu.edu>
wrote:

> Your "one post thread" statement got me to wondering.

Hi Mike,

I would offer most threads I "start" tend to be very short, yes. This one is a remarkable departure from that average - and hardly monumental at that - and boring.

>If the moderator
>doesn't like any of the answers to a question, do they "moderate" the
>answers?

Imagine the flame wars that the moderators would engage in, in their own hyper-group if they got a posting to discuss "The Conjugate Match."

73's
Richard Clark, KB7QHC

1178. Re: On 144MHz J-Pole vs EDZ - Some mad ramblings.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-06 22:44:23 UTC
From: Bob Bob <bob3bob3@suddenlink.net>
Message-ID: <7vcn94-2i6.ln1@p400bob.personal.cox.net>
Source record: 46091

Hi Fred

Tnxs for your comments

The issue however isn't to do with the (available) design of the JPole itself, but whether it is better to use an EDZ instead of it. ie What are the disadvantages/advantages. The points I made were the ones I was "using" in the decision making process. You'll also note that I am looking at the "Super 5/8-5/8 JPole" of which there are far fewer designs available.

Cheers Bob VK2YQA

Fred Ferley wrote:
>
> Hi,
> Hey, those "J" pole designs from off the `web you see are pretty
> much Plug & Play for the most part.

1179. Re: DK Johnson's books on mobillering

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 01:23:12 UTC
From: Jerry <joxendi@bellsouth.net>
Message-ID: <9S9yh.1104$%e3.14@bigfe9>
Source record: 46093

"Art Clemons" <n8blk@aolSPAM.com> wrote in message
news:CdGdnTRVsfZfhVXYnZ2dnUVZ_uXinZ2d@comcast.com...
> chasm@texas.net wrote:
>
>> WANT TO BUY a copy of each of his books
>
> At this stage, you're unlikely to find paper versions of his books,
> however
> WorldRadio sells a CD with what you wish. It's about $25 plus shipping.

I am fortunate in that I have a set of those volumes to which I still refer
from time to time. Good stuff!!!

73

Jerry
>
> http://www.wr6wr.com/newSite/products/software_cd/wr2000.html

1180. antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 02:42:31 UTC
From: znaqwi@googlemail.com
Message-ID: <1170816150.996748.191520@m58g2000cwm.googlegroups.com>
Source record: 46094

The total distance between the transmitting and receiving antenna of a microwave link at 10GHz, is 30 Km. the height of the Tx antenna is above ground level is 20 m. the maximum acceptable total path loss is 169 dB. Furthermore there is hill located 10 km away from the transmitter antenna with a height of 80m.

calculate the height of the receiver antenna for the path loss to be just equal to the maximum acceptable value?

1181. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 03:35:04 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <45c948e6$0$28159$4c368faf@roadrunner.com>
Source record: 46095

<znaqwi@googlemail.com> wrote in message
news:1170816150.996748.191520@m58g2000cwm.googlegroups.com...
> The total distance between the transmitting and receiving antenna of a
> microwave link at 10GHz, is 30 Km. the height of the Tx antenna is
> above ground level is 20 m. the maximum acceptable total path loss is
> 169 dB. Furthermore there is hill located 10 km away from the
> transmitter antenna with a height of 80m.
>
> calculate the height of the receiver antenna for the path loss to be
> just equal to the maximum acceptable value?

1. Antenna essentially operates in free space with no near field ground losses because the wavelength is extremely small (3.3cm) compared to 20m antenna height at the transmitter.

2. The effect of the 80m hill 10Km away is negligible. The arc tan is only .008 degrees, thus the transmitter hardly "sees" it.

3. The path loss seen by an atenna at 0 feet is then 131.8 dB (Path Loss = 20log(4*pi*d/lambda)), which is much less than the desired 169dB maximum.

Answer: 0 Feet.

1182. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 03:49:47 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <45c94c59$0$24706$4c368faf@roadrunner.com>
Source record: 46096

"Stefan Wolfe" <stefan@eml.com> wrote in message
news:45c948e6$0$28159$4c368faf@roadrunner.com...
>
> <znaqwi@googlemail.com> wrote in message
> news:1170816150.996748.191520@m58g2000cwm.googlegroups.com...
>> The total distance between the transmitting and receiving antenna of a
>> microwave link at 10GHz, is 30 Km. the height of the Tx antenna is
>> above ground level is 20 m. the maximum acceptable total path loss is
>> 169 dB. Furthermore there is hill located 10 km away from the
>> transmitter antenna with a height of 80m.
>>
>> calculate the height of the receiver antenna for the path loss to be
>> just equal to the maximum acceptable value?
>
> 1. Antenna essentially operates in free space with no near field ground
> losses because the wavelength is extremely small (3.3cm) compared to 20m
> antenna height at the transmitter.
>
> 2. The effect of the 80m hill 10Km away is negligible. The arc tan is only
> .008 degrees, thus the transmitter hardly "sees" it.
>
> 3. The path loss seen by an atenna at 0 feet is then 131.8 dB (Path Loss =
> 20log(4*pi*d/lambda)), which is much less than the desired 169dB maximum.
>
> Answer: 0 Feet.

Oops, that's a path loss of 141.16dB. Same answer, however.

1183. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 03:50:49 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <1uiis29p0rbsb45jfgd4gsncc9buog8leo@4ax.com>
Source record: 46097

On Tue, 6 Feb 2007 22:35:04 -0500, "Stefan Wolfe" <stefan@eml.com>
wrote:

>2. The effect of the 80m hill 10Km away is negligible. The arc tan is only
>.008 degrees, thus the transmitter hardly "sees" it.

Actually, Stefan, the transmitter cannot see through it at all.

>Answer: 0 Feet.

Our Lincolnshire student needs to think back to simple trigonometry to
answer this. The path loss, once the height of the hill is made
irrelevant, is sufficient as Stefan points out.

73's
Richard Clark, KB7QHC

1184. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 04:14:08 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <gmcyh.176$19.135@bignews3.bellsouth.net>
Source record: 46098

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:1uiis29p0rbsb45jfgd4gsncc9buog8leo@4ax.com...
> On Tue, 6 Feb 2007 22:35:04 -0500, "Stefan Wolfe" <stefan@eml.com>
> wrote:
>
>>2. The effect of the 80m hill 10Km away is negligible. The arc tan is only
>>.008 degrees, thus the transmitter hardly "sees" it.
>
> Actually, Stefan, the transmitter cannot see through it at all.
>
>>Answer: 0 Feet.
>
> Our Lincolnshire student needs to think back to simple trigonometry to
> answer this. The path loss, once the height of the hill is made
> irrelevant, is sufficient as Stefan points out.
>
> 73's
> Richard Clark, KB7QHC
The only way I could figure the hill in is if one is trying to Knife-edge
over the hill. Otherwise the hill is totally irrelevant to the problem.

1185. Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 04:55:20 UTC
From: T <taylor_j25@yahoo.com>
Message-ID: <1170824120.693962.9100@v45g2000cwv.googlegroups.com>
Source record: 46099

i'm working on a science fair project. i'm building an am-radio transmitter. i can only be a few inches from the receiver. how do i solve this problem without making my antenna enormous.

1186. Re: Best Books/Websites for Antenna Theory and Building Recommendations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 04:55:54 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <BZcyh.28840$u92.6276@newsfe16.phx>
Source record: 46100

"Joaquin Tall" <opalockamishabob@'86DASPAMnetscape.net> wrote in message news:tfydnbr9O4IMEF7YnZ2dnUVZ_oOonZ2d@got.net...
> Hello All,
>
> I have just gotten my tech license and am eager to get my station up and
> running. I am starting on a shoestring; currently, I have no equipment
> whatsoever and don't know what I should buy just yet. In absence of a
> rig, I am now studying to pass my General license exam next month.
>
> I am very interested in building my own HF/VHF/UHF antennas. I've seen
> the ARRL books, but I was hoping that you good folks might have some
> favorite websites, book titles or magazine issues [old or new] that
> you'd be willing to pass along that could get me started.

I will make my (usual) pitch for the j-pole antenna.

Take a look at http://www.hamuniverse.com/jpole.html and see what can be done at UHF/VHF with a few pieces of pipe, some solder and a torch. The j-pole is a good match after a little fiddling, It's durable, requires no ground plane and can be mounted almost anywhere. I have made about two dozen of them for myself, for RACES and for friends in the local club. My first one (early 90's) is on the roof of my house and I used it on 2m earlier this evening, as I do most evenings.

Search google.com for jpole antenna and see about 40,000 other links.

The "quad antenna" and its cousin the "quagi," a quad/yagi hybrid, are also possible, but I've never built any of them, myself. The venerable whip-over-downward-radials is easy but can be tedious to tune for a good match. (I built one of them onto a construction hardhat as an novelty; got a good match, too.)

I'm next door to you in Chula Vista, by the way.

KD6VKW
http://members.cox.net/sobars/

1187. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 05:01:05 UTC
From: Garth <Having_Fun@tucson.rr.com>
Message-ID: <gbednbx6GIZCwVTYnZ2dnUVZ_uHinZ2d@hawaiiantel.net>
Source record: 46101

znaqwi@googlemail.com wrote:

> The total distance between the transmitting and receiving antenna of a
> microwave link at 10GHz, is 30 Km. the height of the Tx antenna is
> above ground level is 20 m. the maximum acceptable total path loss is
> 169 dB. Furthermore there is hill located 10 km away from the
> transmitter antenna with a height of 80m.
>
> calculate the height of the receiver antenna for the path loss to be
> just equal to the maximum acceptable value?

Whats the height of the receive antenna?

Is the hill directly in the line of sight of the receive antenna?

1188. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 05:08:19 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <45c95ec5$0$18852$4c368faf@roadrunner.com>
Source record: 46102

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:1uiis29p0rbsb45jfgd4gsncc9buog8leo@4ax.com...
> On Tue, 6 Feb 2007 22:35:04 -0500, "Stefan Wolfe" <stefan@eml.com>
> wrote:
>
>>2. The effect of the 80m hill 10Km away is negligible. The arc tan is only
>>.008 degrees, thus the transmitter hardly "sees" it.
>
> Actually, Stefan, the transmitter cannot see through it at all.

Exactly . And taking into account the 15 degree bend of the radio horizon
(even at 10 GHz) vs the arctan of .008 degrees for the the hill, reduced
somewhat by the 20 foot transmitter tower to .006 degrees, the hill itself
is invisible at a 30km far field. The bend of the propagating waves which
extends the radio horizon clearly mitigates any possible effects of the 80m
hill.

1189. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 07:45:08 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <n00js2h3vv8lptm465oe99t5l29c2oat1k@4ax.com>
Source record: 46103

On Wed, 7 Feb 2007 00:08:19 -0500, "Stefan Wolfe" <stefan@eml.com>
wrote:

>
>"Richard Clark" <kb7qhc@comcast.net> wrote in message
>news:1uiis29p0rbsb45jfgd4gsncc9buog8leo@4ax.com...
>> On Tue, 6 Feb 2007 22:35:04 -0500, "Stefan Wolfe" <stefan@eml.com>
>> wrote:
>>
>>>2. The effect of the 80m hill 10Km away is negligible. The arc tan is only
>>>.008 degrees, thus the transmitter hardly "sees" it.
>>
>> Actually, Stefan, the transmitter cannot see through it at all.
>
>Exactly . And taking into account the 15 degree bend of the radio horizon
>(even at 10 GHz) vs the arctan of .008 degrees for the the hill, reduced
>somewhat by the 20 foot transmitter tower to .006 degrees, the hill itself
>is invisible at a 30km far field. The bend of the propagating waves which
>extends the radio horizon clearly mitigates any possible effects of the 80m
>hill.
>

Hi Stefan,

You seem to be simultaneously agreeing and disagreeing. The hill is
either in the way, or it is not. It is in the way. To count on an
intermediary, such as suggested by Jimmie, knife-edge propagation or
bend of the waves, is probably not in our student's syllabus. Besides,
I have seen neither you nor Jimmie offer the attenuation presented by
such refractions (and the attenuation is not marginal). Without
quantifiables, the path budget cannot be calculated.

The problem, as stated, has a clear answer in looking over the hill by
raising one antenna, the question informs us that is the answer and
that is simply resolved with trig (albeit, including the radius of
earth and accounting for its curvature).

73's
Richard Clark, KB7QHC

1190. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 07:46:07 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <6t0js2l9e1of3014rl6h86579gem2go65v@4ax.com>
Source record: 46104

On 6 Feb 2007 20:55:20 -0800, "T" <taylor_j25@yahoo.com> wrote:

>i'm working on a science fair project. i'm building an am-radio
>transmitter. i can only be a few inches from the receiver. how do i
>solve this problem without making my antenna enormous.

Build a loop stick antenna (Google the term).

73's
Richard Clark, KB7QHC

1191. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 09:00:45 UTC
From: Jeff <jeff@local.host>
Message-ID: <45c9954d$0$1345$834e42db@reader.greatnowhere.com>
Source record: 46105

>> The total distance between the transmitting and receiving antenna of a
>> microwave link at 10GHz, is 30 Km. the height of the Tx antenna is
>> above ground level is 20 m. the maximum acceptable total path loss is
>> 169 dB. Furthermore there is hill located 10 km away from the
>> transmitter antenna with a height of 80m.
>>
>> calculate the height of the receiver antenna for the path loss to be
>> just equal to the maximum acceptable value?
>
> 1. Antenna essentially operates in free space with no near field ground
> losses because the wavelength is extremely small (3.3cm) compared to 20m
> antenna height at the transmitter.
>
> 2. The effect of the 80m hill 10Km away is negligible. The arc tan is only
> .008 degrees, thus the transmitter hardly "sees" it.
>
> 3. The path loss seen by an atenna at 0 feet is then 131.8 dB (Path Loss =
> 20log(4*pi*d/lambda)), which is much less than the desired 169dB maximum.
>
> Answer: 0 Feet.

Definitely NOT 0 feet.

Even without the hill in the way the curvature of the earth means that the
radio horizon is at about 20km with the tx on a 20m mast. 0.6 Fresnel
clearance occurs at about 6km. and the path loss exceeds 180dB.!!
The Rx mast needs to be at about 25m to obtain a 0.6 fresnel zone clearance,
WITHOUT a hill.This would give about 150dB path loss.

Adding the 80m hill at 10km gives a single knife edge diffraction, that
increases the path loss enormously to about 200dB!!

This path loss does not change significantly until the Rx antenna height
gets so large that near line of sight is achieved. That is over 100m!! To
obtain the 169dB required figure the mast height would have to be about
250m!!!!!!!

Regards
Jeff

1192. For Sale MMB-72 nest for a Yaesu FT100D (New), Seperation kit part

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 11:09:56 UTC
From: Nighthawk <miner1@flash.net>
Message-ID: <8siyh.74275$qO4.61852@newssvr13.news.prodigy.net>
Source record: 46106

New Part MMB-72 nest for Yaesu FT100D face. This is a hard to find part, that is usually lost or broken. I have a new one. $20.00 plus postage.

e-mail me...

miner1@flash.net

1193. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 11:46:31 UTC
From: W3JDR <joe@roccis.com>
Message-ID: <r_iyh.10770$fT1.1492@trndny02>
Source record: 46107

Or use fine wire to build a larger multi-turn loop antenna into the perimeter of the "story-board" for your science fair display. If this is truly a science fair project, then the antenna is an important part of the story that should be shown, isn't it?

Joe
W3JDR

"Richard Clark" <kb7qhc@comcast.net> wrote in message news:6t0js2l9e1of3014rl6h86579gem2go65v@4ax.com...
> On 6 Feb 2007 20:55:20 -0800, "T" <taylor_j25@yahoo.com> wrote:
>
>>i'm working on a science fair project. i'm building an am-radio
>>transmitter. i can only be a few inches from the receiver. how do i
>>solve this problem without making my antenna enormous.
>
> Build a loop stick antenna (Google the term).
>
> 73's
> Richard Clark, KB7QHC

1194. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 11:58:04 UTC
From: znaqwi@googlemail.com
Message-ID: <1170849484.233615.175580@v33g2000cwv.googlegroups.com>
Source record: 46108

hello
Jeff
i am very thank full to your help, i have got Rx height 101.2

Regards
naqvi

1195. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 12:18:47 UTC
From: znaqwi@googlemail.com
Message-ID: <1170850727.117865.113780@s48g2000cws.googlegroups.com>
Source record: 46109

The total distance between the transmitting and receiving antenna of
a microwave link at 10GHz, is 30 Km. the height of the Tx antenna is
above ground level is 20 m. the maximum acceptable total path loss is
169 dB.
Furthermore there is hill located 10 km away from the transmitter (Tx)
antenna with a height of 80m.

calculate the height of the receiver antenna for the path loss to be
just equal to the maximum acceptable value?

Whats the height of the receive antenna? (required)

Is the hill directly in the line of sight of the receive antenna?
yes it is b/w the LOS

1196. Asking for advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 15:35:32 UTC
From: EpsilonRho <EpsilonRho@nospam.ooo>
Message-ID: <8lmyh.16783$ji1.8571@newssvr12.news.prodigy.net>
Source record: 46110

My mother lives in a area where the cell-phone signal is very weak. Typically I can get only one mark on the phone field strength meter. That forces me to go outside the house in order to have a reasonable chance of completing a call (of course only if the weather permits). I have only basic understanding of antennas, so I am asking this forum if the following idea is feasible.

I am planning to build (or buy) a 850 MHz Yagi antenna (14 dB gain) to be installed on the outside and pointing towards the signal strongest direction. The boosted signal would be transmitted through a balun and a low loss 75 ohm coax cable to the inside of the house terminating to a 1/4 wavelength 75 ohm antenna stub. Is this feasible? Could I get perhaps a 10bB signal boost inside the house by means of this arrangement?

TIA
Gene

1197. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 15:43:44 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <eqcs5a$51t$1@aioe.org>
Source record: 46111

<znaqwi@googlemail.com wrote
> The total distance between the transmitting and receiving antenna of a
> microwave link at 10GHz, is 30 Km. the height of the Tx antenna is
> above ground level is 20 m. the maximum acceptable total path loss is
> 169 dB. Furthermore there is hill located 10 km away from the
> transmitter antenna with a height of 80m.
>
> calculate the height of the receiver antenna for the path loss to be
> just equal to the maximum acceptable value?

The height above mean sea level of the tx and rx sites, and the terrain profile for the path would be necessary to answer this ~ accurately. But for a smooth earth model, the graphic at the link below will give some insight.

It shows that a height of around 270 meters would be needed for the receive antenna, using a K-factor of 1.33 and 0.6 fresnel clearance for an 80 m hill 10 km downrange. The path loss then would be about 142 dB.

http://i62.photobucket.com/albums/h85/rfry-100/10GigPath.gif

RF

1198. Re: Yagi antenna design question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 15:53:43 UTC
From: Wes <n7ws@yahoo.com>
Message-ID: <1170863623.642498.284210@h3g2000cwc.googlegroups.com>
Source record: 46112

This will be the last word I have on this topic.

I have placed two files here:

www.k6mhe.com/n7ws/N7WS_Yagi_Resonant.EZ

and here:

www.k6mhe.com/n7ws/N7WS_Yagi_Shortened.EZ

The files are models of my 20-meter three-element Yagi that are as nearly representative of the physical antenna and its location as I can make them. The only difference between them is the half-length of the DE. The actual antenna uses the shortened version with a stub (Beta) matching/balun arrangement.

Two photos of the details of this are here:

www.k6mhe.com/n7ws/YagiFeed-1a.jpg

and here:

www.k6mhe.com/n7ws/YagiFeed-2a.jpg

The photos were taken with the antenna mounted on the tower and the tower folded over in case you're wondering about the orientation.

For the purposes of the discussion I have removed the stub matching system from the model.

The following transformation and matching exercise can be performed using a Smith Chart, your favorite computer program or with pencil on the back of an envelope. I happen to prefer, and highly recommend, AC6LA's XLZIZL.xls Excel workbook for this stuff.

First let's analyze the full-length, resonant DE version. After running the analysis we (should) have a feedpoint Z of 26.76 +j0 and a gain at the selected elevation of 12.91 dBi. The SWR is 1.87:1.

Instead of the integral stub, which Yuri believes is part of the antenna that is "folded back" along the boom, I will move the matching system away from this location using an ideal ½ wavelength (34.7 foot) transmission line with an ideal current balun at the antenna end. I don't believe anyone would argue that the feedpoint impedance is not replicated exactly at the input end of this line.

At the input end of the lossless line, the Z is of course, 26.76 +j0. Because, as will be shown, the stub matching system is nothing more than an L-network; I will use the same at the input of the half-

wavelength line.

I begin by inserting a series capacitor, C = 448 pF and Q = 1000. At the input side of this capacitor the Z is now: 26.785 -j25.062. If using XLZIZL, the loss in this capacitor is shown as 0.004 dB, because Q is not infinite.

Continuing, I place a shunt inductor, L = 0.6, Q = 200 across the input of the series capacitor. The resulting input Z = 50.00 +j0.2. The total network loss is 0.02 dB. This is the baseline.

Returning to the shortened driven element version, after analysis, we find that the input Z = 24.55 -j25.2 and the gain is unchanged at 12.91 dBi. At the input end of our magical ½ wavelength line, the Z remains 24.55 -j25.2.

Once again using the L-network system, I find that the series capacitor is unnecessary and I can proceed by adding a shunt inductance. Rather than using Yuri's "preferred" discrete inductor, let's use a "lossy" stub. Instead of using the large diameter, parallel tube stub of the actual antenna, I'll use a standard transmission line for the stub. XLZIZL has a number if transmission lines and their parameters "built in," including the Wireman ladder lines. The parameters for these are those I derived in my ladder line paper.

http://www.k6mhe.com/n7ws/Ladder_Line.pdf

Selecting Wireman 553, shorting one end and placing the other in parallel with the input to the lossless line and doing a little manipulation and I find that a 14.85" length makes the Z = 50.12 +j0.18. The network loss remains 0.02 dB. So much for this less than ideal stub vs. Yuri's preferred discrete inductor.

There you have it. The stub matching method is equal to a discrete L-network in efficiency, it does not detract from the antenna efficiency one bit, it can incorporate the balun function without additional components, it grounds the feedpoint, with a little sealant on the cable, it is weatherproof and unlike Gammas and Tee-matches, it will handle full power without being prone to capacitor breakdown. It is not part of the radiator; it is part of the matching network. Period.

1199. J-Pole vs Slim Jim?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 16:04:42 UTC
From: Ian Jackson <IanJacksonRemoveThisBit@g3ohx.demon.co.uk>
Message-ID: <xkDm0QMaifyFFwKy@g3ohx.demon.co.uk>
Source record: 46113

The J-Pole and the Slim Jim are both are essentially the same antenna.
However, is there any advantage in the Slim Jim's bit which folds back
down, or is it just there for decoration?
Ian.
--

1200. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 16:14:53 UTC
From: Garth <Having_Fun@tucson.rr.com>
Message-ID: <p72dncdKv-PiZ1TYnZ2dnUVZ_sudnZ2d@hawaiiantel.net>
Source record: 46114

znaqwi@googlemail.com wrote:

>
> The total distance between the transmitting and receiving antenna of
> a microwave link at 10GHz, is 30 Km. the height of the Tx antenna is
> above ground level is 20 m. the maximum acceptable total path loss is
> 169 dB.
> Furthermore there is hill located 10 km away from the transmitter (Tx)
> antenna with a height of 80m.
>
> calculate the height of the receiver antenna for the path loss to be
> just equal to the maximum acceptable value?
>
> Whats the height of the receive antenna? (required)
>
> Is the hill directly in the line of sight of the receive antenna?
> yes it is b/w the LOS

At 10 Ghz the "hill" is a factor if the receive antenna is at the same
elevation or below.
If its higher it really is a non factor, if this remains true I would be
more concerned with shifts in temperature and if the signal travels over
a body of water.

1201. Re: Yagi antenna design question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 18:32:19 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eqd79k$9df$1@news.service.uci.edu>
Source record: 46115

Wes wrote:
> This will be the last word I have on this topic.
>
> I have placed two files here:
>
> www.k6mhe.com/n7ws/N7WS_Yagi_Resonant.EZ
>
> and here:
>
> www.k6mhe.com/n7ws/N7WS_Yagi_Shortened.EZ
>
> The files are models of my 20-meter three-element Yagi that are as
> nearly representative of the physical antenna and its location as I
> can make them. The only difference between them is the half-length of
> the DE. The actual antenna uses the shortened version with a stub
> (Beta) matching/balun arrangement.
>
> Two photos of the details of this are here:
>
> www.k6mhe.com/n7ws/YagiFeed-1a.jpg
>
> and here:
>
> www.k6mhe.com/n7ws/YagiFeed-2a.jpg
>
> The photos were taken with the antenna mounted on the tower and the
> tower folded over in case you're wondering about the orientation.
>
> For the purposes of the discussion I have removed the stub matching
> system from the model.
>
> The following transformation and matching exercise can be performed
> using a Smith Chart, your favorite computer program or with pencil on
> the back of an envelope. I happen to prefer, and highly recommend,
> AC6LA's XLZIZL.xls Excel workbook for this stuff.
>
> First let's analyze the full-length, resonant DE version. After
> running the analysis we (should) have a feedpoint Z of 26.76 +j0 and a
> gain at the selected elevation of 12.91 dBi. The SWR is 1.87:1.
>
> Instead of the integral stub, which Yuri believes is part of the
> antenna that is "folded back" along the boom, I will move the matching
> system away from this location using an ideal ï¿½ wavelength (34.7 foot)
> transmission line with an ideal current balun at the antenna end. I

> don't believe anyone would argue that the feedpoint impedance is not
> replicated exactly at the input end of this line.
>
> At the input end of the lossless line, the Z is of course, 26.76 +j0.
> Because, as will be shown, the stub matching system is nothing more
> than an L-network; I will use the same at the input of the half-
> wavelength line.
>
> I begin by inserting a series capacitor, C = 448 pF and Q = 1000. At
> the input side of this capacitor the Z is now: 26.785 -j25.062. If
> using XLZIZL, the loss in this capacitor is shown as 0.004 dB, because
> Q is not infinite.
>
> Continuing, I place a shunt inductor, L = 0.6, Q = 200 across the
> input of the series capacitor. The resulting input Z = 50.00 +j0.2.
> The total network loss is 0.02 dB. This is the baseline.
>
> Returning to the shortened driven element version, after analysis, we
> find that the input Z = 24.55 -j25.2 and the gain is unchanged at
> 12.91 dBi. At the input end of our magical ï¿½ wavelength line, the Z
> remains 24.55 -j25.2.
>
> Once again using the L-network system, I find that the series
> capacitor is unnecessary and I can proceed by adding a shunt
> inductance. Rather than using Yuri's "preferred" discrete inductor,
> let's use a "lossy" stub. Instead of using the large diameter,
> parallel tube stub of the actual antenna, I'll use a standard
> transmission line for the stub. XLZIZL has a number if transmission
> lines and their parameters "built in," including the Wireman ladder
> lines. The parameters for these are those I derived in my ladder line
> paper.
>
> http://www.k6mhe.com/n7ws/Ladder_Line.pdf
>
> Selecting Wireman 553, shorting one end and placing the other in
> parallel with the input to the lossless line and doing a little
> manipulation and I find that a 14.85" length makes the Z = 50.12
> +j0.18. The network loss remains 0.02 dB. So much for this less than
> ideal stub vs. Yuri's preferred discrete inductor.
>
> There you have it. The stub matching method is equal to a discrete L-
> network in efficiency, it does not detract from the antenna efficiency
> one bit, it can incorporate the balun function without additional
> components, it grounds the feedpoint, with a little sealant on the
> cable, it is weatherproof and unlike Gammas and Tee-matches, it will
> handle full power without being prone to capacitor breakdown. It is
> not part of the radiator; it is part of the matching network. Period.

Hi Wes,

A very interesting design and discussion. Thank you for posting it.

I could be wrong but I think Yuri's main point was that if [fill in the blank] loading unit radiates at right angles to the beam pattern (or out of phase with it) it detracts from the gain of the antenna. I think that's probably a reasonable claim.

73, ac6xg

1202. Re: Asking for advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 19:13:50 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1170875630.151970.67510@k78g2000cwa.googlegroups.com>
Source record: 46116

On 7 feb, 16:35, "EpsilonRho" <Epsilon...@nospam.ooo> wrote:
> My mother lives in a area where the cell-phone signal is very weak.
> Typically I can get only one mark on the phone field strength meter. That
> forces me to go outside the house in order to have a reasonable chance of
> completing a call (of course only if the weather permits). I have only basic
> understanding of antennas, so I am asking this forum if the following idea
> is feasible.
>
> I am planning to build (or buy) a 850 MHz Yagi antenna (14 dB gain) to be
> installed on the outside and pointing towards the signal strongest
> direction. The boosted signal would be transmitted through a balun and a low
> loss 75 ohm coax cable to the inside of the house terminating to a 1/4
> wavelength 75 ohm antenna stub. Is this feasible? Could I get perhaps a 10bB
> signal boost inside the house by means of this arrangement?
>
> TIA
> Gene

Regarding passive repeater,

Only when you have a very strong signal outside (that means your house must be a very good shield), your suggested arrangement will work. The problem is in the path between your handheld and the quarter wave antenna inside your house.

Just 3 ft away from your quarter wave antenna the propagation loss is about 30 dB (at 850 MHz). Assuming about 3 dB cable loss, the overall loss (with respect to the handheld outside) will be about 20 dB. So this arrangement may give improvement only, within one meter of the quarter wave antanna in case of a building loss of more then 26 dB.

Probably you need a repeater system or connect your handset to the cable directly (via RF coupling or other means).

Best Regards,

Wim
PA3DJS

1203. Re: Asking for advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 19:28:16 UTC
From: K6DLE/7 <k6dle@ez2.net>
Message-ID: <rqCdnVhNtbjTtVfYnZ2dnUVZ_oCmnZ2d@ez2.net>
Source record: 46117

What I did was to buy a collinear antenna made for cell phones from Radio Shack. On my cell phone there is a jack for an external antenna. My dad has the same problem. What we do is plug in the new antenna which has a mag mount base and set it on top of the refrigerator to produce an infinite ground plane. Works like a charm.

You might think about this solution.

Dana - K6DLE
"Wimpie" <wimtel@tetech.nl> wrote in message
news:1170875630.151970.67510@k78g2000cwa.googlegroups.com...
> On 7 feb, 16:35, "EpsilonRho" <Epsilon...@nospam.ooo> wrote:
>> My mother lives in a area where the cell-phone signal is very weak.
>> Typically I can get only one mark on the phone field strength meter. That
>> forces me to go outside the house in order to have a reasonable chance of
>> completing a call (of course only if the weather permits). I have only
>> basic
>> understanding of antennas, so I am asking this forum if the following
>> idea
>> is feasible.
>>
>> I am planning to build (or buy) a 850 MHz Yagi antenna (14 dB gain) to be
>> installed on the outside and pointing towards the signal strongest
>> direction. The boosted signal would be transmitted through a balun and a
>> low
>> loss 75 ohm coax cable to the inside of the house terminating to a 1/4
>> wavelength 75 ohm antenna stub. Is this feasible? Could I get perhaps a
>> 10bB
>> signal boost inside the house by means of this arrangement?
>>
>> TIA
>> Gene
>
> Regarding passive repeater,
>
> Only when you have a very strong signal outside (that means your house
> must be a very good shield), your suggested arrangement will work. The
> problem is in the path between your handheld and the quarter wave
> antenna inside your house.
>
> Just 3 ft away from your quarter wave antenna the propagation loss is
> about 30 dB (at 850 MHz). Assuming about 3 dB cable loss, the overall
> loss (with respect to the handheld outside) will be about 20 dB. So
> this arrangement may give improvement only, within one meter of the
> quarter wave antanna in case of a building loss of more then 26 dB.

>
> Probably you need a repeater system or connect your handset to the
> cable directly (via RF coupling or other means).
>
> Best Regards,
>
> Wim
> PA3DJS
>

1204. Re: Prophecies fulfilled

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 20:50:28 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <eqde2s$1nsc$1@f04n12.cac.psu.edu>
Source record: 46118

Cecil Moore wrote:
> Michael Coslo wrote:
>> Is the moderator duty bound to m-moderate incorrect answers?
>
> One way to handle such is the same way as "editor's
> note" is handled in technical publications.

Oy! I'm trying to imagine that, Cecil! Your long discussions with some people when y'all are disagreeing with some small point comes to mind. Seems like a moderator could do Editor's notes on your (or anyone else's posts that would automatically "seem" to declare your ideas as wrong.

Yoiks!

- 73 de Mike KB3EIA -

1205. Way Kewl advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 21:07:26 UTC
From: "Fred Ferrely"
Message-ID: <dveks2tt21osuqa0045viieos2ef6m01u7@4ax.com>
Source record: 46119

On Wed, 7 Feb 2007 12:28:16 -0700, "K6DLE/7" <k6dle@ez2.net> wrote:

Yeppers! That's the ticket! There's No Need to re-invent the
wheel, besides, it'd take you longer, cost more, and more than likely
NOT get any better gain. Besides, it'd probably look like some sort
of an experimental home-brew nightmare, huh?

You can buy one of these nice, compact yagi's on eBay, or just do a
simple Google `Net scan to find all the different companies who offer
such monsters. I've even seen some neat little jobs all made on a
tight little printed circuit board! But be aware the price variation
is WIDE when it comes to things like this, and so are the assorys.
Don't get any more than what you really need, and keep in mind that
once it's in place, the phone, well it's rather a "Stationary" set-up
if you want to use it from then on. In short, you have to keep it
attached to that darn antenna for it to do you any good, right? In
light of that, maybe a standard cordless phone may be the better way
to do things instead. . . ?

Well, there's my two-bits on this subject. It all depends on how
much mobility you need, and how many loose $$ you have to spend on it.

73's
Fat Fred Ferrely
AKA, "FFF"

=)

>What I did was to buy a collinear antenna made for cell phones from Radio
>Shack. On my cell phone there is a jack for an external antenna. My dad
>has the same problem. What we do is plug in the new antenna which has a mag
>mount base and set it on top of the refrigerator to produce an infinite
>ground plane. Works like a charm.
>
>You might think about this solution.
>
>Dana - K6DLE
>"Wimpie" <wimtel@tetech.nl> wrote in message
>news:1170875630.151970.67510@k78g2000cwa.googlegroups.com...
>> On 7 feb, 16:35, "EpsilonRho" <Epsilon...@nospam.ooo> wrote:
>>> My mother lives in a area where the cell-phone signal is very weak.
>>> Typically I can get only one mark on the phone field strength meter. That
>>> forces me to go outside the house in order to have a reasonable chance of
>>> completing a call (of course only if the weather permits). I have only
>>> basic
>>> understanding of antennas, so I am asking this forum if the following

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>>> is feasible.
>>>
>>> I am planning to build (or buy) a 850 MHz Yagi antenna (14 dB gain) to be
>>> installed on the outside and pointing towards the signal strongest
>>> direction. The boosted signal would be transmitted through a balun and a
>>> low
>>> loss 75 ohm coax cable to the inside of the house terminating to a 1/4
>>> wavelength 75 ohm antenna stub. Is this feasible? Could I get perhaps a
>>> 10bB
>>> signal boost inside the house by means of this arrangement?
>>>
>>> TIA
>>> Gene
>>
>> Regarding passive repeater,
>>
>> Only when you have a very strong signal outside (that means your house
>> must be a very good shield), your suggested arrangement will work. The
>> problem is in the path between your handheld and the quarter wave
>> antenna inside your house.
>>
>> Just 3 ft away from your quarter wave antenna the propagation loss is
>> about 30 dB (at 850 MHz). Assuming about 3 dB cable loss, the overall
>> loss (with respect to the handheld outside) will be about 20 dB. So
>> this arrangement may give improvement only, within one meter of the
>> quarter wave antanna in case of a building loss of more then 26 dB.
>>
>> Probably you need a repeater system or connect your handset to the
>> cable directly (via RF coupling or other means).
>>
>> Best Regards,
>>
>> Wim
>> PA3DJS
>>
>

1206. Re: Best Books/Websites for Antenna Theory and Building Recommendations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 21:13:05 UTC
From: "Fred Ferrely"
Message-ID: <7vfks2lappncp0oqup62gr4pbgrf98ijrm@4ax.com>
Source record: 46120

On Tue, 6 Feb 2007 20:55:54 -0800, "Sal M. Onella"

Don't ever sell the good ol' Di-Pole short! Besides being CHEAP,
it's easy to set up and take down, and not too annoying to the
neighbors ether.

If you got one set up, you can sling a wire under it and turn it
into a "Cloud Warmer", and that has a whole lot of interesting
possibility right there too.

73's
FFF

<salmonella@food.poisoning.org> wrote:

>
>"Joaquin Tall" <opalockamishabob@'86DASPAMnetscape.net> wrote in message
>news:tfydnbr9O4IMEF7YnZ2dnUVZ_oOonZ2d@got.net...
>> Hello All,
>>
>> I have just gotten my tech license and am eager to get my station up and
>> running. I am starting on a shoestring; currently, I have no equipment
>> whatsoever and don't know what I should buy just yet. In absence of a
>> rig, I am now studying to pass my General license exam next month.
>>
>> I am very interested in building my own HF/VHF/UHF antennas. I've seen
>> the ARRL books, but I was hoping that you good folks might have some
>> favorite websites, book titles or magazine issues [old or new] that
>> you'd be willing to pass along that could get me started.
>
>I will make my (usual) pitch for the j-pole antenna.
>
>Take a look at http://www.hamuniverse.com/jpole.html and see what can be
>done at UHF/VHF with a few pieces of pipe, some solder and a torch. The
>j-pole is a good match after a little fiddling, It's durable, requires no
>ground plane and can be mounted almost anywhere. I have made about two
>dozen of them for myself, for RACES and for friends in the local club. My
>first one (early 90's) is on the roof of my house and I used it on 2m
>earlier this evening, as I do most evenings.
>
>Search google.com for jpole antenna and see about 40,000 other links.
>
>The "quad antenna" and its cousin the "quagi," a quad/yagi hybrid, are also
>possible, but I've never built any of them, myself. The venerable

>whip-over-downward-radials is easy but can be tedious to tune for a good
>match. (I built one of them onto a construction hardhat as an novelty; got
>a good match, too.)
>
>I'm next door to you in Chula Vista, by the way.
>
>KD6VKW
>http://members.cox.net/sobars/
>

1207. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 21:44:07 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <45ca4828$0$28100$4c368faf@roadrunner.com>
Source record: 46121

<znaqwi@googlemail.com> wrote in message
news:1170849484.233615.175580@v33g2000cwv.googlegroups.com...
> hello
> Jeff
> i am very thank full to your help, i have got Rx height 101.2
>
> Regards
> naqvi
>
Who is right, you or Jeff? You are more than 100% off from each other.

In truth, i could receive that signal holding a hand held 10GHz receiver while sitting on the ground. The 80m hill is nothing from an observer 10KM away...only .006 degree from the top of the transmitter tower. It is part of the horizon. I love it when you guys talk like you are sol knowledgeable yet lack the common sense to conceptualize the problem as it really exists.

1208. Re: J-Pole vs Slim Jim?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-07 23:48:56 UTC
From: Bob Bob <bob3bob3@suddenlink.net>
Message-ID: <845q94-t7a.ln1@p400bob.personal.cox.net>
Source record: 46122

H Ian

Mr Cebik had something to say about this...

http://www.cebik.com/vhf/jp2.html

Very intersting all around read on his whole website!

Cheers Bob VK2YQA

Ian Jackson wrote:

> However, is there any advantage in the Slim Jim's bit which folds back
> down, or is it just there for decoration?

1209. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 00:10:51 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <45ca6a8c$0$28125$4c368faf@roadrunner.com>
Source record: 46123

<znaqwi@googlemail.com> wrote in message
news:1170849484.233615.175580@v33g2000cwv.googlegroups.com...
> hello
> Jeff
> i am very thank full to your help, i have got Rx height 101.2
>
> Regards
> naqvi

Please show your work.

1210. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 01:09:34 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <iLuyh.5336$384.156@trnddc05>
Source record: 46124

"Stefan Wolfe" <stefan@eml.com> wrote in message
news:45ca6a8c$0$28125$4c368faf@roadrunner.com...
>
> <znaqwi@googlemail.com> wrote in message
> news:1170849484.233615.175580@v33g2000cwv.googlegroups.com...
>> hello
>> Jeff
>> i am very thank full to your help, i have got Rx height 101.2
>>
>> Regards
>> naqvi
>
> Please show your work.

Hi Stephan

Your posts seem to inply that the receive antenna will "see" the 20 meter high transmitting antenna when the receiver antenna is in the shadow of the 80 meter hill. It seems that the receiver needs to be out of the shadow of the hill unless you are able to estimate refraction from the hill.

But, your aparent confidance in the statement "0 feet" makes me wonder if I have this problem wrongly analyzed. I have so much confidance in Richard Fry's data that I had accepted his estimation of 270 meters to be as close as you can estimate.

Do I misunderstand your post about what minimum height is needed?

Jerry

1211. SteppIR Stealth-mounted flush with the roof of a house

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 01:39:06 UTC
From: jawod <jawod@fuse.net>
Message-ID: <9bf7$45ca8026$4831cf4b$19481@FUSE.NET>
Source record: 46125

On the SteppIR webpage, one of the photos is a SteppIR dipole mounted flush with the roof to provide stealth operations. I wonder whether this arrangement is worth it?

Is this too high tech / high cost for low return on investment?

Thanks in advance

John
AB8O

1212. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 01:43:28 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <45ca8041$0$28073$4c368faf@roadrunner.com>
Source record: 46026

"Jerry Martes" <j.jmartes@verizon.net> wrote in message
news:iLuyh.5336$384.156@trnddc05...
>
> "Stefan Wolfe" <stefan@eml.com> wrote in message
> news:45ca6a8c$0$28125$4c368faf@roadrunner.com...
>>
>> <znaqwi@googlemail.com> wrote in message
>> news:1170849484.233615.175580@v33g2000cwv.googlegroups.com...
>>> hello
>>> Jeff
>>> i am very thank full to your help, i have got Rx height 101.2
>>>
>>> Regards
>>> naqvi
>>
>> Please show your work.
>
>
> Hi Stephan
>
> Your posts seem to inply that the receive antenna will "see" the 20
> meter high transmitting antenna when the receiver antenna is in the shadow
> of the 80 meter hill. It seems that the receiver needs to be out of the
> shadow of the hill unless you are able to estimate refraction from the
> hill.
>
> But, your aparent confidance in the statement "0 feet" makes me wonder if
> I have this problem wrongly analyzed. I have so much confidance in
> Richard Fry's data that I had accepted his estimation of 270 meters to be
> as close as you can estimate.
>
> Do I misunderstand your post about what minimum height is needed?
>
> Jerry
Hi Jerry,

how many shadows have you seen that are 20Km long?

1213. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 02:01:25 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <eqe09n$q26$1@aioe.org>
Source record: 46027

From: "Stefan Wolfe"
> how many shadows have you seen that are 20Km long?

Can we count the shadow of the moon on the earth during a fully-eclipsed sun?

If so, that's a bit more than 20 km.

RF

1214. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 02:31:26 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <2Yvyh.37369$5U4.35764@trnddc07>
Source record: 46028

"Stefan Wolfe" <stefan@eml.com> wrote in message
news:45ca8041$0$28073$4c368faf@roadrunner.com...
>
> "Jerry Martes" <j.jmartes@verizon.net> wrote in message
> news:iLuyh.5336$384.156@trnddc05...
>>
>> "Stefan Wolfe" <stefan@eml.com> wrote in message
>> news:45ca6a8c$0$28125$4c368faf@roadrunner.com...
>>>
>>> <znaqwi@googlemail.com> wrote in message
>>> news:1170849484.233615.175580@v33g2000cwv.googlegroups.com...
>>>> hello
>>>> Jeff
>>>> i am very thank full to your help, i have got Rx height 101.2
>>>>
>>>> Regards
>>>> naqvi
>>>
>>> Please show your work.
>>
>>
>> Hi Stephan
>>
>> Your posts seem to inply that the receive antenna will "see" the 20
>> meter high transmitting antenna when the receiver antenna is in the
>> shadow of the 80 meter hill. It seems that the receiver needs to be out
>> of the shadow of the hill unless you are able to estimate refraction from
>> the hill.
>>
>> But, your aparent confidance in the statement "0 feet" makes me wonder
>> if I have this problem wrongly analyzed. I have so much confidance in
>> Richard Fry's data that I had accepted his estimation of 270 meters to be
>> as close as you can estimate.
>>
>> Do I misunderstand your post about what minimum height is needed?
>>
>> Jerry
> Hi Jerry,
>
> how many shadows have you seen that are 20Km long?

Hi Stephan

Tell me where I have misunderstood the problem. I assumed the
transmitting antenna was Lower than the top of the hill. But, you seem to

imply that the transmitter can be seen even when the hill is blocking the "view" to it.

I have actually never measured a shadow longer that a few feet, but I assumed they continued to exist to infinity when an object blocks them from view.

Jerry

1215. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 02:45:29 UTC
From: T <taylor_j25@yahoo.com>
Message-ID: <1170902729.145911.98550@v45g2000cwv.googlegroups.com>
Source record: 46029

will this boost my transmitter's signal, or the reciever's antenna?

1216. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 03:10:28 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <45ca94a5$0$16948$4c368faf@roadrunner.com>
Source record: 46030

```
"Jerry Martes" <j.jmartes@verizon.net> wrote in message
news:2Yvyh.37369$5U4.35764@trnddc07...
>
> "Stefan Wolfe" <stefan@eml.com> wrote in message
> news:45ca8041$0$28073$4c368faf@roadrunner.com...
>>
>> "Jerry Martes" <j.jmartes@verizon.net> wrote in message
>> news:iLuyh.5336$384.156@trnddc05...
>>>
>>> "Stefan Wolfe" <stefan@eml.com> wrote in message
>>> news:45ca6a8c$0$28125$4c368faf@roadrunner.com...
>>>>
>>>> <znaqwi@googlemail.com> wrote in message
>>>> news:1170849484.233615.175580@v33g2000cwv.googlegroups.com...
>>>>> hello
>>>>> Jeff
>>>>> i am very thank full to your help, i have got Rx height 101.2
>>>>>
>>>>> Regards
>>>>> naqvi
>>>>
>>>> Please show your work.
>>>
>>>
>>> Hi Stephan
>>>
>>> Your posts seem to inply that the receive antenna will "see" the 20
>>> meter high transmitting antenna when the receiver antenna is in the
>>> shadow of the 80 meter hill. It seems that the receiver needs to be out
>>> of the shadow of the hill unless you are able to estimate refraction
>>> from the hill.
>>>
>>> But, your aparent confidance in the statement "0 feet" makes me wonder
>>> if I have this problem wrongly analyzed. I have so much confidance in
>>> Richard Fry's data that I had accepted his estimation of 270 meters to
>>> be as close as you can estimate.
>>>
>>> Do I misunderstand your post about what minimum height is needed?
>>>
>>> Jerry
>> Hi Jerry,
>>
>> how many shadows have you seen that are 20Km long?
>
```

>
> Hi Stephan
>
> Tell me where I have misunderstood the problem. I assumed the
> transmitting antenna was Lower than the top of the hill. But, you seem
> to imply that the transmitter can be seen even when the hill is blocking
> the "view" to it.
>
> I have actually never measured a shadow longer that a few feet, but I
> assumed they continued to exist to infinity when an object blocks them
> from view.

Well you see Jerry, the reason you only see it for a few feet is because the attenuation of the light varies inversely with the distance from the object that blocks the light. I think you have done a good job in making my point. Thanks,

1217. Re: SteppIR Stealth-mounted flush with the roof of a house

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 03:12:51 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1170904371.831908.163280@p10g2000cwp.googlegroups.com>
Source record: 46031

On 7 Feb, 17:39, jawod <j...@fuse.net> wrote:
> On the SteppIR webpage, one of the photos is a SteppIR dipole mounted
> flush with the roof to provide stealth operations. I wonder whether
> this arrangement is worth it?
>
> Is this too high tech / high cost for low return on investment?
>
> Thanks in advance
>
> John
> AB8O

Why would anybody go to all that expense of getting certain
desirables
from his antenna and then throw them all away by placing thr antenna
so close to the house wiring and structure. He might just as well load
his gutters to obtain stealth operation. I imagine that would be a lot
less money spent and he loses nothing when he moves house!
Art

1218. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 03:18:08 UTC
From: Nobody <nobody@frontier.net>
Message-ID: <slrnesl5jg.p0s.bit-bucket@shell.config.com>
Source record: 46032

On 7 Feb 2007 18:45:29 -0800, T posted in total:

> will this boost my transmitter's signal, or the reciever's antenna?

Will _what_ boost _what_ transmitter's 'signal'????

What is a "reciever"?

Oh, I see:
Message-ID: <1170902729.145911.98550@v45g2000cwv.googlegroups.com>

1219. Re: J-Pole vs Slim Jim?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 03:24:57 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1170905097.483093.325560@j27g2000cwj.googlegroups.com>
Source record: 46033

On 7 Feb, 15:48, Bob Bob <bob3b...@suddenlink.net> wrote:
> H Ian
>
> Mr Cebik had something to say about this...
>
> http://www.cebik.com/vhf/jp2.html
>
> Very intersting all around read on his whole website!
>
> Cheers Bob VK2YQA
>
>
>
> Ian Jackson wrote:
> > However, is there any advantage in the Slim Jim's bit which folds back
> > down, or is it just there for decoration?- Hide quoted text -
>
> - Show quoted text -

If you have room for a double Zepp then the best bet is the Moxon
dipole
with a resonator. It will supply the same gain as a zepp and has the
advantage
of operation over an octave by varying the value of the capacitor from
which
the resonatator is made of. This also removes the added coax stub
procedure.
required of a zepp.
Art
Art

1220. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 04:14:04 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <gsxyh.5375$384.1562@trnddc05>
Source record: 46034

```
"Stefan Wolfe" <stefan@eml.com> wrote in message
news:45ca94a5$0$16948$4c368faf@roadrunner.com...
>
> "Jerry Martes" <j.jmartes@verizon.net> wrote in message
> news:2Yvyh.37369$5U4.35764@trnddc07...
>>
>> "Stefan Wolfe" <stefan@eml.com> wrote in message
>> news:45ca8041$0$28073$4c368faf@roadrunner.com...
>>>
>>> "Jerry Martes" <j.jmartes@verizon.net> wrote in message
>>> news:iLuyh.5336$384.156@trnddc05...
>>>>
>>>> "Stefan Wolfe" <stefan@eml.com> wrote in message
>>>> news:45ca6a8c$0$28125$4c368faf@roadrunner.com...
>>>>>
>>>>> <znaqwi@googlemail.com> wrote in message
>>>>> news:1170849484.233615.175580@v33g2000cwv.googlegroups.com...
>>>>>> hello
>>>>>> Jeff
>>>>>> i am very thank full to your help, i have got Rx height 101.2
>>>>>>
>>>>>> Regards
>>>>>> naqvi
>>>>>
>>>>> Please show your work.
>>>>
>>>>
>>>> Hi Stephan
>>>>
>>>> Your posts seem to inply that the receive antenna will "see" the 20
>>>> meter high transmitting antenna when the receiver antenna is in the
>>>> shadow of the 80 meter hill. It seems that the receiver needs to be
>>>> out of the shadow of the hill unless you are able to estimate
>>>> refraction from the hill.
>>>>
>>>> But, your aparent confidance in the statement "0 feet" makes me wonder
>>>> if I have this problem wrongly analyzed. I have so much confidance in
>>>> Richard Fry's data that I had accepted his estimation of 270 meters to
>>>> be as close as you can estimate.
>>>>
>>>> Do I misunderstand your post about what minimum height is needed?
>>>>
>>>> Jerry
>>> Hi Jerry,
```

>>>
>>> how many shadows have you seen that are 20Km long?
>>
>>
>> Hi Stephan
>>
>> Tell me where I have misunderstood the problem. I assumed the
>> transmitting antenna was Lower than the top of the hill. But, you seem
>> to imply that the transmitter can be seen even when the hill is blocking
>> the "view" to it.
>>
>> I have actually never measured a shadow longer that a few feet, but I
>> assumed they continued to exist to infinity when an object blocks them
>> from view.
>
> Well you see Jerry, the reason you only see it for a few feet is because
> the attenuation of the light varies inversely with the distance from the
> object that blocks the light. I think you have done a good job in making
> my point. Thanks,

Hi Stephan

I now understand now that you do think you can receive 10 GHz signals
while the receiver is in the shadow caused by the mountain between you and
the transmitter. Do I understand you correctly?

Jerry

1221. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 04:24:26 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <45caa5ff$0$17210$39cecf19@news.twtelecom.net>
Source record: 46035

Richard Clark wrote:

> Hi Stefan,
>
> You seem to be simultaneously agreeing and disagreeing. The hill is
> either in the way, or it is not. It is in the way. To count on an
> intermediary, such as suggested by Jimmie, knife-edge propagation or
> bend of the waves, is probably not in our student's syllabus. Besides,
> I have seen neither you nor Jimmie offer the attenuation presented by
> such refractions (and the attenuation is not marginal). Without
> quantifiables, the path budget cannot be calculated.
>
> The problem, as stated, has a clear answer in looking over the hill by
> raising one antenna, the question informs us that is the answer and
> that is simply resolved with trig (albeit, including the radius of
> earth and accounting for its curvature).
>
> 73's
> Richard Clark, KB7QHC

Might I recommend a program misleadlingly called Radio Mobile. This piece of software will all let you check many real world situations. This program is not real easy to use, it's a lot worse than Windows or Office (ok, not worse than Office), but it is worth learning unlike the previous 2 mentioned.

The site you need for the software is

http://www.cplus.org/rmw/english1.html

and then you need to download a large amount of terrain data, which is freely available from NASA. It looks like the way this is handled has changed since I did it last, so I can't comment on how it is done now.

tom
K0TAR

1222. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 04:48:14 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <q0als257hu1l68ae75e9j3o4lrumhubi50@4ax.com>
Source record: 46036

On Wed, 07 Feb 2007 22:24:26 -0600, Tom Ring <news0003@taring.org>
wrote:

>The site you need for the software is
>
>http://www.cplus.org/rmw/english1.html
>
>and then you need to download a large amount of terrain data, which is
>freely available from NASA. It looks like the way this is handled has
>changed since I did it last, so I can't comment on how it is done now.

Hi tom,

I was involved in Beta testing this. The current version allows
dynamic map loading over the Internet, and overlays of Mapquest, Tiger
or many other mapping programs available. I've been using it heavily
for the last few months and its world of variables allows for finely
grained analysis. However, it also allows for massive headaches if
all you are looking for is a simple solution. In short, no
quantifiables are going to follow from your recommendation - unless I
do it. This lil Red Hen isn't interested in cooking that bread.

73's
Richard Clark, KB7QHC

1223. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 05:34:18 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1170912858.883480.189280@h3g2000cwc.googlegroups.com>
Source record: 46037

On Feb 7, 6:45 pm, "T" <taylor_...@yahoo.com> wrote:
> will this boost my transmitter's signal, or the reciever's antenna?

Um, if you connect the better antenna to the transmitter, how would
that affect the receiver? If you connect the better antenna to the
receiver, how would that affect the transmitter? Clear?

Cheers,
Tom

1224. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 08:42:20 UTC
From: Jeff <jeff@local.host>
Message-ID: <45cae26b$0$1346$834e42db@reader.greatnowhere.com>
Source record: 46038

"> In truth, i could receive that signal holding a hand held 10GHz receiver
> while sitting on the ground. The 80m hill is nothing from an observer 10KM
> away...only .006 degree from the top of the transmitter tower. It is part
> of the horizon. I love it when you guys talk like you are sol
> knowledgeable yet lack the common sense to conceptualize the problem as it
> really exists.

So you are saying that you can achieve 30km at 10GHz to a hand held receiver at ground level with a 300 foot hill in the way!!! I am sure that you could not do this with any sensible power even at 2m let alone 10GHz.

Perhaps it is your concept of what is going on that is wrong. Have you heard of Fresnel Zones??
When obstructions come within the first Fresnel zone significant attenuation occurs.

With the situation that you are describing the path is totally obstructed, with the path only possible due to diffraction from the hill top. The hill top impinges to at least the top of the 5th Fresnel Zone, hence the attenuation is very high.

As the height of the Rx antenna increases the attenuation is still very high until the hill top only start to intersect with of the first zone (antenna height~150m). It then drops quite rapidly until there is true line of sight and bottoms out when the hill top is clear of the second zone.

You make a great deal of the hill only being 0.006 degree at the horizon. If you plot it accurately and with reference to the Fresnel zones, it does make a big difference. With the Rx antenna at ground level the top of the Fresnel zones are never below the horizon, which is completely different to the situation when the hill is there (-5th Zone obstructed).

Also, without the hill you only have to raise the Rx antenna to about 15m to achieve line of sight compared to 200m with the hill there!!!!!! Quite a big difference I think you will agree, and one that your 'conceptualisation doesn't seem to allow for!!

73
Jeff

1225. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 10:20:57 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <8QCyh.730$m7.387@bignews5.bellsouth.net>
Source record: 46039

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:n00js2h3vv8lptm465oe99t5l29c2oat1k@4ax.com...
> On Wed, 7 Feb 2007 00:08:19 -0500, "Stefan Wolfe" <stefan@eml.com>
> wrote:
>
>>
>>"Richard Clark" <kb7qhc@comcast.net> wrote in message
>>news:1uiis29p0rbsb45jfgd4gsncc9buog8leo@4ax.com...
>>> On Tue, 6 Feb 2007 22:35:04 -0500, "Stefan Wolfe" <stefan@eml.com>
>>> wrote:
>>>
>>>>2. The effect of the 80m hill 10Km away is negligible. The arc tan is
>>>>only
>>>>.008 degrees, thus the transmitter hardly "sees" it.
>>>
>>> Actually, Stefan, the transmitter cannot see through it at all.
>>
>>Exactly . And taking into account the 15 degree bend of the radio horizon
>>(even at 10 GHz) vs the arctan of .008 degrees for the the hill, reduced
>>somewhat by the 20 foot transmitter tower to .006 degrees, the hill
>>itself
>>is invisible at a 30km far field. The bend of the propagating waves which
>>extends the radio horizon clearly mitigates any possible effects of the
>>80m
>>hill.
>>
>
> Hi Stefan,
>
> You seem to be simultaneously agreeing and disagreeing. The hill is
> either in the way, or it is not. It is in the way. To count on an
> intermediary, such as suggested by Jimmie, knife-edge propagation or
> bend of the waves, is probably not in our student's syllabus. Besides,
> I have seen neither you nor Jimmie offer the attenuation presented by
> such refractions (and the attenuation is not marginal). Without
> quantifiables, the path budget cannot be calculated.
>
> The problem, as stated, has a clear answer in looking over the hill by
> raising one antenna, the question informs us that is the answer and
> that is simply resolved with trig (albeit, including the radius of
> earth and accounting for its curvature).
>
> 73's
> Richard Clark, KB7QHC

There are lots of programs out here for calculating path loss for LOS situations but figuring in the path via knife edge defraction is something I have always tried to avoid.. In real life there are too many variables that effect this and you could have a signal that would tend to fade. Over the years I have forgotten or lost interest in figuring the impractical.

Jimmie

1226. Re: SteppIR Stealth-mounted flush with the roof of a house

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 13:47:28 UTC
From: Alan WA4SCA <APBIDDLE@UNITED.NET>
Message-ID: <gq7ms2dbcqm6td1e54cf977tcjnq9lfvd6@4ax.com>
Source record: 46040

While visiting a mountain town in Arizona, a wonderful place with a terrible legal attitude toward antennas of any sort, I passed a house in an upscale area. All the houses were 2 or 2.5 stories. On the roof of one facing away from the road, I noticed a StepIR dipole installed much as the one is shown on their web site, though closer to the ridge. The picture shows a ridge vent, which if aluminum would require the indicated separation. I noticed a few of their verticals in use as well in the area, most "clearly" disguised as flag poles.

I had a chance to talk with the OM, and he said that while they certainly worked, verticals, inverted Ls, etc, were not easy to install in that environment due to the very poor soil and limited yard space to implement a good rf ground system. The result was relatively poor coverage, and RF in places you didn't want it. By contrast, a resonant dipole has far less extreme issues. He mentioned knowing of one ham who actually installed the dipole inside the attic, along the ridge line. While the lengths required a bit of tweaking, easy with the controller, he seemed very satisfied with the results. It seems a bit brute force, but sometimes the most effective labor saving device is the proper application of money.

N1GPK, the ham whose picture appears on the StepIR site, has a few comments in the testimonial section. I did not find his e-mail on QRZ.COM, but no doubt you can contact him from the other info.

--
Alan
WA4SCA

1227. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 17:36:40 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <eqfn3f$15ok$1@f04n12.cac.psu.edu>
Source record: 46041

Cecil Moore wrote:
> Dave Oldridge wrote:
>> Nobody that I know of, but we're getting to the point where we can see
>> almost that far back.
>
> Seems to me all we can see is back to the point where
> things are moving away from our relative position at
> less than the speed of light. Did you know that the
> red shift is quantitized, i.e. not continuous, even
> within the same galaxy?

All parts of any given galaxy are not moving toward or away from us at the same speed, unless the galaxy is perfectly perpendicular to us.

Is your red-shift issue about the red shift itself, or about the magnitude of the shift? And if "variable seconds" is the culprit, how are blue shifted stars accommodated in your model?

- 73 de Mike KB3EIA -

1228. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 19:17:13 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <ZGKyh.16941$ji1.214@newssvr12.news.prodigy.net>
Source record: 46042

Michael Coslo wrote:
> All parts of any given galaxy are not moving toward or away from us
> at the same speed, unless the galaxy is perfectly perpendicular to us.

True, but consider that the red shift frequencies
are discontinuous, i.e. quantized.

> Is your red-shift issue about the red shift itself, or about the
> magnitude of the shift? And if "variable seconds" is the culprit, how
> are blue shifted stars accommodated in your model?

My issue is that red-shifts are not necessarily
100% Doppler effects.
--
73, Cecil http://www.w5dxp.com

1229. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 21:16:50 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <eqg402$1m68$1@f04n12.cac.psu.edu>
Source record: 46043

Cecil Moore wrote:
> Michael Coslo wrote:
>> All parts of any given galaxy are not moving toward or away from us at
>> the same speed, unless the galaxy is perfectly perpendicular to us.
>
> True, but consider that the red shift frequencies
> are discontinuous, i.e. quantized.
>
>> Is your red-shift issue about the red shift itself, or about the
>> magnitude of the shift? And if "variable seconds" is the culprit, how
>> are blue shifted stars accommodated in your model?
>
> My issue is that red-shifts are not necessarily
> 100% Doppler effects.

Of course there is gravitational redshift too, but I don't think that is what you are referring to.

I think you are trying to say that time is variable (forgive if I err) This means that the speed of light is also variable if only by relation to that variable time element

Doppler effect is readily observable at audio and RF wavelengths. It is widely accepted that the effect continues at light wavelengths.

Any effects that alter Doppler at light wavelengths should also be noticeable at to wavelengths. I have not heard of any such, have you?

This then says that we are not in the "fastest time" zone, because there are celestial bodies that are blue shifting toward us, or perhaps not,they are just in a different "time zone"? ;^)

BTW, I erred in my perpendicular statement above. I forgot about transverse Doppler shift that we would indeed have in a galaxy at right angles.

- 73 de Mike KB3EIA -

1230. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 21:31:31 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <TEMyh.25600$yC5.23904@newssvr27.news.prodigy.net>
Source record: 46044

Michael Coslo wrote:
> Doppler effect is readily observable at audio and RF wavelengths. It is
> widely accepted that the effect continues at light wavelengths.

The question is: Are all frequency shifts in the
universe caused by Doppler effects? I say no.
I say some frequency shifts are relativity effects.
--
73, Cecil http://www.w5dxp.com

1231. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 21:44:02 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <eqg5j2$r4k$1@f04n12.cac.psu.edu>
Source record: 46045

Cecil Moore wrote:
> Michael Coslo wrote:
>> Doppler effect is readily observable at audio and RF wavelengths. It
>> is widely accepted that the effect continues at light wavelengths.
>
> The question is: Are all frequency shifts in the
> universe caused by Doppler effects? I say no.
> I say some frequency shifts are relativity effects.

Which is the gravitational redshift. Or do you propose another type too?

- 73 de Mike KB3EIA -

1232. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 21:45:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <62is94-n03.ln1@mail.specsol.com>
Source record: 46046

Cecil Moore <mycall@hotmail.com> wrote:
> Michael Coslo wrote:
> > Doppler effect is readily observable at audio and RF wavelengths. It is
> > widely accepted that the effect continues at light wavelengths.

> The question is: Are all frequency shifts in the
> universe caused by Doppler effects? I say no.
> I say some frequency shifts are relativity effects.
> --
> 73, Cecil http://www.w5dxp.com

The doppler shift of EM frequency is a relativistic effect, so you got
that sorta right.

--
Jim Pennino

Remove .spam.sux to reply.

1233. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 22:24:02 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eqg852$84c$1@news.service.uci.edu>
Source record: 46047

Michael Coslo wrote:

> Cecil Moore wrote:
>
>> Michael Coslo wrote:
>>
>>> All parts of any given galaxy are not moving toward or away from us
>>> at the same speed, unless the galaxy is perfectly perpendicular to us.
>>
>>
>> True, but consider that the red shift frequencies
>> are discontinuous, i.e. quantized.
>>
>>> Is your red-shift issue about the red shift itself, or about the
>>> magnitude of the shift? And if "variable seconds" is the culprit, how
>>> are blue shifted stars accommodated in your model?
>>
>>
>> My issue is that red-shifts are not necessarily
>> 100% Doppler effects.
>
>
>
> Of course there is gravitational redshift too, but I don't think that is
> what you are referring to.
>
> I think you are trying to say that time is variable (forgive if I err)
> This means that the speed of light is also variable if only by relation
> to that variable time element
>
> Doppler effect is readily observable at audio and RF wavelengths. It is
> widely accepted that the effect continues at light wavelengths.
>
> Any effects that alter Doppler at light wavelengths should also be
> noticeable at to wavelengths. I have not heard of any such, have you?
>
> This then says that we are not in the "fastest time" zone, because there
> are celestial bodies that are blue shifting toward us, or perhaps
> not,they are just in a different "time zone"? ;^)
>
> BTW, I erred in my perpendicular statement above. I forgot about
> transverse Doppler shift that we would indeed have in a galaxy at right
> angles.
>

> - 73 de Mike KB3EIA -

There is an interesting (hypothetical) effect - and maybe this is what Cecil is talking about. Two systems; A and B, we're A. System B is moving away from us at relativistic velocity. Sodium yellow light from system B's street lights looks red from where we're standing in system A. Lets say we can also measure the atomic transition frequency of the sodium atoms in system B's street lights and discover that it resonates at a lower frequency compared to our reference frame. [Note that if the velocity between the two systems is indeed relativistic, then visible light will be shifted down into the infrared. Also note that if we could observe the diaphram of a car horn as it approached us, we would see that its frequncy of oscillation visually would be higher than its doppler shifted audible frequency.] If we assume that sodium behaves the same way everywhere in the universe (which we usually do) and it transitions at universally the same frequency everywhere, measured with respect to its own reference frame, then there must be a difference in the length of the unit time between the two reference frames in order to explain the apparent observed frequency difference. We usually assume the Doppler effect is linear with velocity, but temporal effects are assumed to increase very non-linearly as the speed of light is approached. So at modest velocities the apparent shift would be all doppler, but at relativistic velocities the temporal aspect would become more significant. I believe this is one explanation for the apparent 'acceleration' effect, where you look far enough out and things appear to be accelerating away from us, not just moving away.

73, ac6xg

1234. Re: SteppIR Stealth-mounted flush with the roof of a house

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 22:41:41 UTC
From: KC4UAI <kc4uai@gmail.com>
Message-ID: <1170974501.022887.267130@k78g2000cwa.googlegroups.com>
Source record: 46048

On Feb 7, 7:39 pm, jawod <j...@fuse.net> wrote:
> On the SteppIR webpage, one of the photos is a SteppIR dipole mounted
> flush with the roof to provide stealth operations. I wonder whether
> this arrangement is worth it?
>
> Is this too high tech / high cost for low return on investment?
>

Well... I've been struggling with getting HF antennas up in my CCNR challenged neighborhood. Given that one of the board members of the HOA can see my back yard directly and there are zero mature trees around here, I've had a lot of difficulty putting up any kind of antenna (without getting a letter from the HOA.) My current set up uses a coax trap dipole folded up in my attic, and it is horridly noisy on receive and nobody can hear me. (Being a single story house with all the electric in the attic pretty much tears it for me.)

I can see where such a set up with a stepper IR dipole might be about all you can do in some situations. It gives you good resonance on multiple bands and doesn't have much of a need for a ground. It may not be very efficient and it may be expensive but it seems like a valid option to me.

It won't be as good as it *could* be if you could mount it on a tower at the right height, but it might be all you can do in his situation. It also seems that it would be better than loading up the gutters on 75 Meters...

-= bob =-

1235. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-08 22:41:57 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eqg96u$8qk$1@news.service.uci.edu>
Source record: 46049

Correction: The car horn diaphram would of course be oscillating at a
frequency lower than the audible frequency when the car is approaching.

Jim Kelley wrote:

> There is an interesting (hypothetical) effect - and maybe this is what
> Cecil is talking about. Two systems; A and B, we're A. System B is
> moving away from us at relativistic velocity. Sodium yellow light from
> system B's street lights looks red from where we're standing in system
> A. Lets say we can also measure the atomic transition frequency of the
> sodium atoms in system B's street lights and discover that it resonates
> at a lower frequency compared to our reference frame. [Note that if the
> velocity between the two systems is indeed relativistic, then visible
> light will be shifted down into the infrared. Also note that if we
> could observe the diaphram of a car horn as it approached us, we would
> see that its frequncy of oscillation visually would be higher than its
> doppler shifted audible frequency.] If we assume that sodium behaves
> the same way everywhere in the universe (which we usually do) and it
> transitions at universally the same frequency everywhere, measured with
> respect to its own reference frame, then there must be a difference in
> the length of the unit time between the two reference frames in order to
> explain the apparent observed frequency difference. We usually assume
> the Doppler effect is linear with velocity, but temporal effects are
> assumed to increase very non-linearly as the speed of light is
> approached. So at modest velocities the apparent shift would be all
> doppler, but at relativistic velocities the temporal aspect would become
> more significant. I believe this is one explanation for the apparent
> 'acceleration' effect, where you look far enough out and things appear
> to be accelerating away from us, not just moving away.
>
> 73, ac6xg
>
>

1236. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 00:38:31 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <aoPyh.52930$QU1.44511@newssvr22.news.prodigy.net>
Source record: 46050

Michael Coslo wrote:
> Cecil Moore wrote:
>> Michael Coslo wrote:
>>> Doppler effect is readily observable at audio and RF wavelengths. It
>>> is widely accepted that the effect continues at light wavelengths.
>>
>> The question is: Are all frequency shifts in the
>> universe caused by Doppler effects? I say no.
>> I say some frequency shifts are relativity effects.
>
> Which is the gravitational redshift. Or do you propose another type
> too?

The "expanding" space between two galaxies could be
a relativity effect and the shorter second due to
relativity effects naturally results in a lower
measured frequency.
--
73, Cecil http://www.w5dxp.com

1237. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 00:40:53 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <oqPyh.52933$QU1.18532@newssvr22.news.prodigy.net>
Source record: 46051

jimp@specsol.spam.sux.com wrote:
> The doppler shift of EM frequency is a relativistic effect, so you got
> that sorta right.

The doppler red shift is thought to be because
galaxies are receding from each other. If a
rope stretched between those galaxies doesn't
break with time, what would that imply about
the recession?
--
73, Cecil http://www.w5dxp.com

1238. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 00:51:06 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <_zPyh.19788$zH1.2033@newssvr29.news.prodigy.net>
Source record: 46052

Jim Kelley wrote:
> So at modest velocities the apparent shift would be all
> doppler, but at relativistic velocities the temporal aspect would become
> more significant. I believe this is one explanation for the apparent
> 'acceleration' effect, where you look far enough out and things appear
> to be accelerating away from us, not just moving away.

What if we and everything around us are still traveling
near the speed of light compared to the center of the
Big Bang? What if our velocity compared to the center
of the Big Bang is actually decreasing. Decreasing
velocity implies decreasing mass, increasing standard
unit lengths, and decreasing standard units of time
all of which might fool our measurements of today.

The Big Bang may have happened 12.5 billion years ago
based on the length of our present seconds, but
measured using the center of the Big Bang as the time
frame reference, how long since the Big Bang?
--
73, Cecil http://www.w5dxp.com

1239. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 01:47:00 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eqgk3ofdf1@news.service.uci.edu>
Source record: 46054

Cecil Moore wrote:
> The Big Bang may have happened 12.5 billion years ago
> based on the length of our present seconds, but
> measured using the center of the Big Bang as the time
> frame reference, how long since the Big Bang?

How about this: If the length of the unit time changed by a factor of two then the age of the universe, using the new metric, would differ from the old by a factor of two. Same amount of time, but a different number of units of time.

73 ac6xg

1240. Re: SteppIR Stealth-mounted flush with the roof of a house

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 01:52:25 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1170985945.322865.31270@m58g2000cwm.googlegroups.com>
Source record: 46053

On 8 Feb, 14:41, "KC4UAI" <kc4...@gmail.com> wrote:
> On Feb 7, 7:39 pm, jawod <j...@fuse.net> wrote:
>
> > On the SteppIR webpage, one of the photos is a SteppIR dipole mounted
> > flush with the roof to provide stealth operations. I wonder whether
> > this arrangement is worth it?
>
> > Is this too high tech / high cost for low return on investment?
>
> Well... I've been struggling with getting HF antennas up in my CCNR
> challenged neighborhood. Given that one of the board members of the
> HOA can see my back yard directly and there are zero mature trees
> around here, I've had a lot of difficulty putting up any kind of
> antenna (without getting a letter from the HOA.) My current set up
> uses a coax trap dipole folded up in my attic, and it is horridly
> noisy on receive and nobody can hear me. (Being a single story house
> with all the electric in the attic pretty much tears it for me.)
>
> I can see where such a set up with a stepper IR dipole might be about
> all you can do in some situations. It gives you good resonance on
> multiple bands and doesn't have much of a need for a ground. It may
> not be very efficient and it may be expensive but it seems like a
> valid option to me.
>
> It won't be as good as it *could* be if you could mount it on a tower
> at the right height, but it might be all you can do in his situation.
> It also seems that it would be better than loading up the gutters on
> 75 Meters...
>
> -= bob =-

I'm sorry. I was unaware that the StepperIR had upgraded its multiband
antenna to include 75 metres
So all is still not known about antennas !
Art

1241. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 02:07:38 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1170986858.303498.38990@k78g2000cwa.googlegroups.com>
Source record: 46055

On 6 Feb, 20:55, "T" <taylor_...@yahoo.com> wrote:
> i'm working on a science fair project. i'm building an am-radio
> transmitter. i can only be a few inches from the receiver. how do i
> solve this problem without making my antenna enormous.

If you build an amplifier at the initial recerving antenna which is
preferably
outside the house the signal within the coax leading to and within
the house
will be strong enought to overcome the losses entailed by using a
long
connecting coax. Placing the amplifier at the antenna prevents noise
from
overpowering the incomming signal The amplifier need only to be a
simple
transister driven by a battery. Remember that the signal to noise
ratio will
never be better than the signal recieved by your antenna before
amplification
which should provide the impetus to build the best antenna you can
build
and situated in the most desirable place for receiving..
Good luck
Art

1242. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 02:35:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <fs2t94-e3i.ln1@mail.specsol.com>
Source record: 46056

Cecil Moore <mycall@hotmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:
> > The doppler shift of EM frequency is a relativistic effect, so you got
> > that sorta right.

> The doppler red shift is thought to be because
> galaxies are receding from each other. If a
> rope stretched between those galaxies doesn't
> break with time, what would that imply about
> the recession?
> --
> 73, Cecil http://www.w5dxp.com

The sound of one hand clapping.

--
Jim Pennino

Remove .spam.sux to reply.

1243. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 02:39:19 UTC
From: nm5k@wt.net
Message-ID: <1170988759.617076.207720@v33g2000cwv.googlegroups.com>
Source record: 46057

On Feb 8, 8:07 pm, "art" <aun...@insightbb.com> wrote:
> On 6 Feb, 20:55, "T" <taylor_...@yahoo.com> wrote:
>
> > i'm working on a science fair project. i'm building an am-radio
> > transmitter. i can only be a few inches from the receiver. how do i
> > solve this problem without making my antenna enormous.
>
> Placing the amplifier at the antenna prevents noise
> from
> overpowering the incomming signal The amplifier need only to be a
> simpleIf you build an amplifier at the initial recerving antenna which is
> preferably
> outside the house the signal within the coax leading to and within
> the house
> will be strong enought to overcome the losses entailed by using a
> long
> connecting coax.
>

I think he means the AM broadcast band.. Or I assume anyway.
The loss with most any length of coax at that MW freq should be
dinky indeed.
I built one of those when I was about in 7th grade. Mine had like
a small tight wound loop for an antenna if I remember right. But I
might
have even tried hooking it to to my then SWL antenna which was a 50
ft random wire. I don't know how critical the transister? is as far as
match. If it's not picky, you could probably just string out a short
wire. There are probably FCC antenna standards as far as such a
device,
but I'm too lazy to look them up.. I don't think the FCC wants them
radiating too far. As far as receiving at MW, Any commercial radio
should be good enough with whatever antenna came with it.
Well, unless it's a really lousy radio.. :(If you can hear noise
in between stations in the daytime, it's good enough and can't really
be
improved too much as far as s/n ratio.
MK

1244. Re: SteppIR Stealth-mounted flush with the roof of a house

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 02:50:33 UTC
From: KC4UAI <kc4uai@gmail.com>
Message-ID: <1170989433.782278.286350@v45g2000cwv.googlegroups.com>
Source record: 46058

On Feb 8, 7:52 pm, "art" <aun...@insightbb.com> wrote:

> I'm sorry. I was unaware that the StepperIR had upgraded its multiband
> antenna to include 75 metres
> So all is still not known about antennas !

Hmmm... My bad, they do 20 Meters max according to the website (40 on their vertical model) ...I was thinking about the screwdriver antennas (High Sierra I think), not the StepperIR when writing my reply.

But still, it's hard to judge another man's antenna selections by their looks every time and be right. (although mine pretty much perform like they look.)

Anybody tried the MFJ rotatable dipoles? I might be able to hide one of those behind the house... :)

-= Bob =-

1245. Re: antenna with out of line elements

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 02:51:14 UTC
From: nm5k@wt.net
Message-ID: <1170989474.802215.140620@m58g2000cwm.googlegroups.com>
Source record: 46059

On Feb 5, 3:09 pm, "art" <aun...@insightbb.com> wrote:
> On 3 Feb, 19:51, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
At
> the same
> time your total gain will consist of the addition of all other
> polarizations including circular

You sure about that? I don't think you can add gain specs
from say vertical + horizontal, and claim an addition of total gain.
You have so much vertical, so much horizontal, and so much if
circular if fed to provide that, and each much be considered
separately.
I don't think you can add them all together. Course, I'll eagerly
await if any
comments to the contrary..
MK

1246. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 03:19:05 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <JKRyh.42203$Gr2.32796@newssvr21.news.prodigy.net>
Source record: 46060

Jim Kelley wrote:
> How about this: If the length of the unit time changed by a factor of
> two then the age of the universe, using the new metric, would differ
> from the old by a factor of two. Same amount of time, but a different
> number of units of time.

Because of the effects of gravity and velocity upon
time, the first "second" was probably many magnitudes
longer than our reference second of today. And not
only does the length of a time unit change over time,
it also changes with position.
--
73, Cecil http://www.w5dxp.com

1247. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 04:12:15 UTC
From: T <taylor_j25@yahoo.com>
Message-ID: <1170994335.357239.294300@m58g2000cwm.googlegroups.com>
Source record: 46061

On Feb 7, 9:18 pm, Nobody <nob...@frontier.net> wrote:
> On 7 Feb 2007 18:45:29 -0800, T posted in total:
>
> > will this boost my transmitter's signal, or the reciever's antenna?
>
> Will _what_ boost _what_ transmitter's 'signal'????
>
> What is a "reciever"?

ok. let me be more clear. my transmitter is a simple am-radio
transmitter. it is essentially an aduio transformer connected to a
1mhz crystal oscillator. i have, connected to my oscillator's antenna
lead, a simple telescoping radio antenna, and so my "transmitter"<----
[the am-radio transmitter] has to be just a few inches from my
"reciever" <----[the am-radio] for the "reciever" to pick up my
signal.

My question is: will this antenna, the loop stick antenna mentioned
above, boost the signal coming from my "transmitter" or will it just
allow my reciever to pick up the signal easier? or in other words how
will this antenna help me?

sorry if i wasn't clear enough before. i just thought you would
understand what i was talking about.

1248. Re: antenna with out of line elements

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 05:19:04 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1170998344.351770.79680@k78g2000cwa.googlegroups.com>
Source record: 46062

On 5 Feb, 13:09, "art" <aun...@insightbb.com> wrote:
> On 3 Feb, 19:51, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
>
> > Has anyone modeled what happens to the signal of a triband 3 element antenna
> > that has one or more of the elements that has slipped on the boom say 10 or
> > 20 deg ?
>
> > Also saw in an old magazine an antenna for 2 meters that had each element
> > offset by about 5 or 10 deg around the boom to produce circular
> > polarization. Will this actually work or is it wishful thinking ?
>
> Ralph you are getting very close to reality.If all your elements are
> close to individual
> resonance then slippage upto 30 degrees will be to your advantage. At
> the same
> time your total gain will consist of the addition of all other
> polarizations including circular
>
> With respect to the 2 meter antenna, if I remember correctly the
> successive angles must
> be between around 20 to 30 degrees and none of the elements will
> measure a half wave
> length since they must all be resonant despite the coupling effects
> which adds to
> complications in manufacture.
> Still if you feed one element at a time you can eventually get to
> Eldorado, if not then
> get in touch with your requirements and I will provide the dimensions
> and if you have
> any doubt you can use your own program to check its validity.
> Have fun
> Art

No I am not saring that! What I am saying is that an anterna can
radiate
in many ways at the same time. One or all of them can combine or
cancel
to provide a max radiation field. Why I mentioned that was if a
radiator was
horizontal which hams would normally favour would favour horizontal
polarization and other polarizations would suffer.
If the array did not favour a particular polarization by being placed
at an
angle to the surface of the earth you would hear signals at different

distances
because of various polarization signals one can receive. In other
words your
antenna covers a larger land area than say a horizontal antenna
alone.
This could well be why a Yagi appears not to hear as well as a quad
which hears a variety of signals from different distances but of
course
many would argue the validity of that statement just for aurguments
sake
alone.!
The Gaussian clustered arrays that I talk about are radiating arrays
of arbitary
positions and angles relative to one another such that they are
suitable for use
at any polarization required for advantage. Also because all elrments
are resonant
interchange of driven elements can be attained to porvide alternate
polarizations
a challenge that I understand Yuri is presently pursuing for various
reasons tho
I understand it is mainly to combat fading of signals, but he can
explain for himself..
Art

1249. Re: Asking for advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 05:35:25 UTC
From: KC4UAI <kc4uai@gmail.com>
Message-ID: <1170999325.773637.120130@m58g2000cwm.googlegroups.com>
Source record: 46063

On Feb 7, 9:35 am, "EpsilonRho" <Epsilon...@nospam.ooo> wrote:
> My mother lives in a area where the cell-phone signal is very weak.
> Typically I can get only one mark on the phone field strength meter. That
> forces me to go outside the house in order to have a reasonable chance of
> completing a call (of course only if the weather permits).

Have you tried other carriers? At my house a Sprint only works
outside in the back yard while T-mobile and Cingular have no issues
inside. It could be that your carrier just has lousy coverage because
your house is to far away from their cell tower (or the antenna on the
tower is not pointed directly at you).

Another option is to complain to your carrier about signal strength
and hope they get around to changing it sometime soon (not likely by
the way.)

Third, is try another phone on your carrier of choice. I've seen
different phones have vastly different abilities under the exact same
circumstances even on the same carrier.

-= bob =-

1250. Re: antenna with out of line elements

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 06:15:52 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <274os257vdiden63og9gu9nbu3j3qkt8he@4ax.com>
Source record: 46064

On 8 Feb 2007 21:19:04 -0800, "art" <aunwin@insightbb.com> wrote:

>The Gaussian clustered arrays that I talk about are radiating arrays
>of arbitary
>positions and angles relative to one another such that they are
>suitable for use
>at any polarization required for advantage.

This meager description hardly compares to the scope of coverage found
at:
http://www.qsl.net/kb7qhc/antenna/fractal/index.htm

Hundreds and hundreds of pages of designs, matching characteristics,
and radiation performance.

73's
Richard Clark, KB7QHC

1251. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 06:34:05 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <cg4os2dnh5j77bnh20vjelhbod6v7gdac8@4ax.com>
Source record: 46065

On 8 Feb 2007 20:12:15 -0800, "T" <taylor_j25@yahoo.com> wrote:

>My question is: will this antenna, the loop stick antenna mentioned
>above, boost the signal coming from my "transmitter" or will it just
>allow my reciever to pick up the signal easier? or in other words how
>will this antenna help me?

No one can tell how anything can help if you don't tell us what help
you need.

Being able to receive inches away speaks to an accomplishment, not a
problem. If you want to receive miles away, then the comparison
between what is accomplished and what is desired reveals the problem.

>sorry if i wasn't clear enough before. i just thought you would
>understand what i was talking about.

You never really "talked about" anything when the sum total of your
correspondence barely exceeds a half dozen lines up to this posting.

Now, we can all presume an intent, and that intent goes counter to
what is allowed by law, and that is long distance communication on
commercial frequencies by an unlicensed station. The law is
exceptionally clear as to how much power is allowed, into how large a
radiator, for unlicensed stations (such as yours). The long and short
of it is that without exceptionally good reception gear, that distance
is rarely more than across the room, or within a block.

Clearly, even these distances vastly exceed your current
accomplishment of a few inches because you could invest little more
effort into doing it with a modulated LED across the room. TV remotes
do this a billion times an hour world-wide.

Even with the allowed sized radiator, it is pathetically inefficient
(which is the intent of the law). The name of the game is called
matching, and a XTAL oscillator is a poor power source.

However, all of this is strictly window dressing unless the whole
scope of your Science Fair project is limited to building a working
transmitter. If so, you need to formulate better questions. If not,
you are spending too much time when you could build a Ramsey Kit in an
afternoon and get on with the grist of the project.

73's
Richard Clark, KB7QHC

1252. Re: Thevenin and s-parameters...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 07:00:08 UTC
From: camelot <scosmo@tiscalinet.it>
Message-ID: <1171004408.660083.114320@s48g2000cws.googlegroups.com>
Source record: 46066

Hello,
I'd like to thank you for the specification you reported; it seems
that my formula is not properly correct!
All my doubts on that matter rose by a very particular problem I met
during my work where s-parameter simulation of a particular circuit
matches analytic calculations only using the "controversial" formula.
If I'll find few minutes, just for curiosity, I'll post the details of
problem ;-)
Regards,

Camelot

1253. APRSPoint 4.1 available

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 07:18:00 UTC
From: "hxc98@yahoo.com" <hxc98@yahoo.com>
Message-ID: <1171005480.769839.177690@q2g2000cwa.googlegroups.com>
Source record: 46067

Version 4.1 improved on the basis of 4.0. Added show/hide track in addition to track removal. Also, the color in which the mobile station names are displayed can be customized. And you can set up a tactical call sign, and choose to beacon it instead of youe regular call sign. In filter settings, you can choose to accept stations in the track list without manually adding them. This version has improved legacy TNC support as well.

Thanks, Michael KF6ZDM

1254. Re: antenna with out of line elements

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 08:27:07 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <pfWyh.1161$O8.641@bignews2.bellsouth.net>
Source record: 46068

"art" <aunwin@insightbb.com> wrote in message
news:1170998344.351770.79680@k78g2000cwa.googlegroups.com...
> On 5 Feb, 13:09, "art" <aun...@insightbb.com> wrote:
>> On 3 Feb, 19:51, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
>>
>> > Has anyone modeled what happens to the signal of a triband 3 element
>> > antenna
>> > that has one or more of the elements that has slipped on the boom say
>> > 10 or
>> > 20 deg ?
>>
>> > Also saw in an old magazine an antenna for 2 meters that had each
>> > element
>> > offset by about 5 or 10 deg around the boom to produce circular
>> > polarization. Will this actually work or is it wishful thinking ?
>>
>> Ralph you are getting very close to reality.If all your elements are
>> close to individual
>> resonance then slippage upto 30 degrees will be to your advantage. At
>> the same
>> time your total gain will consist of the addition of all other
>> polarizations including circular
>>
>> With respect to the 2 meter antenna, if I remember correctly the
>> successive angles must
>> be between around 20 to 30 degrees and none of the elements will
>> measure a half wave
>> length since they must all be resonant despite the coupling effects
>> which adds to
>> complications in manufacture.
>> Still if you feed one element at a time you can eventually get to
>> Eldorado, if not then
>> get in touch with your requirements and I will provide the dimensions
>> and if you have
>> any doubt you can use your own program to check its validity.
>> Have fun
>> Art
>
> No I am not saring that! What I am saying is that an anterna can
> radiate
> in many ways at the same time. One or all of them can combine or
> cancel
> to provide a max radiation field. Why I mentioned that was if a
> radiator was

> horizontal which hams would normally favour would favour horizontal
> polarization and other polarizations would suffer.
> If the array did not favour a particular polarization by being placed
> at an
> angle to the surface of the earth you would hear signals at different
> distances
> because of various polarization signals one can receive. In other
> words your
> antenna covers a larger land area than say a horizontal antenna
> alone.
> This could well be why a Yagi appears not to hear as well as a quad
> which hears a variety of signals from different distances but of
> course
> many would argue the validity of that statement just for aurguments
> sake
> alone.!
> The Gaussian clustered arrays that I talk about are radiating arrays
> of arbitary
> positions and angles relative to one another such that they are
> suitable for use
> at any polarization required for advantage. Also because all elrments
> are resonant
> interchange of driven elements can be attained to porvide alternate
> polarizations
> a challenge that I understand Yuri is presently pursuing for various
> reasons tho
> I understand it is mainly to combat fading of signals, but he can
> explain for himself..
> Art
>

Polarity diversity is nothing new Art, the way you are trying to achive it, if that is what your guassian cluster is all about is the wrong way to go about it. First time you have even come close to describing what you are doing.

1255. Re: Asking for advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 08:32:29 UTC
From: Jimmie D <jimmiedee@bellsouth.net>
Message-ID: <rkWyh.1163$O8.99@bignews2.bellsouth.net>
Source record: 46069

"EpsilonRho" <EpsilonRho@nospam.ooo> wrote in message
news:8lmyh.16783$ji1.8571@newssvr12.news.prodigy.net...
> My mother lives in a area where the cell-phone signal is very weak.
> Typically I can get only one mark on the phone field strength meter. That
> forces me to go outside the house in order to have a reasonable chance of
> completing a call (of course only if the weather permits). I have only
> basic
> understanding of antennas, so I am asking this forum if the following idea
> is feasible.
>
> I am planning to build (or buy) a 850 MHz Yagi antenna (14 dB gain) to be
> installed on the outside and pointing towards the signal strongest
> direction. The boosted signal would be transmitted through a balun and a
> low
> loss 75 ohm coax cable to the inside of the house terminating to a 1/4
> wavelength 75 ohm antenna stub. Is this feasible? Could I get perhaps a
> 10bB
> signal boost inside the house by means of this arrangement?
>
> TIA
> Gene
>
>
>

Outside antennas connected to your phone work very well. I used to have a
"bag phone " that we used in a cabin in the mountains. Total unusable in the
house, barely usable outside. Like you are next to the tower with a small
yagi atatched. Problem is most cell phones dont have an antenna conection
these days. Look for one that does.

1256. Re: J-Pole vs Slim Jim?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 11:06:14 UTC
From: Ian Jackson <IanJacksonRemoveThisBit@g3ohx.demon.co.uk>
Message-ID: <C+9KSPMmWFzFFwke@g3ohx.demon.co.uk>
Source record: 46070

In message <845q94-t7a.ln1@p400bob.personal.cox.net>, Bob Bob
<bob3bob3@suddenlink.net> writes
>H Ian
>
>Mr Cebik had something to say about this...
>
>http://www.cebik.com/vhf/jp2.html
>
>Very intersting all around read on his whole website!
>
>Cheers Bob VK2YQA
>
>
>
>Ian Jackson wrote:
>
>> However, is there any advantage in the Slim Jim's bit which folds back
>> down, or is it just there for decoration?

Thanks, Bob.
I did have a look around, but I missed that particular paper in W4RNL's
website (which is certainly a mine of information).

The gist of it is that there is negligible difference between the three
versions of this antenna.

One point which I did notice is that the feed point is lowest down for
the single-radiator J-Pole (Fig 2), higher for the 'Loose Wire' version
(Fig 4), and highest for the folded-over Slim Jim version (Fig 6).
Presumably, this is because the top part is effectively fatter for the
Loose Wire, and fatter still for the Slim Jim. This will lower the
impedance at the bottom of the top halfwave part, and you will need to
tap the feeder further up the quarterwave stub in order to find the 50
ohm point. There is maybe some confirmation of this in the SWR plots
(Fig 11), where the bandwidth for the Slim Jim version is somewhat
greater than the other two.

I'm guessing that you would only make a Loose Wire version if you were
making the antenna out of twin feeder.

Cheers,
Ian.
--

1257. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 13:14:45 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <eqhs4c$1m2u$1@f04n12.cac.psu.edu>
Source record: 46071

Jim Kelley wrote:
> Michael Coslo wrote:
>
>> Cecil Moore wrote:
>>
>>> Michael Coslo wrote:
>>>
>>>> All parts of any given galaxy are not moving toward or away from us
>>>> at the same speed, unless the galaxy is perfectly perpendicular to us.
>>>
>>>
>>> True, but consider that the red shift frequencies
>>> are discontinuous, i.e. quantized.
>>>
>>>> Is your red-shift issue about the red shift itself, or about the
>>>> magnitude of the shift? And if "variable seconds" is the culprit,
>>>> how are blue shifted stars accommodated in your model?
>>>
>>>
>>> My issue is that red-shifts are not necessarily
>>> 100% Doppler effects.
>>
>>
>>
>> Of course there is gravitational redshift too, but I don't think that
>> is what you are referring to.
>>
>> I think you are trying to say that time is variable (forgive if I err)
>> This means that the speed of light is also variable if only by
>> relation to that variable time element
>>
>> Doppler effect is readily observable at audio and RF wavelengths. It
>> is widely accepted that the effect continues at light wavelengths.
>>
>> Any effects that alter Doppler at light wavelengths should also be
>> noticeable at to wavelengths. I have not heard of any such, have you?
>>
>> This then says that we are not in the "fastest time" zone, because
>> there are celestial bodies that are blue shifting toward us, or
>> perhaps not,they are just in a different "time zone"? ;^)
>>
>> BTW, I erred in my perpendicular statement above. I forgot about
>> transverse Doppler shift that we would indeed have in a galaxy at
>> right angles.

>>
>> - 73 de Mike KB3EIA -
>
> There is an interesting (hypothetical) effect - and maybe this is what
> Cecil is talking about. Two systems; A and B, we're A. System B is
> moving away from us at relativistic velocity. Sodium yellow light from
> system B's street lights looks red from where we're standing in system
> A. Lets say we can also measure the atomic transition frequency of the
> sodium atoms in system B's street lights and discover that it resonates
> at a lower frequency compared to our reference frame. [Note that if the
> velocity between the two systems is indeed relativistic, then visible
> light will be shifted down into the infrared. Also note that if we
> could observe the diaphram of a car horn as it approached us, we would
> see that its frequncy of oscillation visually would be higher than its
> doppler shifted audible frequency.]

Here I become confused. It sounds as if you are saying that the
oscillation frequency of the "object" would be higher than the
frequency than the Doppler shifted frequency on approach. That sounds
like the reverse of the Doppler effect.

> If we assume that sodium behaves
> the same way everywhere in the universe (which we usually do) and it
> transitions at universally the same frequency everywhere, measured with
> respect to its own reference frame, then there must be a difference in
> the length of the unit time between the two reference frames in order to
> explain the apparent observed frequency difference. We usually assume
> the Doppler effect is linear with velocity, but temporal effects are
> assumed to increase very non-linearly as the speed of light is
> approached. So at modest velocities the apparent shift would be all
> doppler, but at relativistic velocities the temporal aspect would become
> more significant. I believe this is one explanation for the apparent
> 'acceleration' effect, where you look far enough out and things appear
> to be accelerating away from us, not just moving away.

Possibly. Cecil will eventually let us know. I'm still not completely sure.

- 73 de Mike KB3EIA -

1258. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 13:15:52 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <eqhs68$1m2u$2@f04n12.cac.psu.edu>
Source record: 46072

Jim Kelley wrote:
>
> Correction: The car horn diaphram would of course be oscillating at a
> frequency lower than the audible frequency when the car is approaching.
>

Okay, Jim. Disregard my followup then.

- 73 de Mike KB3EIA -

1259. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 16:21:03 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <eqi71m$1aao$1@f04n12.cac.psu.edu>
Source record: 46073

Cecil Moore wrote:
> Michael Coslo wrote:
>> Cecil Moore wrote:
>>> Michael Coslo wrote:
>>>> Doppler effect is readily observable at audio and RF wavelengths. It
>>>> is widely accepted that the effect continues at light wavelengths.
>>>
>>> The question is: Are all frequency shifts in the
>>> universe caused by Doppler effects? I say no.
>>> I say some frequency shifts are relativity effects.
>>
>> Which is the gravitational redshift. Or do you propose another type too?
>
> The "expanding" space between two galaxies could be
> a relativity effect and the shorter second due to
> relativity effects naturally results in a lower
> measured frequency.

Could be. My questions alway revolve around just what - or why - the effect is. The great thing about Doppler is that it works on so many scales. We should be able to perform experiments that will go a long way toward determining if such an effect exists.

What I see however is that there are no great anomalies with the present model. That doesn't make it right, but it does mean it pretty much fits.

Relativity also works at speeds lower and more local than across the universe, Astronauts and their craft who orbit the earth are "younger" than they would have been if they stayed on Earth. We use accelerators that act consistently with relativity. We probably should see some of what you are thinking of.

- 73 de Mike KB3EIA -

1260. Re: antenna with out of line elements

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 16:41:30 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1171039289.980754.137680@h3g2000cwc.googlegroups.com>
Source record: 46074

On 9 Feb, 00:27, "Jimmie D" <jimmie...@bellsouth.net> wrote:
> "art" <aun...@insightbb.com> wrote in message
>
> news:1170998344.351770.79680@k78g2000cwa.googlegroups.com...
>
>
>
>
>
> > On 5 Feb, 13:09, "art" <aun...@insightbb.com> wrote:
> >> On 3 Feb, 19:51, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
>
> >> > Has anyone modeled what happens to the signal of a triband 3 element
> >> > antenna
> >> > that has one or more of the elements that has slipped on the boom say
> >> > 10 or
> >> > 20 deg ?
>
> >> > Also saw in an old magazine an antenna for 2 meters that had each
> >> > element
> >> > offset by about 5 or 10 deg around the boom to produce circular
> >> > polarization. Will this actually work or is it wishful thinking ?
>
> >> Ralph you are getting very close to reality.If all your elements are
> >> close to individual
> >> resonance then slippage upto 30 degrees will be to your advantage. At
> >> the same
> >> time your total gain will consist of the addition of all other
> >> polarizations including circular
>
> >> With respect to the 2 meter antenna, if I remember correctly the
> >> successive angles must
> >> be between around 20 to 30 degrees and none of the elements will
> >> measure a half wave
> >> length since they must all be resonant despite the coupling effects
> >> which adds to
> >> complications in manufacture.
> >> Still if you feed one element at a time you can eventually get to
> >> Eldorado, if not then
> >> get in touch with your requirements and I will provide the dimensions
> >> and if you have
> >> any doubt you can use your own program to check its validity.
> >> Have fun
> >> Art

>
> > No I am not saring that! What I am saying is that an anterna can
> > radiate
> > in many ways at the same time. One or all of them can combine or
> > cancel
> > to provide a max radiation field. Why I mentioned that was if a
> > radiator was
> > horizontal which hams would normally favour would favour horizontal
> > polarization and other polarizations would suffer.
> > If the array did not favour a particular polarization by being placed
> > at an
> > angle to the surface of the earth you would hear signals at different
> > distances
> > because of various polarization signals one can receive. In other
> > words your
> > antenna covers a larger land area than say a horizontal antenna
> > alone.
> > This could well be why a Yagi appears not to hear as well as a quad
> > which hears a variety of signals from different distances but of
> > course
> > many would argue the validity of that statement just for aurguments
> > sake
> > alone.!
> > The Gaussian clustered arrays that I talk about are radiating arrays
> > of arbitary
> > positions and angles relative to one another such that they are
> > suitable for use
> > at any polarization required for advantage. Also because all elrments
> > are resonant
> > interchange of driven elements can be attained to porvide alternate
> > polarizations
> > a challenge that I understand Yuri is presently pursuing for various
> > reasons tho
> > I understand it is mainly to combat fading of signals, but he can
> > explain for himself..
> > Art
>
> Polarity diversity is nothing new Art
,
I didn't sar it was

the way you are trying to achive it

I am not trying it is automatic because of the design,

> if that is what your guassian cluster is all about is the wrong way to go
> about it. First time you have even come close to describing what you are
> doing.-

I have stated what it is all about and was quoted as being a
blithering idiot.

The group as a whole is not ready to accept anything that is not
written in
any book. Humans by their very nature are unwilling to accept change
so the
generation that comes along to suck up all that is written is the one
that
advances in science.
Art

Hide quoted text -
>
> - Show quoted text -

1261. Antenna Pattern Distortion due to 2 antenna placed in near vicinity

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 16:46:02 UTC
From: Rohit <rksindhu@gmail.com>
Message-ID: <1171039562.001011.113640@l53g2000cwa.googlegroups.com>
Source record: 46075

Hi all,
I have placed 2 similar antennas (3 dB beamwidth = 90deg,
Polarization= LHC) on a PEC box with a small spacing between the 2.
Both antenna's are tilted and the first one is at 45deg and other at
135 deg from the horizontal so that both can cover 180 deg.

With this setup, in the simulation result i am observing heavy
distortion (about 10dB ripple or more) at 90 deg. What is the reason
for this heavy distortion. Is there any way i can remove the
distortion in the pattern without changing the antenna's position??

Thanks in advance,
Rohit

1262. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 17:24:53 UTC
From: T <taylor_j25@yahoo.com>
Message-ID: <1171041893.807164.131300@a75g2000cwd.googlegroups.com>
Source record: 45926

All i want is to be able to pick up the signal from my "transmitter"
with an am-radio across the room.

1263. Re: Thevenin and s-parameters...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 17:41:53 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1171042913.145739.305930@s48g2000cws.googlegroups.com>
Source record: 45927

On Feb 8, 11:00 pm, "camelot" <sco...@tiscalinet.it> wrote:
> Hello,
> I'd like to thank you for the specification you reported; it seems
> that my formula is not properly correct!
> All my doubts on that matter rose by a very particular problem I met
> during my work where s-parameter simulation of a particular circuit
> matches analytic calculations only using the "controversial" formula.
> If I'll find few minutes, just for curiosity, I'll post the details of
> problem ;-)
> Regards,
>
> Camelot

Yes, that will be interesting. I do hope you find time to post the
problem in more detail.

Cheers,
Tom

1264. Re: Asking for advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 17:48:10 UTC
From: "Fred Ferrely"
Message-ID: <9jcps2hbnke7ua80pv9qmhbs4ru311h83t@4ax.com>
Source record: 45928

I just "Happened" to run across this little article, and dog-gone
it, it looks like a lot of fun with the Cell Phone! (It'll save you
some bucks too!) I think I'll even try one for myself!!

Check this page out. Its pretty good:

http://robert.watkins.net/phone/

I would imagine that if one used PVC instead of a paper tube, this
may be plenty suitable for Outdoor work.

Cheers
FFF

On 8 Feb 2007 21:35:25 -0800, "KC4UAI" <kc4uai@gmail.com> wrote:

>On Feb 7, 9:35 am, "EpsilonRho" <Epsilon...@nospam.ooo> wrote:
>> My mother lives in a area where the cell-phone signal is very weak.
>> Typically I can get only one mark on the phone field strength meter. That
>> forces me to go outside the house in order to have a reasonable chance of
>> completing a call (of course only if the weather permits).
>
>Have you tried other carriers? At my house a Sprint only works
>outside in the back yard while T-mobile and Cingular have no issues
>inside. It could be that your carrier just has lousy coverage because
>your house is to far away from their cell tower (or the antenna on the
>tower is not pointed directly at you).
>
>Another option is to complain to your carrier about signal strength
>and hope they get around to changing it sometime soon (not likely by
>the way.)
>
>Third, is try another phone on your carrier of choice. I've seen
>different phones have vastly different abilities under the exact same
>circumstances even on the same carrier.
>
>-= bob =-
>

1265. Re: antenna with out of line elements

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 17:48:56 UTC
From: nm5k@wt.net
Message-ID: <1171043336.222847.134180@m58g2000cwm.googlegroups.com>
Source record: 45929

On Feb 9, 10:41 am, "art" <aun...@insightbb.com> wrote:
> On 9 Feb, 00:27, "Jimmie D" <jimmie...@bellsouth.net> wrote:

> The group as a whole is not ready to accept anything that is not
> written in
> any book. Humans by their very nature are unwilling to accept change
> so the
> generation that comes along to suck up all that is written is the one
> that
> advances in science.
> Art
>

I could care less about books, although I do have quite a few.
I'm more convinced when I actually see something work.
If you are convinced this theory of yours has merit, why
can't you build one of the things and test it?
All this gaussian jibber jabber doesn't mean squat if you can't
build , test, and demonstrate one in the real world.
I read books, but I also usually test things in the real world to
verify the info is correct. Trust me, not much of what is in books
is wrong. Some is, but it's fairly rare overall.
If I were to come up with some new design, I would have built,
tested, and compared, before I even made any announcement
about the theory.
I get the impression that you cook up all these ideas, but
rarely actually test them in the real world.
That's no way to live, if you don't want the negative flak.
MK

1266. Re: Antenna Pattern Distortion due to 2 antenna placed in near vicinity

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 18:15:20 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <YS2zh.75$Aa5.0@trnddc01>
Source record: 45930

"Rohit" <rksindhu@gmail.com> wrote in message
news:1171039562.001011.113640@l53g2000cwa.googlegroups.com...
> Hi all,
> I have placed 2 similar antennas (3 dB beamwidth = 90deg,
> Polarization= LHC) on a PEC box with a small spacing between the 2.
> Both antenna's are tilted and the first one is at 45deg and other at
> 135 deg from the horizontal so that both can cover 180 deg.
>
> With this setup, in the simulation result i am observing heavy
> distortion (about 10dB ripple or more) at 90 deg. What is the reason
> for this heavy distortion. Is there any way i can remove the
> distortion in the pattern without changing the antenna's position??
>
> Thanks in advance,
> Rohit

Hi Rohit

I consider your antenna to be one antenna with two driven elements.
Wherever the individual patterns from the elements overlap, they will add or
subtract depending on their relative phase.
Can you consider switching to alternately choose one element or the other?
Can you change the pattern shape so the patterns dont overlap? What are
your choices?

Jerry

1267. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 18:29:28 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eqif46$ko6$1@news.service.uci.edu>
Source record: 45942

Cecil Moore wrote:

> Because of the effects of gravity and velocity upon
> time, the first "second" was probably many magnitudes
> longer than our reference second of today.

Such effects would likely have been significant during the first
microsecond or so after the big bang. It was a very big bang, apparently.

73, ac6xg

1268. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 20:15:16 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <eqikosvtk1@f04n12.cac.psu.edu>
Source record: 45931

T wrote:
> All i want is to be able to pick up the signal from my "transmitter"
> with an am-radio across the room.

Hold on guys! T, this is a rarified group here, and sometimes it shows.

Okay, so you have a transmitter that is presumably transmitting somewhere.

You want to be able to receive the signals on an AM radio at some distance. Let's collect a little data, and I maybe I can help.

If you are using a typical AM radio to pick up the signals, you don't need to do anything with it. It's already got an antenna.

Now on to your transmitter.

If the transmitter is working, you should be able to pick up a pretty strong signal when the receiver is sitting next to it. Even if you just have a short piece of wire on the transmitter.

If you don't, it is possible that the transmitter is not working. It is also possible that if you have only a weak signal, you might be transmitting on a "harmonic" frequency. This is pretty much double or half, but it means that you are getting a much less powerful signal to the radio.

Assuming that your transmitter can be tuned, set the radio at some frequency, preferably on the lower part of the band and away from local stations.

Now, with the radio sitting right beside the transmitter, tune the tansmitter until you hear the signal you are looking for. Even when you get a signal, you might try tuning the transmitter all between it's limits just in case a harmonic signal is what you found at first. Go with the strongest signal.

Now start moving the radio away from the transmitter. At some point, the signal will become weaker, eventually going away - and if it doesn't, your doing great.

If not, you need to lengthen the wire. There are some legal limits to this, and I think that they are around 5 feet or so. Someone else might be able to chime in here if they know exactly.

Some misc stuff:

The transmitter circuit may change frequency as you move toward or away from it. Putting metal between you and the circuit can help, although

with some adjustment, you can predict how much change there will be and accommodate the problem.

If you aren't getting anything with a short wire antenna and the radio right beside the transmitter, the transmitter probably isn't working.

- 73 de Mike KB3EIA -

1269. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 20:17:48 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eqilgjoqo1@news.service.uci.edu>
Source record: 45943

Richard,

Please try to tone down the magniloquence a little. Just explain why
you suggested a loopstick antenna in plain English. Obviously the man
is not a radio engineer (or whatever) of your caliber. You can save
the 'waxing eloquent' for the newsgroup regulars.

thanks,
jk

Richard Clark wrote:
> On 8 Feb 2007 20:12:15 -0800, "T" <taylor_j25@yahoo.com> wrote:
>
>
>>My question is: will this antenna, the loop stick antenna mentioned
>>above, boost the signal coming from my "transmitter" or will it just
>>allow my reciever to pick up the signal easier? or in other words how
>>will this antenna help me?
>
>
> No one can tell how anything can help if you don't tell us what help
> you need.
>
> Being able to receive inches away speaks to an accomplishment, not a
> problem. If you want to receive miles away, then the comparison
> between what is accomplished and what is desired reveals the problem.
>
>
>>sorry if i wasn't clear enough before. i just thought you would
>>understand what i was talking about.
>
>
> You never really "talked about" anything when the sum total of your
> correspondence barely exceeds a half dozen lines up to this posting.
>
> Now, we can all presume an intent, and that intent goes counter to
> what is allowed by law, and that is long distance communication on
> commercial frequencies by an unlicensed station. The law is
> exceptionally clear as to how much power is allowed, into how large a
> radiator, for unlicensed stations (such as yours). The long and short
> of it is that without exceptionally good reception gear, that distance
> is rarely more than across the room, or within a block.
>
> Clearly, even these distances vastly exceed your current
> accomplishment of a few inches because you could invest little more

> effort into doing it with a modulated LED across the room. TV remotes
> do this a billion times an hour world-wide.
>
> Even with the allowed sized radiator, it is pathetically inefficient
> (which is the intent of the law). The name of the game is called
> matching, and a XTAL oscillator is a poor power source.
>
> However, all of this is strictly window dressing unless the whole
> scope of your Science Fair project is limited to building a working
> transmitter. If so, you need to formulate better questions. If not,
> you are spending too much time when you could build a Ramsey Kit in an
> afternoon and get on with the grist of the project.
>
> 73's
> Richard Clark, KB7QHC

1270. Need Ideas for HF Antenna at Fire Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 20:59:46 UTC
From: Bob Dixon <dixon.8@osu.edu>
Message-ID: <dixon.8-A2645F.15594609022007@charm.magnus.acs.ohio-state.edu>
Source record: 45932

Our local fire station would like us to provide an HF station to be operated by hams during an emergencies. They have offered to pay the cost of this. We already have an VHF station there. The problem is the antenna. It cannot be visible (or at least not be at all obvious; they are allowing the VHF antenna on the roof now.). The most likely needed band is 75/80 meters, for in-state communications. So we need high-angle radiation, and a vertical does not seem to be a good choice.

The roof is metal, so putting an antenna in the attic will not work. The building is a fairly large 2 or 3 story structure, and in the country with no other buildings nearby.

Here are some ideas I have:

1, A horizontal loop, running all around the building up near the top, but somewhat below the metal roof. Would likely be non-resonant, although perhaps we could choose the length. Mount it on stand-off insulators just off the wooden siding. Use white insulated wire and paint all hardware white, to blend in with the white siding. Feed it at some convenient point, perhaps with a 4:1 balun and then coax into the building. Open wire feed would be better, but we cannot get that into the building and down to the station. Use a coax antenna tuner in the station. The SWR would not be good, but the losses of RG/8 at 75M are not that high. Maybe we could use some kind of outdoor automatic tuner directly connected to the antenna, but I don't know of any offhand.

2. Use the rain gutters as an antenna. I did this long ago in a house and it worked fairly well on 40M. Bridge all the joints with copper braid, painted white, to endure reliable connections. At one of the corner downspouts near the ground, connect the center conductor of a coax cable to the downspout. Bury radials extending out from the building an appropriate length, in a 270 degree sector, and connect to the shield.
I don't know if the gutters are connected to the metal roof, but if so that might or might not rule out this approach. Use a coax antenna tuner in the station. I know this is basically a top-loaded vertical antenna, but the choices are limited.

Comments on both these ideas, and other alternative suggestions, would be greatly appreciated.

73,

Bob W8ERD

1271. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 21:02:45 UTC
From: T <taylor_j25@yahoo.com>
Message-ID: <1171054965.497057.232740@v45g2000cwv.googlegroups.com>
Source record: 45933

thanks mr. coslo, that was very helpful.

i'm sorry to keep bothering you all, but is there any other kind of antenna that i can legally build that will allow me to transmit my signal across the room, or is a simple piece of wire my best bet? see, i don't know a whole lot about antenna construction, so what i mean is will another type of antenna, such as the loop stick antenna, give me better rececption across the room?

does anyone know of any website(s) where i can learn the construction and uses of differnt types of antennas?

1272. Re: Need Ideas for HF Antenna at Fire Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 21:21:51 UTC
From: Dave <noone@nowhere.com>
Message-ID: <PB5zh.12$103.11@trndny05>
Source record: 45934

Do they have a flagpole?

"Bob Dixon" <dixon.8@osu.edu> wrote in message
news:dixon.8-A2645F.15594609022007@charm.magnus.acs.ohio-state.edu...
> Our local fire station would like us to provide an HF station to be
> operated by hams during an emergencies. They have offered to pay the
> cost of this. We already have an VHF station there. The problem is the
> antenna. It cannot be visible (or at least not be at all obvious; they
> are allowing the VHF antenna on the roof now.). The most likely needed
> band is 75/80 meters, for in-state communications. So we need high-angle
> radiation, and a vertical does not seem to be a good choice.
>
> The roof is metal, so putting an antenna in the attic will not work.
> The building is a fairly large 2 or 3 story structure, and in the
> country with no other buildings nearby.
>
> Here are some ideas I have:
>
> 1, A horizontal loop, running all around the building up near the top,
> but somewhat below the metal roof. Would likely be non-resonant,
> although perhaps we could choose the length. Mount it on stand-off
> insulators just off the wooden siding. Use white insulated wire and
> paint all hardware white, to blend in with the white siding. Feed it at
> some convenient point, perhaps with a 4:1 balun and then coax into the
> building. Open wire feed would be better, but we cannot get that into
> the building and down to the station. Use a coax antenna tuner in the
> station. The SWR would not be good, but the losses of RG/8 at 75M are
> not that high. Maybe we could use some kind of outdoor automatic tuner
> directly connected to the antenna, but I don't know of any offhand.
>
> 2. Use the rain gutters as an antenna. I did this long ago in a house
> and it worked fairly well on 40M. Bridge all the joints with copper
> braid, painted white, to endure reliable connections. At one of the
> corner downspouts near the ground, connect the center conductor of a
> coax cable to the downspout. Bury radials extending out from the
> building an appropriate length, in a 270 degree sector, and connect to
> the shield.
> I don't know if the gutters are connected to the metal roof, but if so
> that might or might not rule out this approach. Use a coax antenna
> tuner in the station. I know this is basically a top-loaded vertical
> antenna, but the choices are limited.
>
> Comments on both these ideas, and other alternative suggestions, would
> be greatly appreciated.

>
> 73,
>
> Bob W8ERD

1273. Re: Need Ideas for HF Antenna at Fire Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 21:30:27 UTC
From: Tam/WB2TT <t-tammaru@c0mca$t.net>
Message-ID: <PYCdnfqYA4V3elHYnZ2dnUVZ_oytnZ2d@comcast.com>
Source record: 45935

"Bob Dixon" <dixon.8@osu.edu> wrote in message
news:dixon.8-A2645F.15594609022007@charm.magnus.acs.ohio-state.edu...
> Our local fire station would like us to provide an HF station to be
> operated by hams during an emergencies. They have offered to pay the
> cost of this. We already have an VHF station there. The problem is the
> antenna. It cannot be visible (or at least not be at all obvious; they
> are allowing the VHF antenna on the roof now.). The most likely needed
> band is 75/80 meters, for in-state communications. So we need high-angle
> radiation, and a vertical does not seem to be a good choice.
>
> The roof is metal, so putting an antenna in the attic will not work.
> The building is a fairly large 2 or 3 story structure, and in the
> country with no other buildings nearby.
>
****
How about a 1/4 wave radiator, sloping down from the roof, with the shield
of the coax connected to the metal roof. It would take some trimming. If you
use black insulated wire, it will be almost invisible.

Tam

1274. Re: Need Ideas for HF Antenna at Fire Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 22:02:59 UTC
From: Bob Bob <bob3bob3@suddenlink.net>
Message-ID: <jl7v94-eig.ln1@p400bob.personal.cox.net>
Source record: 45936

Hi Bob

I guess one should ask how big the roof is... Be handy for modeling the thing.

Since you probably want a set and forget installation with no tuning needed across the 80m (or other) bands, it may be worthwhile looking to a resistive terminated antenna rather than trying to make it resonant/low Z by its size. Kind of like a TFDP but maybe a loop construction using very thin (say) stainless steel wire. I would guess that a balun would still be needed but by playing with a terminating resistor you may be able to make it multiband. Perhaps running around the edges of the roof above the gutter line wont be very visible.

Does the fire station have one of those hose drying towers? I realize you want NVIS rather than vertical pol low angle but it may be worth considering that avenue.

I guess a roof mounted DDRR would be too visible..

A magloop can be small but there might be an efficiency issue there.

A balloon lifted antenna only for use during emergencies or exercises?

If the building is indeed way out in the country are there any trees within a few 100 yards? Perhaps some underground coax to an antenna structure would do it. Cecil has this interesting design at http://www.w5dxp.com/notuner.htm that uses ribbon cable switched in and out for the bands you want to use. This switching could be remoted with the use of relays.

Apologies for not being too specific..

Cheers Bob W5/VK2YQA

Bob Dixon wrote:
> Our local fire station would like us to provide an HF station to be
> operated by hams during an emergencies.

1275. Re: antenna with out of line elements

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 22:19:18 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1171059558.051306.241740@j27g2000cwj.googlegroups.com>
Source record: 45937

On 9 Feb, 09:48, n...@wt.net wrote:
> On Feb 9, 10:41 am, "art" <aun...@insightbb.com> wrote:
>
> > On 9 Feb, 00:27, "Jimmie D" <jimmie...@bellsouth.net> wrote:
> > The group as a whole is not ready to accept anything that is not
> > written in
> > any book. Humans by their very nature are unwilling to accept change
> > so the
> > generation that comes along to suck up all that is written is the one
> > that
> > advances in science.
> > Art
>
> I could care less about books, although I do have quite a few.
> I'm more convinced when I actually see something work.
> If you are convinced this theory of yours has merit, why
> can't you build one of the things and test it?
> All this gaussian jibber jabber doesn't mean squat if you can't
> build , test, and demonstrate one in the real world.
> I read books, but I also usually test things in the real world to
> verify the info is correct. Trust me, not much of what is in books
> is wrong. Some is, but it's fairly rare overall.
> If I were to come up with some new design, I would have built,
> tested, and compared, before I even made any announcement
> about the theory.
> I get the impression that you cook up all these ideas, but
> rarely actually test them in the real world.
> That's no way to live, if you don't want the negative flak.
> MK

It doesn't really matter what the amateur world thinks of it,
I have done my bit in sharing with the ham community
and they have shown me their level of competance and civility.
in return
So I can now move on satrsfied that I truly tried and was rejected
and present it to academia where there are many qualified who
will judge in a academic manner I think then you will regret the
position you have taken as others will.
It has already been examined by a qualified engineer in the subject
and confirmed that the underlying theme as being valid using other
measurement systems which I personaly am not privy to.
So I feel confident that when I put a page on the web next week
tho it will be in rough laymans terms of someone not skilled in the
arts there will be many that will push that sort of thing aside and

delve a bit deeper to get at the essence of what I present.
With that said I will now leave this parrticular thread as it is
now totally off topic.
Art

1276. Re: Need Ideas for HF Antenna at Fire Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 22:32:50 UTC
From: "Fred Ferrely"
Message-ID: <0gtps2pho43cc4cd5hg19udrhfg32vqf6c@4ax.com>
Source record: 45938

How about running a `Zep out to the flagpole or telephone pole? All
but invisible and if it's seen, not too many people would even think
twice about it.

FFF

On Fri, 09 Feb 2007 15:59:46 -0500, Bob Dixon <dixon.8@osu.edu> wrote:

>Our local fire station would like us to provide an HF station to be
>operated by hams during an emergencies. They have offered to pay the
>cost of this. We already have an VHF station there. The problem is the
>antenna. It cannot be visible (or at least not be at all obvious; they
>are allowing the VHF antenna on the roof now.). The most likely needed
>band is 75/80 meters, for in-state communications. So we need high-angle
>radiation, and a vertical does not seem to be a good choice.
>
>The roof is metal, so putting an antenna in the attic will not work.
>The building is a fairly large 2 or 3 story structure, and in the
>country with no other buildings nearby.
>
>Here are some ideas I have:
>
>1, A horizontal loop, running all around the building up near the top,
>but somewhat below the metal roof. Would likely be non-resonant,
>although perhaps we could choose the length. Mount it on stand-off
>insulators just off the wooden siding. Use white insulated wire and
>paint all hardware white, to blend in with the white siding. Feed it at
>some convenient point, perhaps with a 4:1 balun and then coax into the
>building. Open wire feed would be better, but we cannot get that into
>the building and down to the station. Use a coax antenna tuner in the
>station. The SWR would not be good, but the losses of RG/8 at 75M are
>not that high. Maybe we could use some kind of outdoor automatic tuner
>directly connected to the antenna, but I don't know of any offhand.
>
>2. Use the rain gutters as an antenna. I did this long ago in a house
>and it worked fairly well on 40M. Bridge all the joints with copper
>braid, painted white, to endure reliable connections. At one of the
>corner downspouts near the ground, connect the center conductor of a
>coax cable to the downspout. Bury radials extending out from the
>building an appropriate length, in a 270 degree sector, and connect to
>the shield.
>I don't know if the gutters are connected to the metal roof, but if so
>that might or might not rule out this approach. Use a coax antenna
>tuner in the station. I know this is basically a top-loaded vertical
>antenna, but the choices are limited.

>
>Comments on both these ideas, and other alternative suggestions, would
>be greatly appreciated.
>
>73,
>
>Bob W8ERD

1277. Re: Need Ideas for HF Antenna at Fire Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 22:35:57 UTC
From: merlin-7 <merlin-7@sc.rr.com>
Message-ID: <45ccf790$0$24758$4c368faf@roadrunner.com>
Source record: 45939

It seems to me that a simple dipole would work fine or an inverted V. All the fire stations I know of already have a tower of some kind to place the feed point.
All you would need is about 66' of wire off each side slopeing toward the ground at the ends (to make it more omnidirectional)
Black stealth wire comes to mind. The wireman sells it online (just google thewireman) It is very hard to see.
Or you could buy a pre-made dipole for 75 / 80 meters.

My 2 cents.

Joe

1278. Re: Need Ideas for HF Antenna at Fire Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 22:50:48 UTC
From: ricknj10@hotmail.com
Message-ID: <45ccf66a.79787453@news.optonline.net>
Source record: 45940

>Our local fire station would like us to provide an HF station to be
>operated by hams during an emergencies.

Emergencies? You mean like in the case of a disaster such as a tornado in your community , you might be called upon to provide communications that could save peoples lives and property? You mean, you may be able to provide a communications link to other government agencies in your state when all other ones fail? This is impressive, and this is a great responsibility and you are to be commended for accepting such a responsibility, and providing such a service to your fellow citizens.
Now you need to lay the law down to your fellow citizens/politicians/firefighters. You need an antenna. It requires a support, such as a 30-40 ft tower, one that will survive whatever disasters you forsee, such as wind storms, floods, snow/ice storms (no, it will not survive a direct tornado hit, we all know that). It needs to be vandal-proof, not climbable by kids, etc. You can tell them it will have 2 simple wires running off of it and will look like an letter vee upside down. You can tell them not to waste your time because they are not serious about saving peoples lives if they expect you to do such Mickey Mouse things as loading up the rain gutters, disguising wire antennas around the roof of the building, or any other such foolishness. An antenna that will do what they expect is 2 simple pieces of wire 65 feet long connected to some coax cable suspended 30-40 feet in the air. Tell them if they handcuff you into doing anything else they really weren't serious in the first place. Aesthetics have no place when we are talking about saving peoples lives. Imagine if you were ever called to put into action your ham station, and firefighters were standing behind you looking over your shoulder, and you couldn't be heard because the the friggin rain gutter wouldn't load up. Give me a break.

Rick K2XT

1279. Re: antenna with out of line elements

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 23:07:41 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <q4vps2lihdkt9ev7pjk9lgs9ooadp3rpvu@4ax.com>
Source record: 45941

On Fri, 09 Feb 2007 11:30:11 -0500, William Ewald
<wewald@bellsouth.net> wrote:
>I thought Chip Cohen was going to sue you over that site. :-)

Hi Bill,

The only thing I got from him, was a design that took him several
years before he disclosed it to the patent office. Can you imagine
why he wouldn't want me on the stand testifying in any court? ;-(

The world is full of geniuses before (after?) their time - or was that
Orson Welles selling Mondavi wine (or Ricardo Montalban and rich
Corinthian Leather)? ... hard to tell the difference when all the
claims sound the same.

73's
Richard Clark, KB7QHC

1280. Re: Need Ideas for HF Antenna at Fire Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 23:27:53 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <Zr7zh.22632$w91.17121@newsread1.news.pas.earthlink.net>
Source record: 45944

"Rick" <ricknj10@hotmail.com> wrote in message
news:45ccf66a.79787453@news.optonline.net...
>
>>Our local fire station would like us to provide an HF station to be
>>operated by hams during an emergencies.
>
> Emergencies? You mean like in the case of a disaster such as a tornado in
> your community , you might be called upon to provide communications that
> could
> save peoples lives and property? You mean, you may be able to provide a
> communications link to other government agencies in your state when all
> other
> ones fail? This is impressive, and this is a great responsibility and you
> are
> to be commended for accepting such a responsibility, and providing such a
> service to your fellow citizens.
> Now you need to lay the law down to your fellow
> citizens/politicians/firefighters. You need an antenna. It requires a
> support, such as a 30-40 ft tower, one that will survive whatever
> disasters
> you forsee, such as wind storms, floods, snow/ice storms (no, it will not
> survive a direct tornado hit, we all know that). It needs to be
> vandal-proof,
> not climbable by kids, etc. You can tell them it will have 2 simple wires
> running off of it and will look like an letter vee upside down. You can
> tell
> them not to waste your time because they are not serious about saving
> peoples
> lives if they expect you to do such Mickey Mouse things as loading up the
> rain
> gutters, disguising wire antennas around the roof of the building, or any
> other such foolishness. An antenna that will do what they expect is 2
> simple
> pieces of wire 65 feet long connected to some coax cable suspended 30-40
> feet
> in the air. Tell them if they handcuff you into doing anything else they
> really weren't serious in the first place. Aesthetics have no place when
> we
> are talking about saving peoples lives. Imagine if you were ever called
> to
> put into action your ham station, and firefighters were standing behind
> you
> looking over your shoulder, and you couldn't be heard because the the
> friggin

> rain gutter wouldn't load up. Give me a break.
>
> Rick K2XT
>

That was my exect thoughts. If they want to save lives and be prepared for an emergency thye should provide a way to support a wire abotu 130 feet long fed in the middle with a piece of rg-8 type coax. If not tell them to forget it and take your VHF antenna and equipment with you.

Someone mentioned a DDRR on the roof. That may work ok, but the bandwidth is very narrow on 75 meters and can cause problems when you may need to change frequencies.

What type of antenna system are they using for the fire trucks ?
It may be like it is here, there is not much communications gear at the station, but a central dispatch point for several stations. You may need to do something like that and put the HF station at another location.

1281. Re: Need Ideas for HF Antenna at Fire Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 23:30:42 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <a30qs25gnl8kvp4f58onvd4llgoptq1vj8@4ax.com>
Source record: 45945

On Fri, 09 Feb 2007 15:59:46 -0500, Bob Dixon <dixon.8@osu.edu> wrote:

>The problem is the antenna.

Not ready for prime-time.

Mission defines the requirements, unless this is to be designed to the standards of Homeland Insecurity.

If push comes to shove, the troops of Desert Storm used wire on the ground (sand actually). It had the form of a capital H, fed in the middle of the cross bar.

73's
Richard Clark, KB7QHC

1282. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 23:38:13 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <141qs2pcb8uol0di0g78t711cii4molc1s@4ax.com>
Source record: 45946

On Fri, 09 Feb 2007 10:29:28 -0800, Jim Kelley <jwkelley@uci.edu>
wrote:

>> Because of the effects of gravity and velocity upon
>> time, the first "second" was probably many magnitudes
>> longer than our reference second of today.
>
>Such effects would likely have been significant during the first
>microsecond or so after the big bang. It was a very big bang, apparently.

This discussion of "time" (something a human observer could only
appreciate in a current inertial frame) conjures up the conundrum an
amoeba might have in puzzling out whether to stir or shake a martini.

Bartender to the one-cell protoplasm:
"Vodka or Gin?"
Amoeba:
"Can you inform me as to the relativistic implications?"
Bartender:
"You can't bruise Vodka."

73's
Richard Clark, KB7QHC

1283. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-09 23:41:06 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eqj1fn$2m2$1@news.service.uci.edu>
Source record: 45947

Richard Clark wrote:

> This discussion of "time" (something a human observer could only
> appreciate in a current inertial frame) conjures up the conundrum an
> amoeba might have in puzzling out whether to stir or shake a martini.
>
> Bartender to the one-cell protoplasm:
> "Vodka or Gin?"
> Amoeba:
> "Can you inform me as to the relativistic implications?"
> Bartender:
> "You can't bruise Vodka."
>
> 73's
> Richard Clark, KB7QHC

Personally, I liken it to debating whether or not the fairies on the
head of the pin are actually dancing.

73 (singular), ac6xg

1284. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 01:27:58 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <497qs2l67kdjabcd8kn8o0ivek17vcedsp@4ax.com>
Source record: 45948

On Fri, 09 Feb 2007 12:17:48 -0800, Jim Kelley <jwkelley@uci.edu>
wrote:
>Just explain why you suggested a loopstick antenna in plain English.

Hi Jim,

You are complaining for complaining's sake when it is bereft of
advice. Explanation is not being sought, solutions are.

>Obviously the man is not a radio engineer (or whatever) of your caliber.

You are being overgenerous - of any caliber - and why should he/she
be? This mocks the complaint for advice that would require some
engineering talent. Our student wants to be heard across the room.
There have been a sufficient number of solutions to achieve that,
certainly. All that's left is the doing.

73's
Richard Clark, KB7QHC

1285. Re: Antennas led astray

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 01:39:04 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <pe8qs2579k7cjvkkk972itaf1a3f72407u@4ax.com>
Source record: 45949

On Fri, 09 Feb 2007 15:41:06 -0800, Jim Kelley <jwkelley@uci.edu>
wrote:

>Personally, I liken it to debating whether or not the fairies on the
>head of the pin are actually dancing.

That could only lead to debates of: 4-4 time, or in a triple minor?

73's
Richard Clark, KB7QHC

1286. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 01:51:26 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eqj95n$777$1@news.service.uci.edu>
Source record: 45950

Richard Clark wrote:
> Hi Jim,

Hi

> You are complaining for complaining's sake when it is bereft of
> advice. Explanation is not being sought, solutions are.

Apparently both are being sought. That is usually the nature of
follow-up questions.

> You are being overgenerous - of any caliber - and why should he/she
> be?

It's certainly not something of which you might frequently be acused.

> This mocks the complaint for advice that would require some
> engineering talent. Our student wants to be heard across the room.
> There have been a sufficient number of solutions to achieve that,
> certainly. All that's left is the doing.

Thank you for your magniloquence.

The word applies beautifully, don't you agree? :-)

I can certainly imagine why you suggested a loopstick for the
transmitter. We can only hope that your unfortunate correspondent
continues trying to imagine it long enough to happen upon the reason.

73, ac6xg

1287. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 02:25:30 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <12sqb9llkkoen04@corp.supernews.com>
Source record: 45951

T wrote:
> All i want is to be able to pick up the signal from my "transmitter"
> with an am-radio across the room.
>
>
Ok. I have been watching the discussion on this thread for a while now.
Some people have attempted to help, others just wasted band width.

The situation is that you want to do a demonstration that involves
transmitting a signal and receiving it.

FCC part 15 regulations specify that a low power am transmitter can not
exceed a very low power level (I don't remember off hand how much) and
the antenna must be attached to the transmitter and must not exceed
about 5 or 6 feet.

Any am transmitter that meets these limitations will function in the
manner you desire to exhibit. Any am receiver will detect the signal
from the transmitter over a distance of 50 to several hundred feet.
There are many suppliers of these devices.

Just do a Google search for "Part 15 Transmitters" and you will find
more than you can use. Siple receivers can be obtained from similar sources.

I do not know what you intend to do but don't concern your self to much
on finding the electronic equipment you need, it is readly available and
fairly inexpensive.

Good Luck

David Nagel
WD9BDZ

1288. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 03:49:09 UTC
From: T <taylor_j25@yahoo.com>
Message-ID: <1171079349.190954.227220@l53g2000cwa.googlegroups.com>
Source record: 45952

Thank you mr. kelly for trying to help me out, but obviously richard is too hostile to want someone else, even a kid, to learn anything about radio engineering. [you know, since he probably never tinkered with electronics when he was a kid and asked someone for advice] = sarcasm

i'm slightly disappointed in him. a grown man, who attacks eager to learn children over the internet. do you not have friends? a life?

besides if you don't help people, but instead show them hostility, don't you think they may become discouraged? maybe even give it up and quit? if there is no one interested in this type of engineering, then it may cease to exist.

all i'm saying is, be an encourager, help others, and go with god.

"since new developments are the products of a creative mind, we must therefore stimulate and ENCOURAGE that type of mind in every way possible." -george washington carver

sorry to be so short, and thanks to everyone who tried to help,
taylor

1289. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 05:02:24 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <Alczh.3215$Yn4.2301@trnddc03>
Source record: 45953

"T" <taylor_j25@yahoo.com> wrote in message
news:1171079349.190954.227220@l53g2000cwa.googlegroups.com...
> Thank you mr. kelly for trying to help me out, but obviously richard
> is too hostile to want someone else, even a kid, to learn anything
> about radio engineering. [you know, since he probably never tinkered
> with electronics when he was a kid and asked someone for advice] =
> sarcasm
>
> i'm slightly disappointed in him. a grown man, who attacks eager to
> learn children over the internet. do you not have friends? a life?
>
> besides if you don't help people, but instead show them hostility,
> don't you think they may become discouraged? maybe even give it up and
> quit? if there is no one interested in this type of engineering, then
> it may cease to exist.
>
> all i'm saying is, be an encourager, help others, and go with god.
>
> "since new developments are the products of a creative mind, we must
> therefore stimulate and ENCOURAGE that type of mind in every way
> possible." -george washington carver
>
> sorry to be so short, and thanks to everyone who tried to help,
> taylor

Hi taylor

Did you google loop stick antenna?

Jerry

1290. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 05:20:18 UTC
From: richardharrison@webtv.net
Message-ID: <16609-45CD5612-347@storefull-3258.bay.webtv.net>
Source record: 45954

Taylor wrote:
"I`m working on a science fair project. I`m building an am-radio transmitter. I can only be a few inches from the receiver. --------"

The information is sparse but may be enough.

Kits are available for low-powered transmitters which are restricted by law to a short wire antenna to avoid harmful interference.

My experience is that this is adequate. The receiving antenna is almost unrestricted. It may extend to closely couple with the transmitting antenna, though this is rarely required.

Most receivers are capable of receiving a very weak signal which means the receiving antenna can be distant from the transmitting antenna.

A transmitted signal propagating in free space loses 22 dB in its first wavelength of travel from the transmitting antenna, 300 meters at 1 MHz, and then loses an additional 6 dB every time the distance from the transmitting antenna doubles after that.

So, the tiny phono oscillator with almost no antenna can be heard at a considerable distance.

Best regards, Richard Harrison, KB5WZI

1291. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 07:23:51 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <hcrqs2lb784j3kbsdjih550ag84qc2um74@4ax.com>
Source record: 45955

On Fri, 09 Feb 2007 17:51:26 -0800, Jim Kelley <jwkelley@uci.edu>
wrote:

>We can only hope that your unfortunate correspondent
>continues trying to imagine it long enough to happen upon the reason.

Jim, If you prefer to think of our correspondent as a shrinking
violet, destiny is already written in the thread. The suggestions
I've offered have been seconded by several others. Do you want to
explain any one or all of them?

73's
Richard Clark, KB7QHC

1292. mobile antenna mount for free

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 13:41:52 UTC
From: genev <genev2000@hotmail.com>
Message-ID: <S_jzh.58263$qy.37128@newsfe16.lga>
Source record: 45957

I recently purchased a 2 meter antenna for my car; I also ordered a mag
mount for it.
Lo and behold, the antenna also included an NMO mount with coax.
I offer it free to a good home [u pay shipping].
write to me at K1TAV@ARRL.net

1293. Re: Need Ideas for HF Antenna at Fire Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 13:43:45 UTC
From: John Doe <hgorden@adelphia.net>
Message-ID: <DrednfNirui7UVDYnZ2dnUVZ_tyinZ2d@adelphia.com>
Source record: 45956

You could mount a SCREWDRIVER antenna either to the roof or maybe on a leg
of the antenna support structure if they have one for the regular FD
antenna!

"Bob Dixon" <dixon.8@osu.edu> wrote in message
news:dixon.8-A2645F.15594609022007@charm.magnus.acs.ohio-state.edu...
> Our local fire station would like us to provide an HF station to be
> operated by hams during an emergencies. They have offered to pay the
> cost of this. We already have an VHF station there. The problem is the
> antenna. It cannot be visible (or at least not be at all obvious; they
> are allowing the VHF antenna on the roof now.). The most likely needed
> band is 75/80 meters, for in-state communications. So we need high-angle
> radiation, and a vertical does not seem to be a good choice.
>
> The roof is metal, so putting an antenna in the attic will not work.
> The building is a fairly large 2 or 3 story structure, and in the
> country with no other buildings nearby.
>
> Here are some ideas I have:
>
> 1, A horizontal loop, running all around the building up near the top,
> but somewhat below the metal roof. Would likely be non-resonant,
> although perhaps we could choose the length. Mount it on stand-off
> insulators just off the wooden siding. Use white insulated wire and
> paint all hardware white, to blend in with the white siding. Feed it at
> some convenient point, perhaps with a 4:1 balun and then coax into the
> building. Open wire feed would be better, but we cannot get that into
> the building and down to the station. Use a coax antenna tuner in the
> station. The SWR would not be good, but the losses of RG/8 at 75M are
> not that high. Maybe we could use some kind of outdoor automatic tuner
> directly connected to the antenna, but I don't know of any offhand.
>
> 2. Use the rain gutters as an antenna. I did this long ago in a house
> and it worked fairly well on 40M. Bridge all the joints with copper
> braid, painted white, to endure reliable connections. At one of the
> corner downspouts near the ground, connect the center conductor of a
> coax cable to the downspout. Bury radials extending out from the
> building an appropriate length, in a 270 degree sector, and connect to
> the shield.
> I don't know if the gutters are connected to the metal roof, but if so
> that might or might not rule out this approach. Use a coax antenna
> tuner in the station. I know this is basically a top-loaded vertical
> antenna, but the choices are limited.
>

> Comments on both these ideas, and other alternative suggestions, would
> be greatly appreciated.
>
> 73,
>
> Bob W8ERD

1294. free antenna mount

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 13:44:00 UTC
From: genev <genev2000@hotmail.com>
Message-ID: <X_jzh.58268$qy.2969@newsfe16.lga>
Source record: 45958

I have a NMO mount with coax; free to a good home.
u pay shipping.
write K1TAV@arrl.net

1295. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 14:38:39 UTC
From: John <groups5not@verizon.net>
Message-ID: <eqkldgdit1@aioe.org>
Source record: 45959

"David G. Nagel" <nagel@core.com> wrote in message
news:12sqb9llkkoen04@corp.supernews.com...

> FCC part 15 regulations specify that a low power am transmitter can not
> exceed a very low power level (I don't remember off hand how much)

http://www.access.gpo.gov/nara/cfr/waisidx_06/47cfr15_06.html

PART 15_RADIO FREQUENCY DEVICES--Table of Contents
Subpart C_Intentional Radiators
Sec. 15.219 Operation in the band 510-1705 kHz.

(a) The total input power to the final radio frequency stage
(exclusive of filament or heater power) shall not exceed 100 milliwatts.

> and > the antenna must be attached to the transmitter and must not exceed
> > about 5 or 6 feet.(b) The total length of the transmission line, antenna
> and ground
lead (if used) shall not exceed 3 meters.

1296. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 14:44:14 UTC
From: John <groups5not@verizon.net>
Message-ID: <eqklo1$eb4$1@aioe.org>
Source record: 45960

"John" <groups5not@verizon.net> wrote in message
news:eqkldgdit1@aioe.org...

The last paragraph of my post got munged. It should be:

> and the antenna must be attached to the transmitter and must not exceed
> about 5 or 6 feet.

(b) The total length of the transmission line, antenna and ground lead (if
used) shall not exceed 3 meters.

1297. Re: J-Pole vs Slim Jim?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 14:55:45 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1171119345.005175.301780@a75g2000cwd.googlegroups.com>
Source record: 45961

On Feb 9, 6:06 am, Ian Jackson
<IanJacksonRemoveThis...@g3ohx.demon.co.uk> wrote:
> In message <845q94-t7a....@p400bob.personal.cox.net>, Bob Bob
> <bob3b...@suddenlink.net> writes
>
>
>
>
>
> >H Ian
>
> >Mr Cebik had something to say about this...
>
> >http://www.cebik.com/vhf/jp2.html
>
> >Very intersting all around read on his whole website!
>
> >Cheers Bob VK2YQA
>
> >Ian Jackson wrote:
>
> >> However, is there any advantage in the Slim Jim's bit which folds back
> >> down, or is it just there for decoration?
>
> Thanks, Bob.
> I did have a look around, but I missed that particular paper in W4RNL's
> website (which is certainly a mine of information).
>
> The gist of it is that there is negligible difference between the three
> versions of this antenna.
>
> One point which I did notice is that the feed point is lowest down for
> the single-radiator J-Pole (Fig 2), higher for the 'Loose Wire' version
> (Fig 4), and highest for the folded-over Slim Jim version (Fig 6).
> Presumably, this is because the top part is effectively fatter for the
> Loose Wire, and fatter still for the Slim Jim. This will lower the
> impedance at the bottom of the top halfwave part, and you will need to
> tap the feeder further up the quarterwave stub in order to find the 50
> ohm point. There is maybe some confirmation of this in the SWR plots
> (Fig 11), where the bandwidth for the Slim Jim version is somewhat
> greater than the other two.
>
> I'm guessing that you would only make a Loose Wire version if you were
> making the antenna out of twin feeder.

>
> Cheers,
> Ian.
> --- Hide quoted text -
>
> - Show quoted text -

Once upon a time I was experimenting with J antennas and built the slim jim before ever hearing about it, I suspect a lot of people have done the same. I too noticed a different impedance and a broader match while making antennas made of TV twinlead

1298. Re: Need Ideas for HF Antenna at Fire Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 16:35:55 UTC
From: Bob <warthog9@pacbell.net>
Message-ID: <2Cmzh.5609$4H1.383@newssvr17.news.prodigy.net>
Source record: 45963

A local fire dept will probably want regional communications within a
few hundred miles rather than DX and this would usually be on 80/60/40m
bands. Since the roof is metal, an ideal NVIS antenna for regional
communications would be a dipole type suspended 20-30ft above the metal
roof. To keep it simple, a T2FD type antenna would not require any
tuning or thought, just plug in and talk. B&W makes a commercial T2FD
style, model BWD-90. I know someone will chime in and say these are crap
but they work just fine and I believe a slight trade off in performance
for ease of use is paramount for the situation you describe.
Bob

Bob Dixon wrote:
> Our local fire station would like us to provide an HF station to be
> operated by hams during an emergencies. They have offered to pay the
> cost of this. We already have an VHF station there. The problem is the
> antenna. It cannot be visible (or at least not be at all obvious; they
> are allowing the VHF antenna on the roof now.). The most likely needed
> band is 75/80 meters, for in-state communications. So we need high-angle
> radiation, and a vertical does not seem to be a good choice.
>
> The roof is metal, so putting an antenna in the attic will not work.
> The building is a fairly large 2 or 3 story structure, and in the
> country with no other buildings nearby.
>
> Here are some ideas I have:
>
> 1, A horizontal loop, running all around the building up near the top,
> but somewhat below the metal roof. Would likely be non-resonant,
> although perhaps we could choose the length. Mount it on stand-off
> insulators just off the wooden siding. Use white insulated wire and
> paint all hardware white, to blend in with the white siding. Feed it at
> some convenient point, perhaps with a 4:1 balun and then coax into the
> building. Open wire feed would be better, but we cannot get that into
> the building and down to the station. Use a coax antenna tuner in the
> station. The SWR would not be good, but the losses of RG/8 at 75M are
> not that high. Maybe we could use some kind of outdoor automatic tuner
> directly connected to the antenna, but I don't know of any offhand.
>
> 2. Use the rain gutters as an antenna. I did this long ago in a house
> and it worked fairly well on 40M. Bridge all the joints with copper
> braid, painted white, to endure reliable connections. At one of the
> corner downspouts near the ground, connect the center conductor of a
> coax cable to the downspout. Bury radials extending out from the
> building an appropriate length, in a 270 degree sector, and connect to

> the shield.
> I don't know if the gutters are connected to the metal roof, but if so
> that might or might not rule out this approach. Use a coax antenna
> tuner in the station. I know this is basically a top-loaded vertical
> antenna, but the choices are limited.
>
> Comments on both these ideas, and other alternative suggestions, would
> be greatly appreciated.
>
> 73,
>
> Bob W8ERD

1299. Re: Asking for advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 16:40:35 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1171125635.757755.160590@m58g2000cwm.googlegroups.com>
Source record: 45962

On Feb 9, 12:48 pm, Fred Ferrely wrote:
> I just "Happened" to run across this little article, and dog-gone
> it, it looks like a lot of fun with the Cell Phone! (It'll save you
> some bucks too!) I think I'll even try one for myself!!
>
> Check this page out. Its pretty good:
>
> http://robert.watkins.net/phone/
>
> I would imagine that if one used PVC instead of a paper tube, this
> may be plenty suitable for Outdoor work.
>
> Cheers
> FFF
>
> On 8 Feb 2007 21:35:25 -0800, "KC4UAI" <kc4...@gmail.com> wrote:
>
>
>
> >On Feb 7, 9:35 am, "EpsilonRho" <Epsilon...@nospam.ooo> wrote:
> >> My mother lives in a area where the cell-phone signal is very weak.
> >> Typically I can get only one mark on the phone field strength meter. That
> >> forces me to go outside the house in order to have a reasonable chance of
> >> completing a call (of course only if the weather permits).
>
> >Have you tried other carriers? At my house a Sprint only works
> >outside in the back yard while T-mobile and Cingular have no issues
> >inside. It could be that your carrier just has lousy coverage because
> >your house is to far away from their cell tower (or the antenna on the
> >tower is not pointed directly at you).
>
> >Another option is to complain to your carrier about signal strength
> >and hope they get around to changing it sometime soon (not likely by
> >the way.)
>
> >Third, is try another phone on your carrier of choice. I've seen
> >different phones have vastly different abilities under the exact same
> >circumstances even on the same carrier.
>
> >-= bob =-- Hide quoted text -
>
> - Show quoted text -

Ive found that carboard tubes soaked with fibeglass resin make a good boom for small antennas. I have a friend that builds boats that will give me small quantities of fiberglass resin from time to time so expense of the resin is no problem for me.

1300. Re: antenna with out of line elements

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 16:43:02 UTC
From: nm5k@wt.net
Message-ID: <1171125782.558354.165180@m58g2000cwm.googlegroups.com>
Source record: 45964

On Feb 9, 4:19 pm, "art" <aun...@insightbb.com> wrote:

>
> It doesn't really matter what the amateur world thinks of it,
> I have done my bit in sharing with the ham community
> and they have shown me their level of competance and civility.

As far as I know, we haven't seen anything yet except a few theories.
Where's the beef?

> in return
> So I can now move on satrsfied that I truly tried and was rejected
> and present it to academia where there are many qualified who
> will judge in a academic manner I think then you will regret the
> position you have taken as others will.

No, I personally could care less. I have no use for the design you
propose,
assuming a chance that it actually might work..
Academia? I hope you aren't planning on flying to the Boston area.
I bet that would hinder your case, rather than help.

> It has already been examined by a qualified engineer in the subject
> and confirmed that the underlying theme as being valid using other
> measurement systems which I personaly am not privy to.

There are qualified engineers here. Other measurement systems?
Not privy? Hummmm....

> So I feel confident that when I put a page on the web next week
> tho it will be in rough laymans terms of someone not skilled in the
> arts there will be many that will push that sort of thing aside and
> delve a bit deeper to get at the essence of what I present.

Push what sort of thing behind? I hope it isn't too heavy..

> With that said I will now leave this parrticular thread as it is
> now totally off topic.

Well, ok then.
MK

1301. Re: Need Ideas for HF Antenna at Fire Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 17:07:53 UTC
From: Eric <reply.in.group@nospam.no>
Message-ID: <pan.2007.02.10.17.07.51.595078@nospam.no>
Source record: 45965

On Sat, 10 Feb 2007 08:35:55 -0800, Bob wrote:

> To keep it simple, a T2FD type antenna would not require any
> tuning or thought, just plug in and talk. B&W makes a commercial T2FD
> style, model BWD-90. I know someone will chime in and say these are crap
> but they work just fine and I believe a slight trade off in performance
> for ease of use is paramount for the situation you describe.

Good morning, Bob.

Yeah, good luck with that.

T2FD antennas can exhibit as much as 17 db of loss while maintaining a decent VSWR.

I have run communications tests with another amateur who lives one town away. We have similar grounds, similar HAAT, and similar height AMSL. He uses a B&W T2FD antenna (I believe it's the B&W-90) and I use a cut dipole for 75 meters, at comparable heights (mine is 17 feet high and his is something like 25 feet I think). He runs 100 watts and I run a grand total of FIVE (5) watts with a Yaesu FT-817. I often get BETTER signal reports on 75 meters than he does, from stations within about a 100 mile radius of here.

I certainly wouldn't want a T2FD antenna for mission-critical use, especially since for the price of a B&W, you could buy an auto-tuner from LDG and have just about enough money left over to cover the materials for a cut dipole.

1302. Re: help- Mobile 10meters on a jeep

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 17:22:53 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns98D35F795162Aspectrumhogstarbandn@198.186.192.196>
Source record: 45966

> I have been advised by some hams that the best way I can hope to do 10-
> meters on my jeep is to mount my antenna ON THE WINDSHIELD to get a
> good ground plane. I read somewhere since then that the primary
> reason for cophasing CB antennas on trucks is NOT to direct the gain
> front and back, but to even the ground plane as though the antenna
> were in the center of the truck. Could I achieve the same effect with
> my Jeep by cophasing antennas on either side of the jeep by the
> doors? Even better- could I do this diagonally across from one corner
> of my jeep to the other? I heard the further apart the antennas are,
> the better, and I'm not really trying to get front/back gain for DXing.
>

Not sure of the mounting issues on your Jeep, but have you considered a
Halo?

Ed K7AAT

1303. Re: Antenna Pattern Distortion due to 2 antenna placed in near vicinity

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 17:52:01 UTC
From: Rohit <rksindhu@gmail.com>
Message-ID: <1171129920.969058.283650@l53g2000cwa.googlegroups.com>
Source record: 45967

Because i need 180 deg coverage i have to use both antennas together.
The 3dB beamwidth of 90deg of both antennas give me 180deg coverage.
And i expect the gain to be 3dB down at 90deg but instead i am getting
gain less by 10 to 15 dB. Is there any way i can get less ripple at
the overlap?

1304. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 18:06:06 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <12ss2d616qt3dc0@corp.supernews.com>
Source record: 45968

John wrote:
> "David G. Nagel" <nagel@core.com> wrote in message
> news:12sqb9llkkoen04@corp.supernews.com...
>
>> FCC part 15 regulations specify that a low power am transmitter can not
>> exceed a very low power level (I don't remember off hand how much)
>
> http://www.access.gpo.gov/nara/cfr/waisidx_06/47cfr15_06.html
>
> PART 15_RADIO FREQUENCY DEVICES--Table of Contents
> Subpart C_Intentional Radiators
> Sec. 15.219 Operation in the band 510-1705 kHz.
>
> (a) The total input power to the final radio frequency stage
> (exclusive of filament or heater power) shall not exceed 100 milliwatts.
>
>> and > the antenna must be attached to the transmitter and must not exceed
>> > about 5 or 6 feet.(b) The total length of the transmission line, antenna
>> and ground
> lead (if used) shall not exceed 3 meters.
>
>

Thank you for the information. This is something I know but not in
intimate detail. This is what the student was looking for but the dark
side of the net had to have it's way with the subject.

I hope it helps the student with his science project.

Dave Nagel
WD9BDZ

1305. i punce in agin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 18:09:25 UTC
From: an old fiend <Morkie@kornstains.com>
Message-ID: <45cdfdc3$0$16352$88260bb3@free.teranews.com>
Source record: 45980
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,alt.usenet.kooks

ok I back four anoter tuff day on the news grupes it my job tast is waht I
do so bringit on you loosers
show-na-to-va (that is the greeting for this time of year as JEW rendered
phonicticaly)
happy new years it means and it can be better one if Wismen Robson and SC a
few just decided to not to be as hateful with the punce gotcha he wonders
why I simple don't bother to ty impoving my spelling do u hav anyting
cognet two say?
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

1306. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 18:30:39 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <7e2ss2lcth0ickmiuhltllqp4aup906cjt@4ax.com>
Source record: 45969

On Sat, 10 Feb 2007 12:06:06 -0600, "David G. Nagel" <nagel@core.com>
wrote:

>I hope it helps the student with his science project.

Hi Dave,

That is of infinite improbability. How many times do we have to tell
adult amateur radio enthusiasts the necessity of matching (a warning
already offered from the shadows of this thread)?

So, shall we consider the merit of a total length of 3 meters in the
AM band? If this discussion is so studiously avoided by those who
weep away about the dearth of information, what chance does a naive
student have to rummage up the details?

The Rr summons up to roughly 20mOhms. Are any of the scolds going to
offer the implications of this value? Are there any suggestions of
using commercial tower sections to cut down on Ohmic loss? Any
matching details for the massive SWR? Any hints on how to load the
structure? Details for a top hat? Would the top hat consume part of
that 3 meter restriction?

Would a loop perform better? What dimensions? How to build the
capacitors? Talk about underwhelming help....

>the dark side of the net had to have it's way with the subject.

The dark side is not patronizing with soothing but impotent nostrums.
The topic reduces to one of two resolutions:
1. Deep consideration of many issues;
2. Buy a kit that works as advertised.
One takes many here a lifetime of consideration and books are devoted
to this study, the other satisfies a need.

73's
Richard Clark, KB7QHC

1307. Re: Antenna Pattern Distortion due to 2 antenna placed in near vicinity

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 18:37:37 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <Rhozh.295$yg7.194@trnddc08>
Source record: 45970

"Rohit" <rksindhu@gmail.com> wrote in message
news:1171129920.969058.283650@l53g2000cwa.googlegroups.com...
> Because i need 180 deg coverage i have to use both antennas together.
> The 3dB beamwidth of 90deg of both antennas give me 180deg coverage.
> And i expect the gain to be 3dB down at 90deg but instead i am getting
> gain less by 10 to 15 dB. Is there any way i can get less ripple at
> the overlap?

Hi Rohit

I think this "pattern merging" will become clear to you when you consider the fact that the signals from each element has equal amplitude at Crossover (90 degrees). Therefore the signal at that direction will add to twice the value of either, ir subtract to zero, depending on their phase. That is a heck of a big difference from In Phase to Out of Phase.

I'd suggest that you include more info about your ultimate goal. There are some very well informed guys reading this news group who might be willing to help you.

Jerry

1308. Re: Need Ideas for HF Antenna at Fire Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 18:50:54 UTC
From: Bob <warthog9@pacbell.net>
Message-ID: <iuozh.6475$gj4.2711@newssvr14.news.prodigy.net>
Source record: 45971

The B&W BWD90 is about 5-6dB down from a dipole on 40m and up and 80m
and down does suffer more loss thatï¿½s true. If there is room for the
180ft version it should have consistent performance down to 80m. If you
try to feed a mono band dipole with coax and an LDG tuner it will
probably have more loss on some bands than a T2FD and using a 4:1 balun
and balanced line is better with an LDG but it will not tune everywhere.
Whatï¿½s worse, an antenna that will not reliably tune where you need it
or an antenna that will always work with some loss? You have to consider
the user in this case as someone who may not have the experience to
diddle with tuners or recognize when something is not working properly.
Not everyone can make reliable contacts with an FT-817, it requires
knowledge, patience and higher efficiency antennas. If it were up to me
to set up a fire station for regional comms, I would consider the 180ft
B&W, a simple to use HF rig and a solid state 500w amp which will make
up for the 5-6dB loss of the antenna over a dipole when necessary. And
that is assuming a resonant dipole at low height is my design goal.
Also, 1000ï¿½s of B&W T2FD type antennas in use right now working just
fine in military and government use for there intended purpose, which is
push the button and get the message through without messing around.
Bob

Eric wrote:
> On Sat, 10 Feb 2007 08:35:55 -0800, Bob wrote:
>
>> To keep it simple, a T2FD type antenna would not require any
>> tuning or thought, just plug in and talk. B&W makes a commercial T2FD
>> style, model BWD-90. I know someone will chime in and say these are crap
>> but they work just fine and I believe a slight trade off in performance
>> for ease of use is paramount for the situation you describe.
>
> Good morning, Bob.
>
> Yeah, good luck with that.
>
> T2FD antennas can exhibit as much as 17 db of loss while maintaining a
> decent VSWR.
>
> I have run communications tests with another amateur who lives one town
> away. We have similar grounds, similar HAAT, and similar height AMSL. He
> uses a B&W T2FD antenna (I believe it's the B&W-90) and I use a cut dipole
> for 75 meters, at comparable heights (mine is 17 feet high and his is
> something like 25 feet I think). He runs 100 watts and I run a grand
> total of FIVE (5) watts with a Yaesu FT-817. I often get BETTER signal
> reports on 75 meters than he does, from stations within about a 100 mile

> radius of here.
>
> I certainly wouldn't want a T2FD antenna for mission-critical use,
> especially since for the price of a B&W, you could buy an auto-tuner from
> LDG and have just about enough money left over to cover the materials for
> a cut dipole.
>

1309. MW Loop Antenna Source Book

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 18:57:50 UTC
From: transmitters@uk2.net
Message-ID: <1171133870.786063.85430@h3g2000cwc.googlegroups.com>
Source record: 45972

If you are looking to improve MW/AM radio reception with a loop antenna then check out the on-line source book from the Medium Wave Circle.

You'll find it here http://mwcircle.org/page200.htm

If you see anything missing please advise the Circle.

Good listening

Steve

1310. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-10 22:38:08 UTC
From: znaqwi@googlemail.com
Message-ID: <1171147088.475423.283360@a34g2000cwb.googlegroups.com>
Source record: 45973

On 7 Feb, 15:43, "Richard Fry" <r...@adams.net> wrote:
> <zna...@googlemail.com wrote> The total distance between the transmitting and
receivingantennaof a
> > microwave link at 10GHz, is 30 Km. the height of the Txantennais
> > above ground level is 20 m. the maximum acceptable total path loss is
> > 169 dB. Furthermore there is hill located 10 km away from the
> > transmitterantennawith a height of 80m.
>
> > calculate the height of the receiverantennafor the path loss to be
> > just equal to the maximum acceptable value?
>
> ----------
>
> The height above mean sea level of the tx and rx sites, and the terrain
> profile for the path would be necessary to answer this ~ accurately. But
> for a smooth earth model, the graphic at the link below will give some
> insight.
>
> It shows that a height of around 270 meters would be needed for the receiveantenna, using
a K-factor of 1.33 and 0.6 fresnel clearance for an 80 m hill
> 10 km downrange. The path loss then would be about 142 dB.
>
> http://i62.photobucket.com/albums/h85/rfry-100/10GigPath.gif
>
> RF

hi

Richard
i have read ur response very carefully and its perfect 142dB Path
loss but problem is that what's the Rx height
if i suppose Tx and Rx install on the same height
then my Rx height after the earth buldge and knife e calculation
i have got 100m Rx
its totally wrong
because
if i increase that (100m) Rx height its mean get the problem at
fresnel Zone

need help

thanks
regard

naqvi

1311. Re: Need Ideas for HF Antenna at Fire Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-11 00:28:56 UTC
From: ricknj10@hotmail.com
Message-ID: <45ce613c.31322187@news.optonline.net>
Source record: 45974

I remain puzzled why you guys are discussing compromise antennas in an emergency communications system. I wonder if the fire department guys built a compromise VHF/UHF communications system when they spec'd out their requirements and performance. Did they hide their 154 MHz antennas under the roof? Did they look for a means to "just get by?" Did they mount a rubber ducky, with a gutter clip on the backside of the firehouse under the rain gutter, and connect it with RG-58 to their radio?
If this is a for-real emergency communications solution that the community desires, and they have asked amateur radio operators to be prepared (that is truly an honor) then don't we hams owe it to the community and our own reputation to build them a station, with antenna, that WORKS, that puts out a solid, dependable signal?

Rick K2XT

1312. Re: Yagi antenna design question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-11 02:27:55 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <Uavzh.67$q%4.63@newsfe11.lga>
Source record: 45975

"Wes" <n7ws@yahoo.com> wrote in message
news:1170863623.642498.284210@h3g2000cwc.googlegroups.com...
>>This will be the last word I have on this topic.<<

As: This is the last word from the higher authority, like, no more arguments, I am right, case closed? Just in case you might be wrong, here we go:-)

>>I have placed two files here:
www.k6mhe.com/n7ws/N7WS_Yagi_Resonant.EZ
and here:
www.k6mhe.com/n7ws/N7WS_Yagi_Shortened.EZ
The files are models of my 20-meter three-element Yagi that are as nearly representative of the physical antenna and its location as I can make them. The only difference between them is the half-length of the DE. The actual antenna uses the shortened version with a stub (Beta) matching/balun arrangement.<<

What you mean half length of DE?
Resonant DE is 410.68" long
Shortened DE is 399.64" long - that is 11.04" difference
Resonant frequency on resonant model is 14.18 and shortened is 14.48

>>Instead of the integral stub, which Yuri believes is part of the antenna that is "folded back" along the boom, I will move the matching system away from this location using an ideal ¼ wavelength (34.7 foot) transmission line with an ideal current balun at the antenna end. I don't believe anyone would argue that the feedpoint impedance is not replicated exactly at the input end of this line.<<

Yuri believes? Is anyone there who does not believe that hairpin loading stub or beta match stub inserted in the middle of driven element is not the part of the element, aka, standing wave resonant circuit? Like there is no RF current flowing into the hairpin? Like element does not have to be shortened to compensate for the insertion of the stub? Doesn't Yagi antenna work with half wave (+-) resonant elements? If you loaded, inserted stubs in the parasitic elements, you would not have to shorten them?

>>"Calculations" proving ??? snipped<<

>> The network loss remains 0.02 dB. So much for this less than ideal stub vs. Yuri's preferred discrete inductor.

There you have it. The stub matching method is equal to a discrete L-network in efficiency, it does not detract from the antenna efficiency one bit, it can incorporate the balun function without additional

components, it grounds the feedpoint, with a little sealant on the cable, it is weatherproof and unlike Gammas and Tee-matches, it will handle full power without being prone to capacitor breakdown. It is not part of the radiator; it is part of the matching network. Period.<<

Claiming that beta match or hairpin loading inductance is not the part of the radiator is news to me.
Claiming that driven element was shortened to half, when in fact just by 11" and resonant frequency moved from abt 14.18 to 14.48 MHz, and modeling the antenna without the beta match hair pin, and then "calculating" 0.02 dB difference in gain, sure "proves" the point.

Here I described the real life situation and modeling by using simple case of 40m dipole, resonant and resonant shortened with "beta match" hairpin. I maintain the resonant frequency and compensate for the effects of inserting the hairpin. The gain on the dipole drops by 0.15 dB when fed at the 75 ohm point and by 0.2 dB when fed close to 50 ohm point. You can read the rest at my web site:
http://www.k3bu.us/beta_match.htm

Again, it has ben proven by modeling and in practice that loading solenoid coils are better performers as loading element than hairpins, especially when better symetry along the element is important for bettern pattern and F/B. But I guess, that's another story to argue.

Not the last word from me, if I am wrong and made error in modeling, I would like to be corrected. (I tried to post the EZNEC files, but having problem downloading them. Will try to rectify.)

73 Yuri, K3BU.us

1313. Re: Need Ideas for HF Antenna at Fire Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-11 03:01:13 UTC
From: Bob <warthog9@pacbell.net>
Message-ID: <ZFvzh.74865$qO4.8352@newssvr13.news.prodigy.net>
Source record: 45976

After re-reading the original post I see the fire dept system will be manned by experienced hams and that would allow for more complex but efficient equipment like antenna tuners and antennas fed with balanced line, etc. Even a G5RV with a tuner might be something to consider. One thing I will point out would be the compromise if someone installed a vertical like an R-7 or GAP Titan or Butternut, etc for regional or statewide comms. The difference between a T2FD and resonant dipole would seem like nothing compared to a T2FD over a vertical for this type use.
Bob

Rick wrote:
> I remain puzzled why you guys are discussing compromise antennas in an
> emergency communications system. I wonder if the fire department guys built a
> compromise VHF/UHF communications system when they spec'd out their
> requirements and performance. Did they hide their 154 MHz antennas under the
> roof? Did they look for a means to "just get by?" Did they mount a rubber
> ducky, with a gutter clip on the backside of the firehouse under the rain
> gutter, and connect it with RG-58 to their radio?
> If this is a for-real emergency communications solution that the community
> desires, and they have asked amateur radio operators to be prepared (that is
> truly an honor) then don't we hams owe it to the community and our own
> reputation to build them a station, with antenna, that WORKS, that puts out a
> solid, dependable signal?
>
> Rick K2XT

1314. Re: Need Ideas for HF Antenna at Fire Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-11 03:14:57 UTC
From: Danny Richardson <n_group@k6mhe.com>
Message-ID: <p62ts219srls3gqudd1ogefd3l1h04heil@4ax.com>
Source record: 45977

On Sun, 11 Feb 2007 00:28:56 GMT, ricknj10@hotmail.com (Rick) wrote:

>I remain puzzled why you guys are discussing compromise antennas in an
>emergency communications system. I wonder if the fire department guys built a
>compromise VHF/UHF communications system when they spec'd out their
>requirements and performance. Did they hide their 154 MHz antennas under the
>roof? Did they look for a means to "just get by?" Did they mount a rubber
>ducky, with a gutter clip on the backside of the firehouse under the rain
>gutter, and connect it with RG-58 to their radio?
>If this is a for-real emergency communications solution that the community
>desires, and they have asked amateur radio operators to be prepared (that is
>truly an honor) then don't we hams owe it to the community and our own
>reputation to build them a station, with antenna, that WORKS, that puts out a
>solid, dependable signal?
>
>Rick K2XT

I couldn't agree more. I suggest you go back to fire depatrment and
ask which they would rather have 1) an efficient and good working
communications system or 2) a small non-noticable antenna that
performs poorly. You can't give 'em both.

Danny, K6MHE

1315. Re: Asking for advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-11 03:21:45 UTC
From: EpsilonRho <EpsilonRho@nospam.ooo>
Message-ID: <dZvzh.17383$ji1.1784@newssvr12.news.prodigy.net>
Source record: 45978

Thank you to all of you for all the suggestions. I think I'll try the 900MHz Yagi directly attached to the phone's antenna port. In any case, when I'm visiting my mother, having the cell phone attached to a coax is not such a big deal. I just hope to get a few bars more on the field meter.
Gene

1316. Re: Antenna Pattern Distortion due to 2 antenna placed in near vicinity

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-11 05:20:26 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12st9ssi7g1k201@corp.supernews.com>
Source record: 45979

The "distortion" you're seeing is the sum of the fields from the two antennas, which vectorally add to produce a total pattern. This is a "phased array". The pattern of a phased array depends on the relative phase and magnitude of currents in the elements (in your case, the antennas), the spacing between elements, and their relative orientations. So if you don't want to change antenna positions, the only alternative is to alter the relative magnitude and/or phase of the currents in the two. One source of information about this topic is Chapter 8 of the _ARRL Antenna Book_.

Roy Lewallen, W7EL

Rohit wrote:
> Hi all,
> I have placed 2 similar antennas (3 dB beamwidth = 90deg,
> Polarization= LHC) on a PEC box with a small spacing between the 2.
> Both antenna's are tilted and the first one is at 45deg and other at
> 135 deg from the horizontal so that both can cover 180 deg.
>
> With this setup, in the simulation result i am observing heavy
> distortion (about 10dB ripple or more) at 90 deg. What is the reason
> for this heavy distortion. Is there any way i can remove the
> distortion in the pattern without changing the antenna's position??
>
> Thanks in advance,
> Rohit
>

1317. Re: i punce in agin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-11 09:35:07 UTC
From: Mark Morgasm <IPunce@anon>
Message-ID: <mjdhe.60q.19.1@news.alt.net>
Source record: 45981
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,alt.usenet.kooks

"an old fiend" <Morkie@kornstains.com> wrote in message
news:45cdfdc3$0$16352$88260bb3@free.teranews.com...
> ok I back four anoter tuff day on the news grupes it my job tast is waht I
> do so bringit on you loosers
> show-na-to-va (that is the greeting for this time of year as JEW
rendered
> phonicticaly)
> happy new years it means and it can be better one if Wismen Robson and SC
a
> few just decided to not to be as hateful with the punce gotcha he wonders
> why I simple don't bother to ty impoving my spelling do u hav anyting
> cognet two say?
>
>
>

--
Some days I get all my mucking furds wuddled
www.ipunce.blogspot.com

1318. Re: Need Ideas for HF Antenna at Fire Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-11 13:23:53 UTC
From: Eric <reply.in.group@nospam.no>
Message-ID: <pan.2007.02.11.13.23.51.859327@nospam.no>
Source record: 45982

On Sat, 10 Feb 2007 18:50:54 +0000, Bob wrote:

> If you
> try to feed a mono band dipole with coax and an LDG tuner it will
> probably have more loss on some bands than a T2FD

Good morning, Bob.

That's true, and that's why I wouldn't do that ... as you noted later, I'd use ladder line and a balun.

> What's worse, an antenna that will not reliably tune where you need it
> or an antenna that will always work with some loss?

I don't know, depends on WHERE and to what extent the cut dipole would fail to reliably tune. Anyway, that should be handled in the design of the antenna, which of course needs to be done by somebody that knows what he/she is doing. I assume that the fire department that is the subject of this thread knows what frequency range(s) they need the HF station to cover. Design the antenna and autotumer combination so that it tunes efficiently across those frequency ranges

> You have to consider
> the user in this case as someone who may not have the experience to
> diddle with tuners

That's why I suggest an autotuner.

> or recognize when something is not working properly.

That's an issue with any installation. You could have any antenna you can imagine, and something could go wrong making it "not work properly". There needs to be someone around who has the skills and experience to recognize that.

> If it were up to me
> to set up a fire station for regional comms, I would consider the 180ft
> B&W, a simple to use HF rig and a solid state 500w amp which will make
> up for the 5-6dB loss of the antenna over a dipole when necessary.

What if your emergency installation has to operate for extended periods of time on emergency power and you need to conserve power? That power-hungry 500-watt amplifier may not be especially welcome in that case.

Anyway, I could put up at least three (or more) cut dipoles with ladder line and autotuners for the price of that amplifier.

> Also, 1000's of B&W T2FD type antennas in use right now working just
> fine in military and government use for there intended purpose, which is
> push the button and get the message through without messing around.

They are working, somewhat, for the most part. I would argue whether they're working "just fine". They're doing the job because (a) the people that installed and use them don't know the difference; and/or (b) they have plenty of your tax dollars to spend on higher-power transmitters to compensate for the antenna inefficiency; and/or (c) they're operating ALE installations that jump around all over the spectrum and, really, the T2FD antennas are all they can use so they have to suck it up and live with the loss.

1319. Re: Need Ideas for HF Antenna at Fire Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-11 13:38:46 UTC
From: Eric <reply.in.group@nospam.no>
Message-ID: <pan.2007.02.11.13.38.44.468775@nospam.no>
Source record: 45983

On Sun, 11 Feb 2007 03:01:13 +0000, Bob wrote:

> Even a G5RV with a tuner might be something to consider.

One thing you need to keep in mind is whether even 75 meters will be sufficient for statewide communications around the clock. I can tell you that often it is not. Around here, in the wintertime the critical frequency (the maximum frequency at which a signal arriving straight up will bounce back) falls to well below the 80 meter band at night. Often the critical frequency will be around 2.5 MHz, or lower, by around 10 PM. During those times, your 75-meter NVIS signal will just go sailing off merrily into space. You have to be on 160 meters during those times, if you want reliable NVIS communications.

I am a regular participant in a military traffic net (not MARS, but similar) that operates at 0730 each morning, on a frequency that's not so very far off the high end of the 75-meter band. The normal net control station is about 80 miles from here, and in the wintertime, the critical frequency is often right around our operating frequency and rising fast as the sun comes up. Very often, I can just barely hear the NCS (or can't hear it at all) at net starting time of 0730, but by 0745 to 0800 the NCS has come up in strength to where solid 100 percent copy is easy. Move the net start time to a half hour earlier and there'd be no way... we'd all be talking to ourselves.

As for later in the daylight hours, 75 meter signals often get absorbed by the D and E layers so they never bounce back. During those times 40 meters is your only hope.

So, for an emergency station that has a snowball's chance of being able to maintain communications 24x7, you need 160, 80, and 40 meter coverage from an antenna around 30 feet high if you can get it up that high. That would be the low end of the best height range for 160 meters and the high end of the best height range for 40 meters.

1320. Re: antenna hight

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-11 14:02:52 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <eqn7mf$6ub$1@aioe.org>
Source record: 45984

<naqvi> wrote
> i have read ur response very carefully and its perfect 142dB Path
> loss but problem is that what's the Rx height if i suppose Tx and Rx
> install on the same height then my Rx height after the earth buldge
> and knife e calculation i have got 100m Rx its totally wrong
> because if i increase that (100m) Rx height its mean get the problem
> at fresnel Zone

Suggest that you print my graphic, and look for different heights of the transmit and receive antennas that still clear the 80 meter hill by using a straight edge that always crosses the location of the hill at the elevations shown in my plot.

It is best to provide more path clearance at the 80 meter hill than I showed, because some K-factor variations could steer that 10 GHz beam into that hill, and cause loss of a usable signal for the receiver.

Also remember that this plot was done over a smooth earth. The true elevations at the endpoints of the path and at the hill could be considerably different than I showed.

RF

1321. Wiring SMA connections

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-11 17:51:10 UTC
From: CJB <chrisjbrady@gmail.com>
Message-ID: <1171216270.212165.106930@q2g2000cwa.googlegroups.com>
Source record: 45985

I need to enxtend the mini-coax cable on my broadband wireless router antena. I have about 40 ft. of mini-coax. and I need to connect the SMA male and reverse (female) connectors to either end. I got the two connectors from Maplin but sans instructions (thinking that this would be easy!). BUT now I can't work out how to the cable attaches to the connectors; and there are no instructions on the web. Please can someone help. many thanks - CJB.

1322. Re: Need Ideas for HF Antenna at Fire Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-11 18:00:13 UTC
From: merlin-7 <merlin-7@sc.rr.com>
Message-ID: <45cf59f1$0$16996$4c368faf@roadrunner.com>
Source record: 45986

I use a version of a fan dipole on HF.

It differs from the standard fan in that the wires are hanging under each other with the longest wire on top. There separated 12" apart, the first one being close to the feed point.
The 3 wires are cut for 20m 40m and 80m. With a good tuner it will tune any band from 10m and even a bit of 160m close to 1.8mhz.

One good thing about it is...

After it was tuned, I measured everything. If a storm or such takes it down it can be replaced very quickly.
It is also hard to see unless you are looking for it.

My 2 cents
KI4ILB solar powered ham radio 24/7

1323. Re: Wiring SMA connections

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-11 18:26:29 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <2pnus250dce7fcr5etvq1ivuj7mip8p0oi@4ax.com>
Source record: 45987

On 11 Feb 2007 09:51:10 -0800, "CJB" <chrisjbrady@gmail.com> wrote:

>I have about 40 ft. of mini-coax. and I need to connect the
>SMA male and reverse (female) connectors to either end.

It would be simpler to just attach a resistor. That much cable is
going to be so lossy that any useful signal going in will never see
the other end.

The solution is to use 40ft of Cat9 to extend the wireless router.

73's
Richard Clark, KB7QHC

1324. Re: Wiring SMA connections

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-11 18:38:56 UTC
From: CJB <chrisjbrady@gmail.com>
Message-ID: <1171219136.845850.215200@q2g2000cwa.googlegroups.com>
Source record: 45988

OK - thank you. I think I need what is called a pigtail; but at a price. And - yes - I think the cable will be too lossy. I'll research the cat9 solution suggested. Thanks. Or I'll just have to buy a Linksys Range Extender at £100+. Unfortunately the guys at Maplin hadn't a clue on how to advise me. Actually I might just be able to use a 40ft phone extension cable and use a modem instead of WiFi. The WiFi sgnal is just too weak to go though 5 brick walls!! Thanks again - Chris Brady.

1325. Re: Wiring SMA connections

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-11 19:10:48 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <12suqifm1gfv596@corp.supernews.com>
Source record: 45989

CJB wrote:
> I need to enxtend the mini-coax cable on my broadband wireless router
> antena. I have about 40 ft. of mini-coax. and I need to connect the
> SMA male and reverse (female) connectors to either end. I got the two
> connectors from Maplin but sans instructions (thinking that this would
> be easy!). BUT now I can't work out how to the cable attaches to the
> connectors; and there are no instructions on the web. Please can
> someone help. many thanks - CJB.
>
CJB;

Before you invest to much more time and money in your project, no matter how necessary it may be, you need to look at the signal loss generated by the RG174 you are proposing to use. It is so extreme only very short lengths should be used, 1" to 3'.
A better suggestion would be to purchase a range extender that is available from most vendors of broadband equipment such as Best Buy and CDW to name two.

Dave N

1326. Re: Wiring SMA connections

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-11 20:02:53 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98D547B2A6511nonenowhere@61.9.191.5>
Source record: 45990

"David G. Nagel" <nagel@core.com> wrote in news:12suqifm1gfv596
@corp.supernews.com:

> Before you invest to much more time and money in your project, no matter
> how necessary it may be, you need to look at the signal loss generated
> by the RG174 you are proposing to use. It is so extreme only very short
> lengths should be used, 1" to 3'.

RG174 would be a very poor choice.

LMR195 (RG58 dimensions) is more likely to be the type of cable used for
small diameter, or larger LMR types for a long run like 40'.

The loss in 40' of LMR195 at 2400MHz is ~8dB, not a pretty picture. Losses
in a metre or three are practical.

Owen

1327. woger on raapage

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-11 20:40:12 UTC
From: an_old_friend <konstans@hotmail.com>
Message-ID: <1171226412.297409.165700@m58g2000cwm.googlegroups.com>
Source record: 45991
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.policy,alt.usenet.kooks

```
On Feb 11, 4:35 am, "Mark Morgasm" <IPunce@anon> wrote:
> "an old fiend" <Mor...@kornstains.com> wrote in
messagenews:45cdfdc3$0$16352$88260bb3@free.teranews.com...
>
talking to yourself is bad sign
```

1328. Re: Wiring SMA connections

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-11 21:08:45 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <12sv1fkrh4iuddc@corp.supernews.com>
Source record: 45992

Owen Duffy wrote:
> "David G. Nagel" <nagel@core.com> wrote in news:12suqifm1gfv596
> @corp.supernews.com:
>
>> Before you invest to much more time and money in your project, no matter
>> how necessary it may be, you need to look at the signal loss generated
>> by the RG174 you are proposing to use. It is so extreme only very short
>> lengths should be used, 1" to 3'.
>
> RG174 would be a very poor choice.
>
> LMR195 (RG58 dimensions) is more likely to be the type of cable used for
> small diameter, or larger LMR types for a long run like 40'.
>
> The loss in 40' of LMR195 at 2400MHz is ~8dB, not a pretty picture. Losses
> in a metre or three are practical.
>
> Owen

Owen;

I just picked on RG 174 as an example. Your choice is not very much
better which only points out the problem with coax at high frequencies.
I think that the original writer has decided on his own to do something
else.

Dave

1329. Re: Wiring SMA connections

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-11 22:47:10 UTC
From: CJB <chrisjbrady@gmail.com>
Message-ID: <1171234030.862768.196380@v33g2000cwv.googlegroups.com>
Source record: 45993

Thanks guys for your help.

The exact problem is that I use two flats in the same block - one for living in, and one for work - on the same floor - but separated by a long corridor. The WiFi signal gets half-way along the corridor and then disappears. My phone socket and WiFi router (and printers) are all is in the work flat. I'd like to use the PC in my living flat. But there is no WiFi signal there.

But I've actually been beaten by not being able to attach the SMA connectors to the coax - too fiddly!! £5 down the drain I guess.

I may have an alternative - that is to use a 80 ft. long extension cable from my phone socket in my work flat to a modem in my living flat. I can route the cable down the corridor above the false ceiling panels. WiFi I can use when my PC is local to the router. Hmm - kind of contradicts the use of WiFi but the signal is too weak anyway. Incidentally I've tried tweaking the RF power output, but its set on maximum anyway.

Unfortunately an intermediate Linksys Range Extender / Relay will not work because I do not have a power supply for it in the corridor mid-way between where the router and phone socket are and where the PC will be used.

73s -

Chris B.

On Feb 11, 9:08 pm, "David G. Nagel" <n...@core.com> wrote:
> Owen Duffy wrote:
> > "David G. Nagel" <n...@core.com> wrote in news:12suqifm1gfv596
> > @corp.supernews.com:
>
> >> Before you invest to much more time and money in your project, no matter
> >> how necessary it may be, you need to look at the signal loss generated
> >> by the RG174 you are proposing to use. It is so extreme only very short
> >> lengths should be used, 1" to 3'.
>
> > RG174 would be a very poor choice.
>
> > LMR195 (RG58 dimensions) is more likely to be the type of cable used for
> > small diameter, or larger LMR types for a long run like 40'.
>
> > The loss in 40' of LMR195 at 2400MHz is ~8dB, not a pretty picture. Losses
> > in a metre or three are practical.

>
> > Owen
>
> Owen;
>
> I just picked on RG 174 as an example. Your choice is not very much
> better which only points out the problem with coax at high frequencies.
> I think that the original writer has decided on his own to do something
> else.
>
> Dave- Hide quoted text -
>
> - Show quoted text -

1330. Re: Wiring SMA connections

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-11 22:58:07 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <3cNzh.1484$Aa5.402@trnddc01>
Source record: 45994

Hi Chris

Dont feel bad about not being able to work on those SMAs. They are difficult both because of their small size, and their gender changes from application to application.
There is *no* way I would consider wireless if the CAT 5 is a valid choice for interconnecting computers.

Jerry

"CJB" <chrisjbrady@gmail.com> wrote in message news:1171234030.862768.196380@v33g2000cwv.googlegroups.com...
Thanks guys for your help.

The exact problem is that I use two flats in the same block - one for living in, and one for work - on the same floor - but separated by a long corridor. The WiFi signal gets half-way along the corridor and then disappears. My phone socket and WiFi router (and printers) are all is in the work flat. I'd like to use the PC in my living flat. But there is no WiFi signal there.

But I've actually been beaten by not being able to attach the SMA connectors to the coax - too fiddly!! £5 down the drain I guess.

I may have an alternative - that is to use a 80 ft. long extension cable from my phone socket in my work flat to a modem in my living flat. I can route the cable down the corridor above the false ceiling panels. WiFi I can use when my PC is local to the router. Hmm - kind of contradicts the use of WiFi but the signal is too weak anyway. Incidentally I've tried tweaking the RF power output, but its set on maximum anyway.

Unfortunately an intermediate Linksys Range Extender / Relay will not work because I do not have a power supply for it in the corridor mid-way between where the router and phone socket are and where the PC will be used.

73s -

Chris B.

On Feb 11, 9:08 pm, "David G. Nagel" <n...@core.com> wrote:
> Owen Duffy wrote:
> > "David G. Nagel" <n...@core.com> wrote in news:12suqifm1gfv596
> > @corp.supernews.com:
>
> >> Before you invest to much more time and money in your project, no

> >> matter
> >> how necessary it may be, you need to look at the signal loss generated
> >> by the RG174 you are proposing to use. It is so extreme only very short
> >> lengths should be used, 1" to 3'.
>
> > RG174 would be a very poor choice.
>
> > LMR195 (RG58 dimensions) is more likely to be the type of cable used for
> > small diameter, or larger LMR types for a long run like 40'.
>
> > The loss in 40' of LMR195 at 2400MHz is ~8dB, not a pretty picture.
> > Losses
> > in a metre or three are practical.
>
> > Owen
>
> Owen;
>
> I just picked on RG 174 as an example. Your choice is not very much
> better which only points out the problem with coax at high frequencies.
> I think that the original writer has decided on his own to do something
> else.
>
> Dave- Hide quoted text -
>
> - Show quoted text -

1331. Re: Wiring SMA connections

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-11 23:19:11 UTC
From: CJB <chrisjbrady@gmail.com>
Message-ID: <1171235951.327284.327510@l53g2000cwa.googlegroups.com>
Source record: 45995

Just found a possible solution:

http://www.amazon.co.uk/o/ASIN/B000B6F9DQ/ref=s9_asin_title_3/203-4175332-7741501

CJB.

1332. Re: Wiring SMA connections

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-11 23:41:24 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <up9vs2h7ptrohjh5jad9c4stmse02irf3a@4ax.com>
Source record: 45996

On 11 Feb 2007 15:19:11 -0800, "CJB" <chrisjbrady@gmail.com> wrote:

>Just found a possible solution:

Only if both flats can take the 5dB loss in the cable, AND the path
loss of 4.5 meters. Wireless routers are rated for quite a distance
in the clear, but apparently your brick puts the challenge to that.

Walk down the hall with your laptop running its adapter program
showing signal strength. How far can you go? If it isn't half way,
you don't stand a chance. If you can, then subtract 5dB (which means
roughly to the other flat's front door) and the signal should still be
substantial (or your throughput will plummet).

Run CAT5 between flats and buy another router.

73's
Richard Clark, KB7QHC

1333. Re: Need Ideas for HF Antenna at Fire Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-12 00:50:21 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <12sved75j0r3u9c@corp.supernews.com>
Source record: 45997

Dear Bob:

It is nice to hear from another of W8JK's boys.

You have received some good ideas and discussion.

Having dealt with the underlining need you described, the technical issues usually turn out to be minor as compared to the people issues. What you are likely most to need is a sharp people-person who can uncover what the real reasons are for the apparent need for invisibility. Once you know what the actual issue is, you can work to optimize the system.

You must have the clout, once you understand the people issues, to convince the right people about an effective antenna system.

My preference is a dipole with about 100 feet of wire on each side that is supported in the middle by a 40 foot tower. From the feed point to the base of the tower I would run a piece of solid-outer coax that is heavily choked with surrounding choking-material. At the base, I would attach a commercial auto-tuner and run its coax and control cables (well choked) underground to the station. An embellishment would be a second dipole at right angles (connected to the first dipole) that is resonant around 5.4 MHz. A good fence around the tower is desirable.

Feel free to contact me.

73 Mac N8TT
--
J. Mc Laughlin; Michigan U.S.A.
Home: JCM@Power-Net.Net

"Bob Dixon" <dixon.8@osu.edu> wrote in message

1334. Re: Wiring SMA connections

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-12 01:36:12 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <45cfc489$0$21259$39cecf19@news.twtelecom.net>
Source record: 45998

Richard Clark wrote:

> On 11 Feb 2007 09:51:10 -0800, "CJB" <chrisjbrady@gmail.com> wrote:
>
>
>>I have about 40 ft. of mini-coax. and I need to connect the
>>SMA male and reverse (female) connectors to either end.
>
>
> It would be simpler to just attach a resistor. That much cable is
> going to be so lossy that any useful signal going in will never see
> the other end.
>
> The solution is to use 40ft of Cat9 to extend the wireless router.
>
> 73's
> Richard Clark, KB7QHC

Cat9, hmm, the only Cat9 I know of is -

http://www.tubecollector.org/cat9.htm

and while it's quite lengthy, 40 feet of them would not be suitable for
use at microwave frequencies.

Perhaps you meant Cat5. ;)

It is a neat tube though.

tom
K0TAR

1335. Re: Wiring SMA connections

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-12 01:55:10 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <d2ivs2h9irffsk7pkk8kd7ittp9fav93jh@4ax.com>
Source record: 45999

On Sun, 11 Feb 2007 19:36:12 -0600, Tom Ring <news0003@taring.org>
wrote:

>Perhaps you meant Cat5. ;)

Thank you Tom. Yes, this has been pointed out to me in other
correspondence. ;-(

73's
Richard Clark, KB7QHC

1336. velocity factor???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-12 01:58:58 UTC
From: larry d clark <buddycl@nospam_swbell.net>
Message-ID: <CRPzh.17560$ji1.11921@newssvr12.news.prodigy.net>
Source record: 46000

given that the length of a half wave dipole is
calculated by 468 / freq in mhz when velocity factor
is 1, ie 468 / 1.9 is about 246 ft.

i'm sitting here wondering why folks with small
city lots don't use (468 / freq in mhz) * velocity factor,
to construct a much shorter antnenna, particularly on
80m & 160m?

as an example, rg59 coax typically has a velocity
factor of .66, so plugging to the formula,
468 / 1.9 is about 246 ft, * .66 is about 162 ft.

why couldn't 162 ft of rg59 be cut in two, attached
to a 50 ohm, have the remaining ends of the rg59 shorted
together, and hoisted into the air?

so what am i missing? there are no free lunches:-)

larry
kd5foy

1337. Re: velocity factor???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-12 03:02:07 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <PMQzh.9363$O02.6127@newssvr11.news.prodigy.net>
Source record: 46001

larry d clark wrote:
> why couldn't 162 ft of rg59 be cut in two, attached
> to a 50 ohm, have the remaining ends of the rg59 shorted
> together, and hoisted into the air?

The velocity factor of the inside of RG-59 is 0.66
when the currents are differential. The inside of RG-59
doesn't radiate when the currents are differential.

The outside of RG-59 is used for radiation. The velocity
factor of the outside of RG-59 is about 0.95, about the
same as ordinary insulated wire.
--
73, Cecil http://www.w5dxp.com

1338. Re: Wiring SMA connections

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-12 05:04:10 UTC
From: Bryan <bryan.swadenerNOSPAM@comcast.net>
Message-ID: <ur-dnRghoafXaFLYnZ2dnUVZ_tadnZ2d@giganews.com>
Source record: 46002

Tom Ring wrote:
> Richard Clark wrote:
>
> > CJB wrote:
> >
> >
> >>I have about 40 ft. of mini-coax. and I need to connect the
> >>SMA male and reverse (female) connectors to either end.
> >
> >
> > It would be simpler to just attach a resistor. That much cable is
> > going to be so lossy that any useful signal going in will never see
> > the other end.
> >
> > The solution is to use 40ft of Cat9 to extend the wireless router.
> >
> > 73's
> > Richard Clark, KB7QHC
>
> Cat9, hmm, the only Cat9 I know of is -
>
> http://www.tubecollector.org/cat9.htm
>
> and while it's quite lengthy, 40 feet of them would not be suitable for
> use at microwave frequencies.
>
> Perhaps you meant Cat5. ;)
>
> It is a neat tube though.
>
> tom
> K0TAR

I like it... almost as much as the Umac 606 Phantasatron:
http://www.geocities.com/bswadener/humor/umac606.htm. ;^)
Bryan WA7PRC

1339. Re: velocity factor???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-12 05:21:40 UTC
From: Bryan <bryan.swadenerNOSPAM@comcast.net>
Message-ID: <MZydnf-xXcD-ZFLYnZ2dnUVZ_g6dnZ2d@giganews.com>
Source record: 46003

larry d clark wrote:
>
> given that the length of a half wave dipole is
> calculated by 468 / freq in mhz when velocity factor
> is 1, ie 468 / 1.9 is about 246 ft.
>
> i'm sitting here wondering why folks with small
> city lots don't use (468 / freq in mhz) * velocity factor,
> to construct a much shorter antnenna, particularly on
> 80m & 160m?
>
> as an example, rg59 coax typically has a velocity
> factor of .66, so plugging to the formula,
> 468 / 1.9 is about 246 ft, * .66 is about 162 ft.
>
> why couldn't 162 ft of rg59 be cut in two, attached
> to a 50 ohm, have the remaining ends of the rg59 shorted
> together, and hoisted into the air?
>
> so what am i missing? there are no free lunches:-)
>
> larry
> kd5foy

One wavelength in free space in feet is 984/F in feet (300/F in meters); a half-wavelength is 492/F. 468/F assumes a vf of 0.95 of the antenna radiating surface.
The vf of coaxial cable is dependent upon the dielectric used. 0.66 is common for solid polyethylene. Foamed PE is typically near 0.80. As with many RG cables, RG59 is available both ways.

In your example, the vf of the dielectric would not matter, since the majority of the current flows on the *outside* of the shield due to skin-effect. Thus, the formula for the length would be very close to (only slightly shorter than) 468/F. Since I^2*R losses would be lower, bandwidth would be better than a smaller-diameter wire.

Bryan WA7PRC

1340. Re: Wiring SMA connections

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-12 08:30:37 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98D5C67827DF9nonenowhere@61.9.191.5>
Source record: 46004

"David G. Nagel" <nagel@core.com> wrote in
news:12sv1fkrh4iuddc@corp.supernews.com:

> Owen Duffy wrote:
>> "David G. Nagel" <nagel@core.com> wrote in news:12suqifm1gfv596
>> @corp.supernews.com:
>>
>>> Before you invest to much more time and money in your project, no
>>> matter how necessary it may be, you need to look at the signal loss
>>> generated by the RG174 you are proposing to use. It is so extreme
>>> only very short lengths should be used, 1" to 3'.
>>
>> RG174 would be a very poor choice.
>>
>> LMR195 (RG58 dimensions) is more likely to be the type of cable used
>> for small diameter, or larger LMR types for a long run like 40'.
>>
>> The loss in 40' of LMR195 at 2400MHz is ~8dB, not a pretty picture.
>> Losses in a metre or three are practical.
>>
>> Owen
>
>
> Owen;
>
> I just picked on RG 174 as an example. Your choice is not very much
> better which only points out the problem with coax at high
> frequencies. I think that the original writer has decided on his own
> to do something else.

The LMR195 is 12.4dB better, I will leave it to the end user to make his
mind up about whether that is "not very much better".

Yes, clearly the message is to minimise the length of RF transmission
lines, and to use line types appropriate to the length and application.

Owen

1341. Queston on Yagi Antennae

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-12 13:02:28 UTC
From: AndyS <andysharpe@juno.com>
Message-ID: <1171285348.612537.306070@l53g2000cwa.googlegroups.com>
Source record: 46005

Andy writes;

I know I could go to my EZNEC and find this out for myself,
but I figure someone here has already done this and a quick
answer is all I need..

In "normal" Yagi antennae, the elements are parallel
and at 90 degrees to the mounting boom.

In some TV antennae, the elements are at an angle to the
mounting boom, slanted in the direction of the station being
received. Otherwise, they look pretty much like a Yagi.

My question is, what effect does "slanting" the elements
forward have on the impedance, and the pattern ?

[[[[[[< < < < <

Normal Yagi Slanted Yagi

Thanks in advance for the meaningful answers..

Andy W4OAH

1342. Re: Wiring SMA connections

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-12 13:36:58 UTC
From: CJB <chrisjbrady@gmail.com>
Message-ID: <1171287418.796833.29170@p10g2000cwp.googlegroups.com>
Source record: 46006

Yes - I did try walking down the corridor with the laptop!! The
dropout rate was quite high. But I did get about halfway along before
the signal was lost!!

I did a Google on the web for 'Cat9 cable' and did find some mention.
Also for Cat5.

I'll see if the extension cable works. But might be resigned to a
repeater halfway along the corridor. I could hide this in the ceiling
panelling and power it with a cable from either flat!!

There is another solution - maybe - to attach a full size indoor
aerial to the laptop. It has a t.v. card in it!! Maybe that would
increase the strength of the input signal to the wireless card.

Chris B.

On Feb 11, 11:41 pm, Richard Clark <kb7...@comcast.net> wrote:
> On 11 Feb 2007 15:19:11 -0800, "CJB" <chrisjbr...@gmail.com> wrote:
>
> >Just found a possible solution:
>
> Only if both flats can take the 5dB loss in the cable, AND the path
> loss of 4.5 meters. Wireless routers are rated for quite a distance
> in the clear, but apparently your brick puts the challenge to that.
>
> Walk down the hall with your laptop running its adapter program
> showing signal strength. How far can you go? If it isn't half way,
> you don't stand a chance. If you can, then subtract 5dB (which means
> roughly to the other flat's front door) and the signal should still be
> substantial (or your throughput will plummet).
>
> Run CAT5 between flats and buy another router.
>
> 73's
> Richard Clark, KB7QHC

1343. Re: Yagi antenna design question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-12 14:00:16 UTC
From: Wes <n7ws@yahoo.com>
Message-ID: <1171288816.261735.135680@l53g2000cwa.googlegroups.com>
Source record: 46007

On Feb 10, 7:27 pm, "Yuri Blanarovich" <K...@optonline.net> wrote:

My previous ISP sold me off to a new one. SInce that time I've had no
end of email problems and in addition the new guys don't provide
newsgroups, so I've been reduced to using Google Groups. Yuch.

I spent too much time composing a response to Yuri's last post and
then did not see it appear after posting. I will not waste further
time, but in a nutshell I offered another case using the self-
reactance of the DE as part of the matching network.

In this example, to avoid any "loss due to loading" resulting from
shortening the DE, I *lengthen* the DE to obtain an inductive
reactance for the series arm of an L-network and then use a shunt
capacitor for the second matching element.

The model is here:

http://www.k6mhe.com/n7ws/N7WS_Yagi_Lengthened.EZ

Run the analysis, and add a shunt 195 pF and see what you get.

Regards,

Wes N7WS

1344. Re: Wiring SMA connections

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-12 14:19:32 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <UH_zh.3222$TG6.2607@trnddc06>
Source record: 46008

Hi Chris

You might want to test the data transfer speed while making your "distance tests". I'd use CAT 5 whenever the cable connection can be allowed.

Jerry

"CJB" <chrisjbrady@gmail.com> wrote in message news:1171287418.796833.29170@p10g2000cwp.googlegroups.com...
> Yes - I did try walking down the corridor with the laptop!! The
> dropout rate was quite high. But I did get about halfway along before
> the signal was lost!!
>
> I did a Google on the web for 'Cat9 cable' and did find some mention.
> Also for Cat5.
>
> I'll see if the extension cable works. But might be resigned to a
> repeater halfway along the corridor. I could hide this in the ceiling
> panelling and power it with a cable from either flat!!
>
> There is another solution - maybe - to attach a full size indoor
> aerial to the laptop. It has a t.v. card in it!! Maybe that would
> increase the strength of the input signal to the wireless card.
>
> Chris B.
>
> On Feb 11, 11:41 pm, Richard Clark <kb7...@comcast.net> wrote:
>> On 11 Feb 2007 15:19:11 -0800, "CJB" <chrisjbr...@gmail.com> wrote:
>>
>> >Just found a possible solution:
>>
>> Only if both flats can take the 5dB loss in the cable, AND the path
>> loss of 4.5 meters. Wireless routers are rated for quite a distance
>> in the clear, but apparently your brick puts the challenge to that.
>>
>> Walk down the hall with your laptop running its adapter program
>> showing signal strength. How far can you go? If it isn't half way,
>> you don't stand a chance. If you can, then subtract 5dB (which means
>> roughly to the other flat's front door) and the signal should still be
>> substantial (or your throughput will plummet).
>>
>> Run CAT5 between flats and buy another router.
>>
>> 73's
>> Richard Clark, KB7QHC

>
>

1345. Re: Queston on Yagi Antennae

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-12 14:32:15 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <PT_zh.777$hp4.646@trnddc02>
Source record: 46009

"AndyS" <andysharpe@juno.com> wrote in message
news:1171285348.612537.306070@l53g2000cwa.googlegroups.com...
> Andy writes;
>
> I know I could go to my EZNEC and find this out for myself,
> but I figure someone here has already done this and a quick
> answer is all I need..
>
> In "normal" Yagi antennae, the elements are parallel
> and at 90 degrees to the mounting boom.
>
> In some TV antennae, the elements are at an angle to the
> mounting boom, slanted in the direction of the station being
> received. Otherwise, they look pretty much like a Yagi.
>
> My question is, what effect does "slanting" the elements
> forward have on the impedance, and the pattern ?
>
> [[[[[[< < < < <
>
> Normal Yagi Slanted Yagi
>
>
> Thanks in advance for the meaningful answers..
>
> Andy W4OAH

Hi Andy

The TV antennas with the V shaped elements arent Yagi antennas. Log
periodic V antennas are fed from their "front end" to produce a minimum
toward the rear.
A TV Yagi antenna is good for any one channel. A LPV antenna is good
for all the channels but not as good for the one channel the yagi tunes to.
The LPV elements are slanted to an angle where their radiation pattern
adds in the Forward direction when they are a 3/2 WL dipole.

Jerry
>

1346. Re: Wiring SMA connections

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-12 17:25:29 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ji81t21e56j6r65vkhgon9826g63bk2eo0@4ax.com>
Source record: 46010

On 12 Feb 2007 05:36:58 -0800, "CJB" <chrisjbrady@gmail.com> wrote:

>But I did get about halfway along before
>the signal was lost!!

You don't stand a chance.

>I did a Google on the web for 'Cat9 cable' and did find some mention.
>Also for Cat5.

Cat5 is what you want, I used the wrong number.

>There is another solution - maybe - to attach a full size indoor
>aerial to the laptop.

The full sized aerial for wireless is what you see - a stub of roughly
3 inches or so.

73's
Richard Clark, KB7QHC

1347. W8JK Memorial Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-12 18:32:42 UTC
From: Bob Dixon <dixon.8@osu.edu>
Message-ID: <dixon.8-5DD4D9.13324212022007@charm.magnus.acs.ohio-state.edu>
Source record: 46011

Since W8JK is well known in antenna circles, you may be interested in thus.

The John D Kraus Memorial Amateur Radio Club has been created, and issued John's call sign W8JK.
The web site is http://www.naapo.org/W8JK/W8JK.htm . The station will be on the air in various contests and special events. QSL via KC8VEB. John was a well-known pioneer in antennas and Radio Astronomy.

73,

Bob W8ERD

1348. Re: velocity factor???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-12 18:46:40 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1171306000.288141.17480@v45g2000cwv.googlegroups.com>
Source record: 46012

On Feb 11, 5:58 pm, larry d clark <buddycl@nospam_swbell.net> wrote:
> given that the length of a half wave dipole is
> calculated by 468 / freq in mhz when velocity factor
> is 1, ie 468 / 1.9 is about 246 ft.
>
> i'm sitting here wondering why folks with small
> city lots don't use (468 / freq in mhz) * velocity factor,
> to construct a much shorter antnenna, particularly on
> 80m & 160m?
>
> as an example, rg59 coax typically has a velocity
> factor of .66, so plugging to the formula,
> 468 / 1.9 is about 246 ft, * .66 is about 162 ft.
>
> why couldn't 162 ft of rg59 be cut in two, attached
> to a 50 ohm, have the remaining ends of the rg59 shorted
> together, and hoisted into the air?
>
> so what am i missing? there are no free lunches:-)
>
> larry
> kd5foy

To achieve resonance in a shorter antenna, you can increase either the capacitance or the inductance--or both, of course. To increase the capacitance, all you have to do is fill the universe with polyethylene, or some similar low-loss dielectric. You don't have to actually fill the whole universe with it; it would work to fill a volume around the antenna. But to get the full effect, it should be a pretty large volume, containing the electric field in the neighborhood of the antenna. Not very practical. In coax, the electric field is between the wires; in the dipole, it's also between the wires, but the volume is very much larger. On the other hand, people have been shortening resonant antennas for a long time by increasing the inductance: thus, loading coils and "slinky" antennas. Similarly, people make "slow" coax by making the center conductor a helix, and thus make delay lines.

Cheers,
Tom

1349. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-12 20:21:02 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eqqk99$p5j$1@news.service.uci.edu>
Source record: 46013

Richard Clark wrote:

> On Fri, 09 Feb 2007 17:51:26 -0800, Jim Kelley <jwkelley@uci.edu>
> wrote:
>
>
>>We can only hope that your unfortunate correspondent
>>continues trying to imagine it long enough to happen upon the reason.
>
>
> Jim, If you prefer to think of our correspondent as a shrinking
> violet, destiny is already written in the thread. The suggestions
> I've offered have been seconded by several others. Do you want to
> explain any one or all of them?
>
> 73's
> Richard Clark, KB7QHC

So what you're saying is that although you could explain how to make a loopstick antenna resonate at 1 MHz and properly couple it to a crystal oscillator circuit, you feel that someone else should do it for you.

ac6xg

1350. killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-12 23:18:20 UTC
From: KE5MBX <nelson.blaha@gmail.com>
Message-ID: <1171322300.447846.61270@k78g2000cwa.googlegroups.com>
Source record: 46014

Hi,
What's all this business I hear people talking about blasting people's car stereos or killing cars altogether with high-power RF? I run 2m, 10m, and 11m in my jeep and I'd like to sort out the fact from the legend and find out what kind of power I can use without risking damage to my jeep or cars around me. At what power level is front-end overload to a nearby radio likely? At what power level is damage likely, and to what componets?

I am currently using only 50 watts on a 5/8 wave (2m), 25w on a 1/4 wave (10m), legal 4w on a 1/4 wave (11m)

Thanks,
Nelson KE5MBX

1351. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-12 23:50:30 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <45d0fd46$0$16994$4c368faf@roadrunner.com>
Source record: 46015

"KE5MBX" <nelson.blaha@gmail.com> wrote in message
news:1171322300.447846.61270@k78g2000cwa.googlegroups.com...
> Hi,
> What's all this business I hear people talking about blasting people's
> car stereos or killing cars altogether with high-power RF? I run 2m,
> 10m, and 11m in my jeep and I'd like to sort out the fact from the
> legend and find out what kind of power I can use without risking
> damage to my jeep or cars around me. At what power level is front-end
> overload to a nearby radio likely? At what power level is damage
> likely, and to what componets?
>
> I am currently using only 50 watts on a 5/8 wave (2m), 25w on a 1/4
> wave (10m), legal 4w on a 1/4 wave (11m)
>
> Thanks,
> Nelson KE5MBX
>

I think over 100W you may have problems with HF and VHF. It can be a
problem.

One thing that works real well is to transmit near the x-ray radar band
where you have privileges. The traffic may slow down a bit as you set off
the radar detectors :-)

1352. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-12 23:59:24 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <45d0ff5d$0$5799$4c368faf@roadrunner.com>
Source record: 46016

"T" <taylor_j25@yahoo.com> wrote in message
news:1171079349.190954.227220@l53g2000cwa.googlegroups.com...
> Thank you mr. kelly for trying to help me out, but obviously richard
> is too hostile to want someone else, even a kid, to learn anything
> about radio engineering. [you know, since he probably never tinkered
> with electronics when he was a kid and asked someone for advice] =
> sarcasm
>
> i'm slightly disappointed in him. a grown man, who attacks eager to
> learn children over the internet. do you not have friends? a life?
>
> besides if you don't help people, but instead show them hostility,
> don't you think they may become discouraged? maybe even give it up and
> quit? if there is no one interested in this type of engineering, then
> it may cease to exist.
>
> all i'm saying is, be an encourager, help others, and go with god.
>
> "since new developments are the products of a creative mind, we must
> therefore stimulate and ENCOURAGE that type of mind in every way
> possible." -george washington carver
>
> sorry to be so short, and thanks to everyone who tried to help,
> taylor

Oh no! Another victim! This time it is an alleged kid. I thought everybody
gave him plenty of good, free advice.

1353. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 00:14:57 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <5q7Ah.62872$wc5.8578@newssvr25.news.prodigy.net>
Source record: 46017

Stefan Wolfe wrote:
> One thing that works real well is to transmit near the x-ray radar band
> where you have privileges. The traffic may slow down a bit as you set off
> the radar detectors :-)

A number of years ago (I forget exactly what year) a
ham friend of mine discovered that he could cause a
new Cadillac to stall simply by keying his transmitter
as the Cadillac was passing his camper. That design
problem was probably fixed rather quickly.
--
73, Cecil http://www.w5dxp.com

1354. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 00:40:38 UTC
From: Nate Bargmann <n0nb.DO.NOT.SPAM@ME.networksplus.net>
Message-ID: <GtudncJJ99KblEzYnZ2dnUVZ_u3inZ2d@bluevalley.net>
Source record: 46018

It doesn't take much. Back in the early '90s a group of us were returning from a hamfest and I was riding in the back seat of one guy's late '80s Ford something or other (Crown Victoria, maybe?). I was using my HT to talk to the other car on 2m and the driver noticed that his cruise control was gaining speed and when I unkeyed it settled down. Once I figured out it was my HT causing it, loads of fun ensued.

If something is sensitive to RF, it probably won't take much to cause it to malfunction. The fact is that nobody does RF shielding or protection for consumer electronics, so there is no set power limit below which a device may not be affected.

- Nate >>

--

"The optimist proclaims that we live in the best of all possible worlds, the pessimist fears this is true."

1355. Re: Yagi antenna design question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 00:58:11 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <O28Ah.113$8y5.108@newsfe10.lga>
Source record: 46019

Looks like W8JI type of response: I am right, I will not respond to questions and arguments and my is last word!"

Fact 1. - When hairpin or beta match is inserted in the driven element or any resonant half wave dipole, it has current flowing through it.

Fact 2. That element has to be shortened if resonance is to be maintained, which means that it is a center inductive loading element, hairpin, beta match is the part of the antenna standing wave circuit.

Fact 3. There is current that would more, less belong to the antenna element flowing in the hairpin, folded on itself and on right angle to driven element, not contributing to overall current distribution. That can be seen in my EZNEC model in the article. That portion of the current is not in line with the rest of the element, it is missing from as to compared to full size element and therefore efficiency is slightly lower (middle part of the cosine wave is "missing" folded with hairpin). On typical 40m dipole, as I modeled, it accounts for about 0.2 dB loss.

The original argument was is the beta match lossy or not.
My modeling of the real situation is ignored, also findings and experimental verification of others who replaced hairpins with solenoid coils is ignored.
What you are "arguing" is that if you place the matching network in the driven element (now you even lengthen it) that there is no loss.
http://www.k3bu.us/beta_match.htm
Is my modeling of 40m dipole wrong? Where? On dipole it shows about 0.2 dB loss, which gets bit more when used in multielement array.

If you are denying that there is a RF antenna current flowing in the Beta match hairpin, then you are denying reality and I rest my case. No point of arguing or discussing when you do not show where I am wrong, but you offer "proof" by juggling matching components at the feedpoint. We are talking about hairpin that is part of the antenna element, has current flowing in the system and it has feedline attached at the feedpoint of element and hairpin. No tricks with coils or capacitors inserted half wave somewhere.

73 Yuri, K3BU.us

We are not arguing loss due to loading, we are arguing - does hairpin beta match contribute to the loss in the system or not.
I mentioned that there are better alternatives, if one choses to be less lossy.

"Wes" <n7ws@yahoo.com> wrote in message
news:1171288816.261735.135680@l53g2000cwa.googlegroups.com...
> On Feb 10, 7:27 pm, "Yuri Blanarovich" <K...@optonline.net> wrote:
>

> My previous ISP sold me off to a new one. SInce that time I've had no
> end of email problems and in addition the new guys don't provide
> newsgroups, so I've been reduced to using Google Groups. Yuch.
>
> I spent too much time composing a response to Yuri's last post and
> then did not see it appear after posting. I will not waste further
> time, but in a nutshell I offered another case using the self-
> reactance of the DE as part of the matching network.
>
> In this example, to avoid any "loss due to loading" resulting from
> shortening the DE, I *lengthen* the DE to obtain an inductive
> reactance for the series arm of an L-network and then use a shunt
> capacitor for the second matching element.
>
> The model is here:
>
> http://www.k6mhe.com/n7ws/N7WS_Yagi_Lengthened.EZ
>
> Run the analysis, and add a shunt 195 pF and see what you get.
>
> Regards,
>
> Wes N7WS
>

1356. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 01:15:27 UTC
From: KE5MBX <nelson.blaha@gmail.com>
Message-ID: <1171329326.992382.46330@s48g2000cws.googlegroups.com>
Source record: 46020

On Feb 12, 5:50 pm, "Stefan Wolfe" <ste...@eml.com> wrote:
> "KE5MBX" <nelson.bl...@gmail.com> wrote in message
>
> news:1171322300.447846.61270@k78g2000cwa.googlegroups.com...
>
> > Hi,
> > What's all this business I hear people talking about blasting people's
> > car stereos or killing cars altogether with high-power RF? I run 2m,
> > 10m, and 11m in my jeep and I'd like to sort out the fact from the
> > legend and find out what kind of power I can use without risking
> > damage to my jeep or cars around me. At what power level is front-end
> > overload to a nearby radio likely? At what power level is damage
> > likely, and to what componets?
>
> > I am currently using only 50 watts on a 5/8 wave (2m), 25w on a 1/4
> > wave (10m), legal 4w on a 1/4 wave (11m)
>
> > Thanks,
> > Nelson KE5MBX
>
> I think over 100W you may have problems with HF and VHF. It can be a
> problem.
>
> One thing that works real well is to transmit near the x-ray radar band
> where you have privileges. The traffic may slow down a bit as you set off
> the radar detectors :-)

Where the heck do you get a 3cm transmitter, though? ha.

1357. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 01:17:14 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98D67CFE52BD2nonenowhere@61.9.191.5>
Source record: 46021

Cecil Moore <mycall@hotmail.com> wrote in
news:5q7Ah.62872$wc5.8578@newssvr25.news.prodigy.net:

> Stefan Wolfe wrote:
>> One thing that works real well is to transmit near the x-ray radar
>> band where you have privileges. The traffic may slow down a bit as
>> you set off the radar detectors :-)
>
> A number of years ago (I forget exactly what year) a
> ham friend of mine discovered that he could cause a
> new Cadillac to stall simply by keying his transmitter
> as the Cadillac was passing his camper. That design
> problem was probably fixed rather quickly.

Back in the '70s I was working on a project that saw me reading papers on the effects of EMR on various things. Amongst the papers was one dealing with the susceptibility of the electronic anti-skid technology introduced on heavy transport vehicles to meet (then) newer more stingent braking distances. The braking systems were susceptible to ingress of RF, resulting in wheel lockups. You can imagine the results of a 22 wheeler at highway speed when a chook alongside comes up with "Breaker, Breaker, any taker?" and locks up most of the wheels on the transport. I read other papers on rear wheel lockups in a certain brand of passenger vehicle due to RF induced downshift of the (electronically controlled) automatic transmission at highway speeds.

The EMC issue seems better understood by vehicle manufacturers today, though you still hear of RF triggered airbag deployments from time to time.

I won't go into the papers on effects on aircraft, some of you may fly from time to time! A paper on propagation of EM waves through rectangular slots in thin sheet metal looks innocuous enough until you realise that it is talking about an aircraft window (in the days when almost all aircraft had a metal skin).

Owen

1358. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 01:55:45 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <12t26jq7p87cd19@corp.supernews.com>
Source record: 46022

Dear Owen: Well do I remember the onset of EMC awareness that came with the early anti-skid systems. One horror case took place in Chicago with a bus. One of the many short bridges in Chicago has metal decking and a bus stop at the far end of the bridge. The bridge also is aligned with the Sears tower (in downtown Chicago it is difficult not to be aligned with some strong RF radiator - it is worse than a carrier). Bus starts onto the bridge. Patrons stand to get off at the next stop. Breaks fail while on bridge. Driver fully asserts the brakes. Bus arrives at the end of the bridge and the brakes start to work. People go flying.

I was a witness of the (very early and crude) method used to test systems. Not anymore! Today, whole cars are zapped from all directions, all frequencies, and at huge amplitudes. A huge effort was made to find out what sort of signals a car might encounter. I once rode in a van all the way to Chicago glued to a SA to record strong signals. The worst that I saw was a VOR signal (few hundred watts at ground level with a very good radial screen and near the road) and a CB signal. Others in the project measured at VOA and LORAN sites. An FM broadcast antenna was found to radiate a huge signal onto a public street - see, you know that antenna design would be worked into the discussion - in this case an incompetent, but not unusual, antenna design.

At work, we have a big RF amplifier used to zap devices in order to find out where they die. Had to get a waiver from FCC because, even though the amp requires three-phase, it could be used on 27 MHz.

Critical equipment is much more EMC capable today.

73, Mac N8TT
--
J. Mc Laughlin; Michigan U.S.A.
Home: JCM@Power-Net.Net
"Owen Duffy" <none@no.where> wrote in message
news:Xns98D67CFE52BD2nonenowhere@61.9.191.5...
> Cecil Moore <mycall@hotmail.com> wrote in
> news:5q7Ah.62872$wc5.8578@newssvr25.news.prodigy.net:
>
> > Stefan Wolfe wrote:
> >> One thing that works real well is to transmit near the x-ray radar
> >> band where you have privileges. The traffic may slow down a bit as
> >> you set off the radar detectors :-)
> >
> > A number of years ago (I forget exactly what year) a
> > ham friend of mine discovered that he could cause a
> > new Cadillac to stall simply by keying his transmitter

> > as the Cadillac was passing his camper. That design
> > problem was probably fixed rather quickly.
>
> Back in the '70s I was working on a project that saw me reading papers on
> the effects of EMR on various things. Amongst the papers was one dealing
> with the susceptibility of the electronic anti-skid technology introduced
> on heavy transport vehicles to meet (then) newer more stingent braking
> distances. The braking systems were susceptible to ingress of RF,
> resulting in wheel lockups. You can imagine the results of a 22 wheeler
> at highway speed when a chook alongside comes up with "Breaker, Breaker,
> any taker?" and locks up most of the wheels on the transport. I read
> other papers on rear wheel lockups in a certain brand of passenger
> vehicle due to RF induced downshift of the (electronically controlled)
> automatic transmission at highway speeds.
>
> The EMC issue seems better understood by vehicle manufacturers today,
> though you still hear of RF triggered airbag deployments from time to
> time.
>
> I won't go into the papers on effects on aircraft, some of you may fly
> from time to time! A paper on propagation of EM waves through rectangular
> slots in thin sheet metal looks innocuous enough until you realise that
> it is talking about an aircraft window (in the days when almost all
> aircraft had a metal skin).
>
> Owen

1359. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 02:01:09 UTC
From: jimlux@earthlink.net
Message-ID: <1171332069.248566.139970@s48g2000cws.googlegroups.com>
Source record: 46023

On Feb 12, 3:18 pm, "KE5MBX" <nelson.bl...@gmail.com> wrote:
> Hi,
> What's all this business I hear people talking about blasting people's
> car stereos or killing cars altogether with high-power RF? I run 2m,
> 10m, and 11m in my jeep and I'd like to sort out the fact from the
> legend and find out what kind of power I can use without risking
> damage to my jeep or cars around me. At what power level is front-end
> overload to a nearby radio likely? At what power level is damage
> likely, and to what componets?
>
> I am currently using only 50 watts on a 5/8 wave (2m), 25w on a 1/4
> wave (10m), legal 4w on a 1/4 wave (11m)
>
> Thanks,
> Nelson KE5MBX

you might have more issues with RF exposure to you and safety,
particularly on the 2m band, depending on where the antenna is.

But, as far as killing your car radio (or one next to you) goes, you'd
have to look at the coupling from your antenna to the car radio's. 2m
is going to be the worst case because the victim receiver is close to
that frequency, so the coupling from your antenna to its is highest.
The easy case is the car in the next lane (because it's reasonably far
away.. more than a couple wavelengths), so you could do some sort of
rule of thumb free space path loss kind of calculation...Say you're 5m
away at 144MHz.

Loss = 32.44 + 20*log10(d in km) + 20*log10(f in MHz) = 32.44 -46+43
dB = about 30 dB loss. You're radiating 50 W, and let's assume your
antenna is 3dBi, so your EIRP is 100W or +50dBm. The victim is seeing
+20dBm (a tenth of a watt)... about 2 Volts into a 75 ohm load.
Assuming the victim radio has protection diodes across the input,
you're probably not going to kill it. Run a kilowatt and it's another
story...

As a practical matter, my 2m antenna is about 1 meter from the car
radio antenna, and when I transmit at 50W, the FM car radio blocks,
but recovers just fine. Likewise, transmitting at 100W on HF. Your
mileage may vary, etc.

Jim, W6RMK

1360. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 02:02:50 UTC
From: jimlux@earthlink.net
Message-ID: <1171332170.828874.143520@s48g2000cws.googlegroups.com>
Source record: 46024

On Feb 12, 5:15 pm, "KE5MBX" <nelson.bl...@gmail.com> wrote:
> On Feb 12, 5:50 pm, "Stefan Wolfe" <ste...@eml.com> wrote:
>
>
>
> > "KE5MBX" <nelson.bl...@gmail.com> wrote in message
>
> >news:1171322300.447846.61270@k78g2000cwa.googlegroups.com...
>
> > > Hi,
> > > What's all this business I hear people talking about blasting people's
> > > car stereos or killing cars altogether with high-power RF? I run 2m,
> > > 10m, and 11m in my jeep and I'd like to sort out the fact from the
> > > legend and find out what kind of power I can use without risking
> > > damage to my jeep or cars around me. At what power level is front-end
> > > overload to a nearby radio likely? At what power level is damage
> > > likely, and to what componets?
>
> > > I am currently using only 50 watts on a 5/8 wave (2m), 25w on a 1/4
> > > wave (10m), legal 4w on a 1/4 wave (11m)
>
> > > Thanks,
> > > Nelson KE5MBX
>
> > I think over 100W you may have problems with HF and VHF. It can be a
> > problem.
>
> > One thing that works real well is to transmit near the x-ray radar band
> > where you have privileges. The traffic may slow down a bit as you set off
> > the radar detectors :-)
>
> Where the heck do you get a 3cm transmitter, though? ha.

10.525 GHz is an amateur band, and is the same band used by the X-band
radars, and transmitters are readily available for <$100. Gunnplexers
are one example, but people also use modified "microwave door openers"
to experiment in X band.

1361. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 02:07:14 UTC
From: jimlux@earthlink.net
Message-ID: <1171332434.649822.24990@a34g2000cwb.googlegroups.com>
Source record: 46025

On Feb 12, 4:40 pm, Nate Bargmann
<n0nb.DO.NOT.S...@ME.networksplus.net> wrote:
> It doesn't take much. Back in the early '90s a group of us were returning
> from a hamfest and I was riding in the back seat of one guy's late '80s
> Ford something or other (Crown Victoria, maybe?). I was using my HT to

> If something is sensitive to RF, it probably won't take much to cause it
> to malfunction. The fact is that nobody does RF shielding or protection
> for consumer electronics, so there is no set power limit below which a
> device may not be affected.
>

The increased prevalence of EMI/EMC problems means that modern cars
are MUCH better about this. Almost all new cars go through a fairly
rigorous test program for immunity from radiated fields. Nobody wants
to have the engine or braking control systems fail when the police car
next to them calls home on their VHF low band radio. There's rafts of
SAE specs for this, but I don't recall the field strengths. Several
hundred volts/m though, is what I think.

Aftermarket addons (stereos, nav systems, etc.) aren't nearly as good
on the account. Some automotive equipment is exempt from Part 15 (for
instance, the nifty OBD II readers are pretty good RFI emitters...)

1362. Re: W8JK Memorial Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 02:23:27 UTC
From: Roger <GetValidAddress@my.com>
Message-ID: <d882t2h6ltcmifricu98c6de9d3v7oalkd@4ax.com>
Source record: 45876

On Mon, 12 Feb 2007 19:49:23 GMT, Dave Oldridge
<doldridg@leavethisoutshaw.ca> wrote:

>Bob Dixon <dixon.8@osu.edu> wrote in news:dixon.8-5DD4D9.13324212022007
>@charm.magnus.acs.ohio-state.edu:
>
>> Since W8JK is well known in antenna circles, you may be interested in
>> thus.
>>
>> The John D Kraus Memorial Amateur Radio Club has been created, and
>> issued John's call sign W8JK.
>> The web site is http://www.naapo.org/W8JK/W8JK.htm . The station
>> will be on the air in various contests and special events. QSL via
>> KC8VEB. John was a well-known pioneer in antennas and Radio
>> Astronomy.
>
>I still have his McGraw-Hill textbook. It's a great reference!

But do you have "Bib Ear"?

Roger Halstead (K8RI & ARRL life member)
(N833R, S# CD-2 Worlds oldest Debonair)
www.rogerhalstead.com

1363. Re: Queston on Yagi Antennae

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 02:24:26 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <45d12163$0$17205$39cecf19@news.twtelecom.net>
Source record: 45877

AndyS wrote:
> Andy writes;
>
> I know I could go to my EZNEC and find this out for myself,
> but I figure someone here has already done this and a quick
> answer is all I need..
>
> In "normal" Yagi antennae, the elements are parallel
> and at 90 degrees to the mounting boom.
>
> In some TV antennae, the elements are at an angle to the
> mounting boom, slanted in the direction of the station being
> received. Otherwise, they look pretty much like a Yagi.
>
> My question is, what effect does "slanting" the elements
> forward have on the impedance, and the pattern ?
>
> [[[[[[< < < < <
>
> Normal Yagi Slanted Yagi
>
>
> Thanks in advance for the meaningful answers..
>
> Andy W4OAH
>

Normally elements like that would not be used, but if you want to make a
yagi that runs at 1f and 3f, "slanting" the elements allows it to have a
reasonable pattern on triple the normal frequency while not mucking up
how it runs at the 1f too badly. 144 and 432 work fairly well.

If you turn the trick right, the metal in question will work on 6, 2 and 70.

tom
K0TAR

tom
K0TAR

1364. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 02:47:41 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <45d126d3$0$17198$39cecf19@news.twtelecom.net>
Source record: 45878

KE5MBX wrote:
>
> Where the heck do you get a 3cm transmitter, though? ha.
>

http://www.downeastmicrowave.com/

And you can easily do 200KM on 200 mW, or 1000 KM per watt with a Dish Network (or equivalent) antenna on 10G SSB forward scatter.

tom
K0TAR

1365. Re: Yagi antenna design question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 02:50:48 UTC
From: Wes <n7ws@yahoo.com>
Message-ID: <1171335048.229235.102770@a34g2000cwb.googlegroups.com>
Source record: 45879

On Feb 12, 5:58 pm, "Yuri Blanarovich" <K...@optonline.net> wrote:
> Looks like W8JI type of response: I am right, I will not respond to
> questions and arguments and my is last word!"

Well:

Point 1. What is wrong with a W8JI type of response?

Point 2. I already violated my promise to remain silent on this
thread, in the pointless belief that it might be possible to reason
with you. How wrong I am.

>
> Fact 1. - When hairpin or beta match is inserted in the driven element or
> any resonant half wave dipole, it has current flowing through it.

In my "lost" post, I addressed this. I said more-or-less, of course a
stub, hairpin, beta, or whatever you would like to call it has current
in it. If it didn't then it could be removed without effect. So
what? Also if the stub is < 1/4 lambda and shorted then the current
is maximum at the short. Again, so what?

>
> Fact 2. That element has to be shortened if resonance is to be maintained,
> which means that it is a center inductive loading element, hairpin, beta
> match is the part of the antenna standing wave circuit.

How about calling it a point rather than a fact? The real fact is
that when shortened, the DE is no longer resonant.

In an earlier post I said, and you apparently chose to ignore it or
were too busy formulating a response to read:

"Instead of the integral stub, which Yuri believes is part of the
antenna that is "folded back" along the boom, I will move the matching
system away from this location using an ideal ½ wavelength (34.7 foot)
transmission line with an ideal current balun at the antenna end. I
don't believe anyone would argue that the feedpoint impedance is not
replicated exactly at the input end of this line. "

Now when the hairpin, beta, or lumped inductor is 1/2 lambda away from
the DE and it acts *exactly* the same, are you telling me that it is
still part of the radiator and "loads" the DE?

If you are saying yes, then this discussion really is over. If you
will keep an open mind, let's say to keep the numbers easy, that the
DE feedpoint when shortened appropriately is 25 -j25.

At the input to an ideal 1/2 wavelength line, terminated with the DE,
we will also see 25 -j25. The parallel equivalent of this (I should
use admittences, but I'll leave it as impedance) is 50 || -j50.
Shunting this with an inductive reactance +j 50 results in 50 +j0, or
a perfect match.

Now I suppose it can be argued that this is "resonating" the DE,
although I would prefer to say the system is resonant.

I don't see how you can argue that the added inductor is "radiating"
or "subtracting" from the radiation of the DE, or whatever your point
is.

Nevertheless, you give it a try below. But I'm not sure Google is
going to post this anyway, so I'm stopping here. I think the OP's
original question has been answered: For all practical purposes, the
radiation characteristics are unaffected by the matching scheme.

>
> Fact 3. There is current that would more, less belong to the antenna element
> flowing in the hairpin, folded on itself and on right angle to driven
> element, not contributing to overall current distribution. That can be seen
> in my EZNEC model in the article. That portion of the current is not in line
> with the rest of the element, it is missing from as to compared to full size
> element and therefore efficiency is slightly lower (middle part of the
> cosine wave is "missing" folded with hairpin). On typical 40m dipole, as I
> modeled, it accounts for about 0.2 dB loss.
>
> The original argument was is the beta match lossy or not.
> My modeling of the real situation is ignored, also findings and experimental
> verification of others who replaced hairpins with solenoid coils is ignored.
> What you are "arguing" is that if you place the matching network in the
> driven element (now you even lengthen it) that there is no
loss.http://www.k3bu.us/beta_match.htm
> Is my modeling of 40m dipole wrong? Where? On dipole it shows about 0.2 dB
> loss, which gets bit more when used in multielement array.
>
> If you are denying that there is a RF antenna current flowing in the Beta
> match hairpin, then you are denying reality and I rest my case. No point of
> arguing or discussing when you do not show where I am wrong, but you offer
> "proof" by juggling matching components at the feedpoint. We are talking
> about hairpin that is part of the antenna element, has current flowing in
> the system and it has feedline attached at the feedpoint of element and
> hairpin. No tricks with coils or capacitors inserted half wave somewhere.
>
> 73 Yuri, K3BU.us
>
> We are not arguing loss due to loading, we are arguing - does hairpin beta
> match contribute to the loss in the system or not.
> I mentioned that there are better alternatives, if one choses to be less
> lossy.
>

> "Wes" <n...@yahoo.com> wrote in message
>
> news:1171288816.261735.135680@l53g2000cwa.googlegroups.com...
>
> > On Feb 10, 7:27 pm, "Yuri Blanarovich" <K...@optonline.net> wrote:
>
> > My previous ISP sold me off to a new one. SInce that time I've had no
> > end of email problems and in addition the new guys don't provide
> > newsgroups, so I've been reduced to using Google Groups. Yuch.
>
> > I spent too much time composing a response to Yuri's last post and
> > then did not see it appear after posting. I will not waste further
> > time, but in a nutshell I offered another case using the self-
> > reactance of the DE as part of the matching network.
>
> > In this example, to avoid any "loss due to loading" resulting from
> > shortening the DE, I *lengthen* the DE to obtain an inductive
> > reactance for the series arm of an L-network and then use a shunt
> > capacitor for the second matching element.
>
> > The model is here:
>
> >http://www.k6mhe.com/n7ws/N7WS_Yagi_Lengthened.EZ
>
> > Run the analysis, and add a shunt 195 pF and see what you get.
>
> > Regards,
>
> > Wes N7WS

1366. Re: Advice for 75m Mobile Field Strength measurements

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 03:32:54 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <HjaAh.9762$0y4.1038@newsfe14.phx>
Source record: 45880

"k1drw" <k1drw@comcast.net> wrote in message
news:1170509048.239078.207990@a34g2000cwb.googlegroups.com...
> Hello:
> I am looking words of advice on conducting an informal exercise to
> evaluate performance of 75m mobile systems. I have done much reading
> of rec.radio.amateur.antenna threads and have learned much from Cecil,
> Reg, Keith, Roy, et al. The msg threads addressing how measurements
> were taken during past shootouts have been very helpful but equipment
> used in those events seem to be beyond my capabilities.
>
> I am part of an ARES/RACES HF Mobile team. We are in the early stages
> of assembling our team and have conducted a couple of field
> exercises. I believe I adequately understand many of the issues
> related to operating 75m mobile and have concluded (from assessing our
> mobile configurations) that our systems are VERY compromised. As we
> conduct our EmComm field exercises we take the opportunity to
> experiment and make system adjustments that clearly improve
> performance. Primarily we are using 100w mobile hf rigs with 75m
> Hamsticks or Hustler resonators. We understand that the vehicle, the
> antenna, the ground, etc comprise the "System". One important note
> is that we are not focused on achieving DX communications. Our field
> of operations is primarily Groundwave within a tri-county area in
> Eastern Pa (many 600-700 ft ridges and valleys, heavily forrested),
> perhaps 100 miles max. We do use and experiment with NVIS (using
> restricted space configurations: tilted whip, Hamstick dipoles, etc)
> however, this query is relative to Groundwave.
>
> I would like to add an occassional field exercise expressly for the
> purpose of measuring the performance of our systems (for improvement
> and detecting problems). We currently have no equipment for this
> purpose. One device I see advertised and would like some feedback on,
> is the MFJ-802 Field Strength Meter.
>
> - Would the MFJ-802 be an adequate measuring device for our use ? Any
> caveats ?
> - What test FIELD environment should we try to arrange (e.g. large
> empty parking lot, or a rural open field) ?
> - When testing each vehicle, what space should separate it from other
> vehicles waiting to be tested ?
> - Should the vehicle sit stationery, or be moving in a circle ?
>
> Any suggestions offerred to assist with this effort will be sincerely
> appreciated.

I have done quantitative signal strength measurements professionally, but you don't need any expensive gear to get some decent comparitive measurements during your field exercise.

I would recommend a level-shift technique to determine the relative merits of your systems under test. Doing this only requires a fixed transmitter and a mobile receiver with an S-meter and a variable attenuator. Also, having an independent coordination link is a real plus. Local repeater?

At each of several remote locations, have your transmitter site key up. Next, insert attenuation as required to reduce the S-meter to some chosen low S-meter reading using one of your antennas. Repeat for each antenna. The antenna that required the MOST attenuation is the one pulling in the strongest signal.

I zipped through the foregoing. If you want a more detailed treatment, let me know.

1367. Re: Wiring SMA connections

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 03:45:01 UTC
From: Tam/WB2TT <t-tammaru@c0mca$t.net>
Message-ID: <wKadnedpTdSwqUzYnZ2dnUVZ_qqrnZ2d@comcast.com>
Source record: 45881

"CJB" <chrisjbrady@gmail.com> wrote in message
news:1171216270.212165.106930@q2g2000cwa.googlegroups.com...
>I need to enxtend the mini-coax cable on my broadband wireless router
> antena. I have about 40 ft. of mini-coax. and I need to connect the
> SMA male and reverse (female) connectors to either end. I got the two
> connectors from Maplin but sans instructions (thinking that this would
> be easy!). BUT now I can't work out how to the cable attaches to the
> connectors; and there are no instructions on the web. Please can
> someone help. many thanks - CJB.
>
You can't use 40 ft of RG174, but here are some possibilities.

1. Extend the Ethernet cable instead.
2. Use a couple of inches of RG174, then an SMA to N adapter, and 40 feet of LMR400 or Belden 9913. Be advised, either of these is big stuff, about 1/2 inch.
3. Put a high gain yagi antenna on the router end (probably vertically polarized), pointed at where wireless user is. If it works, this will be the cheapest solution.

Tam

1368. Re: Yagi antenna design question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 03:58:05 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <rHaAh.55$%N4.33@newsfe11.lga>
Source record: 45882

Wes,
you are ignoring my questions and modeled example showing the situation in question: resonant dipole loaded and with beta match vs. full size straight, reflecting the real life situation in question.

You believe what you want. I have showed dipole element and EZNEC model of effect of beta match on performance of antenna: reduced gain, narrower bandwidth. It shows the current distribution along the element and the hairpin beta match. That current along the beta match is "taken out" of the element and causing reduction in gain and narrower bandwidth. Model shows that and measurements confirm that.

This is just another application of the current along the antenna coil (loading element, hairpin, etc.), its effect on the current distribution along the radiator and corresponding efficiency.

Believe it, or not!

73 Yuri, http://www.k3bu.us/beta_match.htm

1369. Re: W8JK Memorial Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 04:01:44 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <SKaAh.56$%N4.5@newsfe11.lga>
Source record: 45883

Couldn't you guys get better picture of W8JK, like in his fifties?

We have done that with our Tesla RC N2EE, see
www.TeslaRadio.org

That's how people would like to remember them.

73 Yuri

1370. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 04:30:46 UTC
From: KE5MBX <nelson.blaha@gmail.com>
Message-ID: <1171341046.528392.22230@k78g2000cwa.googlegroups.com>
Source record: 45884

On Feb 12, 8:47 pm, Tom Ring <news0...@taring.org> wrote:
> KE5MBX wrote:
>
> > Where the heck do you get a 3cm transmitter, though? ha.
>
> http://www.downeastmicrowave.com/
>
> And you can easily do 200KM on 200 mW, or 1000 KM per watt with a Dish
> Network (or equivalent) antenna on 10G SSB forward scatter.
>
> tom
> K0TAR

so you don't go out and buy a "3cm transceiver" as you would for 2m,
10m, 40m, etc.?

1371. Re: W8JK Memorial Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 04:35:47 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <12t2fvs5ps721c7@corp.supernews.com>
Source record: 45885

Dear Neighbor:

That is Big Ear. I worked on its first instrumentation long ago - the
antenna that is, not the book. It has gone to the Great Scrap Yard where
good antennas go so as to make way for a baby-factory or the like.

It is wonderful that such a great man's call will be preserved.

73, Mac N8TT

--
J. Mc Laughlin; Michigan U.S.A.
Home: JCM@Power-Net.Net
"Roger" <GetValidAddress@my.com> wrote in message
news:d882t2h6ltcmifricu98c6de9d3v7oalkd@4ax.com...
> On Mon, 12 Feb 2007 19:49:23 GMT, Dave Oldridge
> <doldridg@leavethisoutshaw.ca> wrote:
>
> >Bob Dixon <dixon.8@osu.edu> wrote in news:dixon.8-5DD4D9.13324212022007
> >@charm.magnus.acs.ohio-state.edu:
> >
> >> Since W8JK is well known in antenna circles, you may be interested in
> >> thus.
> >>
> >> The John D Kraus Memorial Amateur Radio Club has been created, and
> >> issued John's call sign W8JK.
> >> The web site is http://www.naapo.org/W8JK/W8JK.htm . The station
> >> will be on the air in various contests and special events. QSL via
> >> KC8VEB. John was a well-known pioneer in antennas and Radio
> >> Astronomy.
> >
> >I still have his McGraw-Hill textbook. It's a great reference!
>
> But do you have "Bib Ear"?
>
>
> Roger Halstead (K8RI & ARRL life member)
> (N833R, S# CD-2 Worlds oldest Debonair)
> www.rogerhalstead.com

1372. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 04:44:15 UTC
From: Stefan Wolfe <stefan@eml.com>
Message-ID: <45d1421f$0$28149$4c368faf@roadrunner.com>
Source record: 45886

"KE5MBX" <nelson.blaha@gmail.com> wrote in message
news:1171341046.528392.22230@k78g2000cwa.googlegroups.com...
> On Feb 12, 8:47 pm, Tom Ring <news0...@taring.org> wrote:
>> KE5MBX wrote:
>>
>> > Where the heck do you get a 3cm transmitter, though? ha.
>>
>> http://www.downeastmicrowave.com/
>>
>> And you can easily do 200KM on 200 mW, or 1000 KM per watt with a Dish
>> Network (or equivalent) antenna on 10G SSB forward scatter.
>>
>> tom
>> K0TAR
>
> so you don't go out and buy a "3cm transceiver" as you would for 2m,
> 10m, 40m, etc.?

:-))

1373. Re: W8JK Memorial Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 08:15:32 UTC
From: Roger <GetValidAddress@my.com>
Message-ID: <3ss2t2tu3knl1hcmuv345nek696ip43us7@4ax.com>
Source record: 45887

On Mon, 12 Feb 2007 21:23:27 -0500, Roger <GetValidAddress@my.com>
wrote:

>On Mon, 12 Feb 2007 19:49:23 GMT, Dave Oldridge
><doldridg@leavethisoutshaw.ca> wrote:
>
>>Bob Dixon <dixon.8@osu.edu> wrote in news:dixon.8-5DD4D9.13324212022007
>>@charm.magnus.acs.ohio-state.edu:
>>
>>> Since W8JK is well known in antenna circles, you may be interested in
>>> thus.
>>>
>>> The John D Kraus Memorial Amateur Radio Club has been created, and
>>> issued John's call sign W8JK.
>>> The web site is http://www.naapo.org/W8JK/W8JK.htm . The station
>>> will be on the air in various contests and special events. QSL via
>>> KC8VEB. John was a well-known pioneer in antennas and Radio
>>> Astronomy.
>>
>>I still have his McGraw-Hill textbook. It's a great reference!
>
>But do you have "Bib Ear"?

Oops Sorry about the typo.

Big Ear!

>
>
>Roger Halstead (K8RI & ARRL life member)
>(N833R, S# CD-2 Worlds oldest Debonair)
>www.rogerhalstead.com
Roger Halstead (K8RI & ARRL life member)
(N833R, S# CD-2 Worlds oldest Debonair)
www.rogerhalstead.com

1374. Re: Antenna Pattern Distortion due to 2 antenna placed in near vicinity

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 11:20:23 UTC
From: Rohit <rksindhu@gmail.com>
Message-ID: <1171365623.603479.215890@v45g2000cwv.googlegroups.com>
Source record: 45888

Hi all,
With the same setup as i have stated before, I have observed the pattern by changing the spacing between the 2 antennas. For every 1 wavelength increase in spacing i am abserving one lobe around 90deg. As the spacing becomes lage multiple of wavelength, the ripples magnitude increase to greater extent. Can someone explain this. With the experiment i've done, it indicates that for the spacing of 1 wavelength i get the best pattern without ripples.

1375. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 12:04:09 UTC
From: gwatts <gwatts@frontiernet.net>
Message-ID: <ZOhAh.2644$ya1.679@news02.roc.ny>
Source record: 45889

KE5MBX wrote:
> On Feb 12, 8:47 pm, Tom Ring <news0...@taring.org> wrote:
>> KE5MBX wrote:
>>
>>> Where the heck do you get a 3cm transmitter, though? ha.
>> http://www.downeastmicrowave.com/
>>
>> And you can easily do 200KM on 200 mW, or 1000 KM per watt with a Dish
>> Network (or equivalent) antenna on 10G SSB forward scatter.
>>
>> tom
>> K0TAR
>
> so you don't go out and buy a "3cm transceiver" as you would for 2m,
> 10m, 40m, etc.?
>

You could,
http://www.advancedreceiver.com/page32.html

- Galen, W8LNA

1376. Re: W8JK Memorial Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 13:28:20 UTC
From: Dave <W1MCE@comcast.net>
Message-ID: <LpednTDOp9FsIUzYnZ2dnUVZ_ubinZ2d@comcast.com>
Source record: 45890

Bob Dixon wrote:

> Since W8JK is well known in antenna circles, you may be interested in
> thus.
>
SNIPPED

John was a well-known pioneer in antennas and Radio
> Astronomy.
>
> 73,
>
> Bob W8ERD

Used his two classic text books, Electromagnetics and Antennas, in my college days [ca 1956].

1377. Re: Antenna Pattern Distortion due to 2 antenna placed in near vicinity

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 14:28:45 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <12t3ipk344rjs34@corp.supernews.com>
Source record: 45891

Rohit wrote:
> Hi all,
> With the same setup as i have stated before, I have observed the
> pattern by changing the spacing between the 2 antennas. For every 1
> wavelength increase in spacing i am abserving one lobe around 90deg.
> As the spacing becomes lage multiple of wavelength, the ripples
> magnitude increase to greater extent. Can someone explain this. With
> the experiment i've done, it indicates that for the spacing of 1
> wavelength i get the best pattern without ripples.
>

It is the constructive and destructive mixing of the rf being emitted by your antenna's. Your results are exactly correct. It is the reason that twin cb radio antenna's don't really work on an 8 foot wide truck. At that spacing they are only a fraction of a wave length apart and act as one antenna.

Dave WD9BDZ

1378. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 14:39:13 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <12t3jd735sqob6e@corp.supernews.com>
Source record: 45892

KE5MBX wrote:
> On Feb 12, 8:47 pm, Tom Ring <news0...@taring.org> wrote:
>> KE5MBX wrote:
>>
>>> Where the heck do you get a 3cm transmitter, though? ha.
>> http://www.downeastmicrowave.com/
>>
>> And you can easily do 200KM on 200 mW, or 1000 KM per watt with a Dish
>> Network (or equivalent) antenna on 10G SSB forward scatter.
>>
>> tom
>> K0TAR
>
> so you don't go out and buy a "3cm transceiver" as you would for 2m,
> 10m, 40m, etc.?
>
Yes you can. Check the back of QST for a complete 3cm station. Cost is
about $500 or so.

Dave WD9BDZ

1379. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 15:25:15 UTC
From: KE5MBX <nelson.blaha@gmail.com>
Message-ID: <1171380315.484363.192560@v45g2000cwv.googlegroups.com>
Source record: 45893

On Feb 12, 10:44 pm, "Stefan Wolfe" <ste...@eml.com> wrote:
> "KE5MBX" <nelson.bl...@gmail.com> wrote in message
>
> news:1171341046.528392.22230@k78g2000cwa.googlegroups.com...
>
> > On Feb 12, 8:47 pm, Tom Ring <news0...@taring.org> wrote:
> >> KE5MBX wrote:
>
> >> > Where the heck do you get a 3cm transmitter, though? ha.
>
> >>http://www.downeastmicrowave.com/
>
> >> And you can easily do 200KM on 200 mW, or 1000 KM per watt with a Dish
> >> Network (or equivalent) antenna on 10G SSB forward scatter.
>
> >> tom
> >> K0TAR
>
> > so you don't go out and buy a "3cm transceiver" as you would for 2m,
> > 10m, 40m, etc.?
>
> :-))

"Yes you can. Check the back of QST for a complete 3cm station. Cost
is
about $500 or so. "

:-)) :-))

1380. 3rd RFD: rec.radio.amateur.moderated moderated (LAST CALL FOR COMMENTS)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 18:09:02 UTC
From: "Paul W. Schleck, K3FU" <pschleck@novia.net>
Message-ID: <45d1fe5c$0$37578$540ea2cf@novia.net>
Source record: 45894
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

The following was just posted to Usenet by the news.announce.newgroups
moderator on behalf of the Big-8 Management Board:

http://www.big-8.org/dokuwiki/doku.php?id=nan:2007-02-13-rec.radio.amateur.moderated-lcc

This is a Request for Discussion (RFD) and Last Call for Comments (LCC)
to create a new moderated discussion newsgroup for amateur radio on
Usenet. It has been relayed to rec.radio.amateur.antenna,
rec.radio.amateur.dx, rec.radio.amateur.equipment, and
rec.radio.amateur.homebrew, as announced in the RFD/LCC. Please
consider contributing your opinions regarding this newsgroup to
news.groups.proposals, where followups to this message have been set.

--
73, Paul W. Schleck, K3FU
pschleck@novia.net
http://www.novia.net/~pschleck/
Finger pschleck@novia.net for PGP Public Key

1381. Re: 3rd RFD: rec.radio.amateur.moderated moderated (LAST CALL FOR COMMENTS)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 19:02:40 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <eqt20gqrk1@theodyn.ncf.ca>
Source record: 45895
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.boatanchors,rec.radio.amateur.digital.misc,rec.radio.amateur.space

"Paul W. Schleck, K3FU" (pschleck@novia.net) writes:
> The following was just posted to Usenet by the news.announce.newgroups
> moderator on behalf of the Big-8 Management Board:
>
And for the third time, you still ignore part of the hierarchy.

While the first RFD ignored the hierarchy except for .misc and .policy,
and the second RFD added .antennas and .dx, this third RFD long after
the discussion started still ignores three of the newsgroups in
the hierarchy:
rec.radio.amateur.boatanchors
rec.radio.amateur.digital.misc
rec.radio.amateur.space

In the end, you can't speak for the hierarchy if you don't even
know which newsgroups exist in the hierarchy. No wonder you have
such disregard for the hierarchy, you only think of yourself as some
"administrator" type rather than a participant.

You aren't building bridges, you're imposing your vision on the hierarchy.
The fact that you still don't come to the hierarchy and simply talk to us,
isntead hiding behind the structure of creating a new newsgroup, says
everything about your relationship to newsgroups.

IN the end, I conclude that you like moderated newsgroups because Usenet
never sat well with you, and the only way you can deal with it is impose
your need for rules on something that is a haven from that.

Ultimately, you are like the problem posters. Neither of you can live
without rules, though you need them because you can't tolerate the lack of
rules, while they need them because they think the lack of rules is license
to do as they please.

You've spent the decade trying to impose rules on the hierarchy, while
the rest of us were actually trying to make the hierarchy good by
participating in the discussions.

Useless administrators are always trumped by people doing things.

Michael VE2BVW

> http://www.big-8.org/dokuwiki/doku.php?id=nan:2007-02-13-rec.radio.amateur.moderated-lcc
>
> This is a Request for Discussion (RFD) and Last Call for Comments (LCC)

> to create a new moderated discussion newsgroup for amateur radio on
> Usenet. It has been relayed to rec.radio.amateur.antenna,
> rec.radio.amateur.dx, rec.radio.amateur.equipment, and
> rec.radio.amateur.homebrew, as announced in the RFD/LCC. Please
> consider contributing your opinions regarding this newsgroup to
> news.groups.proposals, where followups to this message have been set.
>
> --
> 73, Paul W. Schleck, K3FU
> pschleck@novia.net
> http://www.novia.net/~pschleck/
> Finger pschleck@novia.net for PGP Public Key
>
>
>
>

1382. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 22:25:45 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <z92dnfthIql0p0_YnZ2dnUVZ_qbinZ2d@bright.net>
Source record: 45897

Think you meant "X" Band (10 GHz). I don't think many of us are using
x-rays for communications...

Scott
N0EDV

Stefan Wolfe wrote:

> "KE5MBX" <nelson.blaha@gmail.com> wrote in message
> news:1171322300.447846.61270@k78g2000cwa.googlegroups.com...
>
>>Hi,
>>What's all this business I hear people talking about blasting people's
>>car stereos or killing cars altogether with high-power RF? I run 2m,
>>10m, and 11m in my jeep and I'd like to sort out the fact from the
>>legend and find out what kind of power I can use without risking
>>damage to my jeep or cars around me. At what power level is front-end
>>overload to a nearby radio likely? At what power level is damage
>>likely, and to what componets?
>>
>>I am currently using only 50 watts on a 5/8 wave (2m), 25w on a 1/4
>>wave (10m), legal 4w on a 1/4 wave (11m)
>>
>>Thanks,
>>Nelson KE5MBX
>>
>
>
> I think over 100W you may have problems with HF and VHF. It can be a
> problem.
>
> One thing that works real well is to transmit near the x-ray radar band
> where you have privileges. The traffic may slow down a bit as you set off
> the radar detectors :-)
>
>

1383. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 22:27:30 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <z92dnfphIqnPpk_YnZ2dnUVZ_qbinZ2d@bright.net>
Source record: 45898

I've heard that as well with Japanese cars. I think the computer gets
RFI'd out and shuts down the ignition system. Maybe something for the
Mythbusters TV show to check out...

Scott

Cecil Moore wrote:

> Stefan Wolfe wrote:
>
>> One thing that works real well is to transmit near the x-ray radar
>> band where you have privileges. The traffic may slow down a bit as you
>> set off the radar detectors :-)
>
>
> A number of years ago (I forget exactly what year) a
> ham friend of mine discovered that he could cause a
> new Cadillac to stall simply by keying his transmitter
> as the Cadillac was passing his camper. That design
> problem was probably fixed rather quickly.

1384. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 22:29:52 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <z92dnfVhlql9pk_YnZ2dnUVZ_qbinZ2d@bright.net>
Source record: 45899

Oh, that's an easy one...(Gunnplexers come to mind for a simple CW 3cm transmitter)

http://www.downeastmicrowave.com or http://www.shfmicro.com and there are probably a few others...

Scott
N0EDV

KE5MBX wrote:

> On Feb 12, 5:50 pm, "Stefan Wolfe" <ste...@eml.com> wrote:
>
>>"KE5MBX" <nelson.bl...@gmail.com> wrote in message
>>
>>news:1171322300.447846.61270@k78g2000cwa.googlegroups.com...
>>
>>
>>>Hi,
>>>What's all this business I hear people talking about blasting people's
>>>car stereos or killing cars altogether with high-power RF? I run 2m,
>>>10m, and 11m in my jeep and I'd like to sort out the fact from the
>>>legend and find out what kind of power I can use without risking
>>>damage to my jeep or cars around me. At what power level is front-end
>>>overload to a nearby radio likely? At what power level is damage
>>>likely, and to what componets?
>>
>>>I am currently using only 50 watts on a 5/8 wave (2m), 25w on a 1/4
>>>wave (10m), legal 4w on a 1/4 wave (11m)
>>
>>>Thanks,
>>>Nelson KE5MBX
>>
>>I think over 100W you may have problems with HF and VHF. It can be a
>>problem.
>>
>>One thing that works real well is to transmit near the x-ray radar band
>>where you have privileges. The traffic may slow down a bit as you set off
>>the radar detectors :-)
>
>
> Where the heck do you get a 3cm transmitter, though? ha.
>

1385. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 22:44:21 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <SpednUNshc_aok_YnZ2dnUVZ_vOlnZ2d@bright.net>
Source record: 45900

Uh, not quite. While the X Band police radars are at 10.525 GHz, the ham band is only from 10.000 to 10.500 GHz. Plus, pulse modulation is not allowed on the 3cm band. We CAN use MCW, phone, image, RTTY, data, SS, and test modulations. Hmmm, I wonder about plain old vanilla CW??? I don't see it mentioned...maybe "data" covers that nowadays (and with a bandwidth limit of 100 KHz, we could smoke along at a LOT of WPM!!).

Scott
N0EDV

jimlux@earthlink.net wrote:

>
>
> 10.525 GHz is an amateur band, and is the same band used by the X-band
> radars, and transmitters are readily available for <$100. Gunnplexers
> are one example, but people also use modified "microwave door openers"
> to experiment in X band.
>
>

1386. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-13 22:46:40 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <SpednUJshc9Nok_YnZ2dnUVZ_vPinZ2d@bright.net>
Source record: 45901

Sure you do...from the link Tom provided. DownEast offers the
"transverters" in kit or built form. Tons of us are using their
equipment :) See also http://www.nlrs.org to see what we're all doing
up there.

Scott
N0EDV

KE5MBX wrote:

> On Feb 12, 8:47 pm, Tom Ring <news0...@taring.org> wrote:
>
>>KE5MBX wrote:
>>
>>
>>>Where the heck do you get a 3cm transmitter, though? ha.
>>
>>http://www.downeastmicrowave.com/
>>
>>And you can easily do 200KM on 200 mW, or 1000 KM per watt with a Dish
>>Network (or equivalent) antenna on 10G SSB forward scatter.
>>
>>tom
>>K0TAR
>
>
> so you don't go out and buy a "3cm transceiver" as you would for 2m,
> 10m, 40m, etc.?
>

1387. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 00:01:38 UTC
From: Jim - NN7K <NN7K@NOWAY.NET>
Message-ID: <CjsAh.76235$qO4.16894@newssvr13.news.prodigy.net>
Source record: 45902

Owen is right-- When a radio-man , had a guy come into the shop, complaining about his truck stalling when he transmitted. (freq around 160 MHz) Ran his truck, (idle), keyed rig, NO Problem! Said to take it for test run- in low gear, (abt. 2000-2500 rpm), and keyed the transmitter, the rig STALLED! Wasn't a problem when I installed radio- turned out they had modified the truck to an Electronic Ignition! This around 25 years ago. Tried various cures but, they went back to the original "Points & coil" system and worked fine! (this before these were common on vehicles). Translation: YES, can effect a vehicle, but times have changed: might not be so supsceptable now a days (more problems with the built in computer that they seem to like to hide-- drill a hole in these- turn a car into a thrashing machine!). But BOTH can cause problems. btw the power level for the problem was a 50 Watt radio. and the SECOND problem (think they more standardized now), could be placed as the manufacturers stated, (ANYWHERE in the vehicle) ! Now days must be within 3 foot of the OBD2 Plug (used for smogging)! At least in the U.S. As info, Jim NN7K

Owen Duffy wrote:
That design
>> problem was probably fixed rather quickly.
>
> Back in the '70s I was working on a project that saw me reading papers on
> the effects of EMR on various things. Amongst the papers was one dealing
> with the susceptibility of the electronic anti-skid technology introduced
> on heavy transport vehicles to meet (then) newer more stingent braking
> distances. The braking systems were susceptible to ingress of RF,
> resulting in wheel lockups. You can imagine the results of a 22 wheeler
> at highway speed when a chook alongside comes up with "Breaker, Breaker,
> any taker?" and locks up most of the wheels on the transport. I read
> other papers on rear wheel lockups in a certain brand of passenger
> vehicle due to RF induced downshift of the (electronically controlled)
> automatic transmission at highway speeds.
>
> The EMC issue seems better understood by vehicle manufacturers today,
> though you still hear of RF triggered airbag deployments from time to

> time.

1388. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 00:22:51 UTC
From: Jim - NN7K <NN7K@NOWAY.NET>
Message-ID: <wDsAh.5653$MN.2654@newssvr23.news.prodigy.net>
Source record: 45903

Not to mention the

Laser detector shield (as advertised on radio)
(Which as near as I can figure, "Modulates" the
received "radar" signal, to a LOW frequency AM
signal to a dopler radar . I.E. a "RADAR
Caliberator" ! Banned in 6 states! Jim

Tom Ring wrote:
> KE5MBX wrote:
>>
>> Where the heck do you get a 3cm transmitter, though? ha.
>>
>
> http://www.downeastmicrowave.com/
>
> And you can easily do 200KM on 200 mW, or 1000 KM per watt with a Dish
> Network (or equivalent) antenna on 10G SSB forward scatter.
>
> tom
> K0TAR

1389. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 00:46:30 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <45d25be3$0$21252$39cecf19@news.twtelecom.net>
Source record: 45905

Scott wrote:

> Uh, not quite. While the X Band police radars are at 10.525 GHz, the
> ham band is only from 10.000 to 10.500 GHz. Plus, pulse modulation is
> not allowed on the 3cm band. We CAN use MCW, phone, image, RTTY, data,
> SS, and test modulations. Hmmm, I wonder about plain old vanilla CW???
> I don't see it mentioned...maybe "data" covers that nowadays (and with
> a bandwidth limit of 100 KHz, we could smoke along at a LOT of WPM!!).
>
> Scott
> N0EDV

CW is almost always used for beaconing to align antennas. SSB is then
often used for the contact, however CW is used if it is marginal. Just
like HF, VHF and UHF contests. The major difference is that the
transmitter will often drift a couple hundred hertz during the QSO. ;)

I have a few audio clips from the 10G cumulative contest last fall. If
anyone is interested I will email you a link.

Also see the article in this months QST by Jon Platt, W0ZQ.

tom
K0TAR

1390. Ranger AR3500 100 watt Ebay

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 00:46:57 UTC
From: otis amps <google@ns.sympatico.ca>
Message-ID: <5_sAh.6274$R71.93027@ursa-nb00s0.nbnet.nb.ca>
Source record: 45904

http://cgi.ebay.com/10-METER-HAM-RADIO-BY-CLEARCHANNEL-100-WATTS_W0QQitemZ140085280508QQihZ004QQcategoryZ4674QQrdZ1QQcmdZViewItem

Its me speedster2006 I had to change my Ebay name because ebay threaten
to ban me for good this time.
You know i sell alot of 10 meter radios for 11 meter use.

I put the Ebay name in my wifes name safire2007 for this auction

Thanks Harold

1391. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 03:22:29 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <VfvAh.27809$KW3.14618@newsfe17.phx>
Source record: 45906

"Nate Bargmann" <n0nb.DO.NOT.SPAM@ME.networksplus.net> wrote in message
>
> If something is sensitive to RF, it probably won't take much to cause it
> to malfunction.

True. One time I was testing VHF antennas at 5 watts output in a quiet
garage. I kept hearing a clicking noise every time I keyed up. I traced
it to an analog multimeter on my bench. I was pegging the poor meter from
about ten feet away.

1392. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 03:35:45 UTC
From: "Fred Ferrely"
Message-ID: <ro05t257bc1k51mofbm7r4qqj9m139bljp@4ax.com>
Source record: 45896

On Mon, 12 Feb 2007 18:59:24 -0500, "Stefan Wolfe" <stefan@eml.com>
wrote:

>
>"T" <taylor_j25@yahoo.com> wrote in message
>news:1171079349.190954.227220@l53g2000cwa.googlegroups.com...
>> Thank you mr. kelly for trying to help me out, but obviously richard
>> is too hostile to want someone else, even a kid, to learn anything
>> about radio engineering. [you know, since he probably never tinkered
>> with electronics when he was a kid and asked someone for advice] =
>> sarcasm
>>
>> i'm slightly disappointed in him. a grown man, who attacks eager to
>> learn children over the internet. do you not have friends? a life?
>>
>> besides if you don't help people, but instead show them hostility,
>> don't you think they may become discouraged? maybe even give it up and
>> quit? if there is no one interested in this type of engineering, then
>> it may cease to exist.
>>
>> all i'm saying is, be an encourager, help others, and go with god.
>>
>> "since new developments are the products of a creative mind, we must
>> therefore stimulate and ENCOURAGE that type of mind in every way
>> possible." -george washington carver
>>
>> sorry to be so short, and thanks to everyone who tried to help,
>> taylor
>
>Oh no! Another victim! This time it is an alleged kid. I thought everybody
>gave him plenty of good, free advice.
>

Hummm. . . Being "Short", huh? Short would have been simply "Go
jump in the lake, Buddy!"
Hehehehe

FFF

1393. Antenna Axial Ratio RHCP LHCP

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 05:55:35 UTC
From: Bobby <originalbobjones@aim.com>
Message-ID: <1171432535.917620.105300@h3g2000cwc.googlegroups.com>
Source record: 45907

All,

How do you determine the axial ratio from a RHCP wave to a LHCP wave
from an antenna? In essence, I need an axial ratio transformation from
RHCP to LHCP.

Any ideas on the equation or where I can find it will be helpful.

Thanks.

Bobby.

1394. Re: Antenna Axial Ratio RHCP LHCP

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 06:18:56 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <kRxAh.3458$TG6.2070@trnddc06>
Source record: 45908

"Bobby" <originalbobjones@aim.com> wrote in message
news:1171432535.917620.105300@h3g2000cwc.googlegroups.com...
> All,
>
> How do you determine the axial ratio from a RHCP wave to a LHCP wave
> from an antenna? In essence, I need an axial ratio transformation from
> RHCP to LHCP.
>
> Any ideas on the equation or where I can find it will be helpful.
>
> Thanks.
>
> Bobby.

Hi Bobby

If you are working with an antenna that radiates RHCP it is totally
insensitive to LHCP.
If you have an antenna that radiates "RHCP" (or LHCP) the axial ratio is
the ratio of the Minor axis to the Major axis of the E field. So, it
varies from zero to one as the radiated field varies from Linear to
Circular.

Jerry

1395. Antenna Modeling Software

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 06:20:50 UTC
From: Black Sheep <black_sheep@maryhadalittlelamb.gov>
Message-ID: <45d2aa42$0$16308$88260bb3@free.teranews.com>
Source record: 45909

I am looking to purchase some antenna modeling software.
Can anyone make a suggestion as to which one they think is the best,
easiest to use and best value for the money.

--
Posted via a free Usenet account from http://www.teranews.com

1396. Re: Antenna Modeling Software

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 09:00:46 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1171443646.862040.307930@v45g2000cwv.googlegroups.com>
Source record: 45910

On 14 feb, 07:20, "Black Sheep" <black_sh...@maryhadalittlelamb.gov>
wrote:
> I am looking to purchase some antenna modeling software.
> Can anyone make a suggestion as to which one they think is the best,
> easiest to use and best value for the money.
>
> --
> Posted via a free Usenet account fromhttp://www.teranews.com

Hello Black Sheep,

Can you provide us with some information about your antenna
challenges? It will make us easier to answer your question.

I am thinking of antenna types (wire antennas, printed circuit board
antennas, with / without dielectric materials, size with respect to
wavelength, etc), how frequently will you us it, available budget, is
it for professional or amateur use, etc.

Best Regards,

Wim
PA3DJS

1397. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 09:40:23 UTC
From: John <vk2kce@yahoo.com.au>
Message-ID: <bOAAh.998$4c6.897@news-server.bigpond.net.au>
Source record: 45911

I installed an Icom 2000 into my Commodore, a 92 VP sedan with a V6 engine,
and everytime I keyed the mike at full TX power the engine would stall,
whether at idle or on the road, very disconcerting!
I cured the problem by re-routing the coaxial cable away from the computer.
VK2KCE

"Nate Bargmann" <n0nb.DO.NOT.SPAM@ME.networksplus.net> wrote in message
news:GtudncJJ99KblEzYnZ2dnUVZ_u3inZ2d@bluevalley.net...
: It doesn't take much. Back in the early '90s a group of us were returning
: from a hamfest and I was riding in the back seat of one guy's late '80s
: Ford something or other (Crown Victoria, maybe?). I was using my HT to
: talk to the other car on 2m and the driver noticed that his cruise control
: was gaining speed and when I unkeyed it settled down. Once I figured out
: it was my HT causing it, loads of fun ensued.
:
: If something is sensitive to RF, it probably won't take much to cause it
: to malfunction. The fact is that nobody does RF shielding or protection
: for consumer electronics, so there is no set power limit below which a
: device may not be affected.
:
: - Nate >>
:
: --
:
: "The optimist proclaims that we live in the best of all possible worlds,
: the pessimist fears this is true."

1398. Re: Ranger AR3500 100 watt Ebay

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 11:59:13 UTC
From: Dave <noone@nowhere.com>
Message-ID: <IQCAh.3357$5M1.913@trndny01>
Source record: 45912

trying to get your wife banned also?

"otis amps" <google@ns.sympatico.ca> wrote in message
news:5_sAh.6274$R71.93027@ursa-nb00s0.nbnet.nb.ca...
> http://cgi.ebay.com/10-METER-HAM-RADIO-BY-CLEARCHANNEL-100-WATTS_W0QQitemZ140085280508QQ
ihZ004QQcategoryZ4674QQrdZ1QQcmdZViewItem
>
> Its me speedster2006 I had to change my Ebay name because ebay threaten to
> ban me for good this time.
> You know i sell alot of 10 meter radios for 11 meter use.
>
> I put the Ebay name in my wifes name safire2007 for this auction
>
> Thanks Harold

1399. Re: Antenna Modeling Software

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 14:32:30 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <24FAh.5984$4_5.2265@trnddc05>
Source record: 45913

"Black Sheep" <black_sheep@maryhadalittlelamb.gov> wrote in message
news:45d2aa42$0$16308$88260bb3@free.teranews.com...
>I am looking to purchase some antenna modeling software.
> Can anyone make a suggestion as to which one they think is the best,
> easiest to use and best value for the money.
>
> --
> Posted via a free Usenet account from http://www.teranews.com

Hi Black

Have you tried the free/demo version of EZNEC? "How To Use" that
antenna modeling program is well described in in HAM publications by guys
like Cebik http://www.cebik.com/amod/amod103.html. It is easy to
use even without outside assistance. I'd like to know why every ham with
antenna interest doesnt have a copy of EZNEC. Try the moseling
software at http://www.eznec.com/ then, if you have time, tell me
why it isnt of interest to you.

Jerry

1400. Re: Antenna Axial Ratio RHCP LHCP

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 14:44:50 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1171464290.508629.94170@v33g2000cwv.googlegroups.com>
Source record: 45914

On 13 Feb, 22:18, "Jerry Martes" <j.jmar...@verizon.net> wrote:
> "Bobby" <originalbobjo...@aim.com> wrote in message
>
> news:1171432535.917620.105300@h3g2000cwc.googlegroups.com...
>
> > All,
>
> > How do you determine the axial ratio from a RHCP wave to a LHCP wave
> > from an antenna? In essence, I need an axial ratio transformation from
> > RHCP to LHCP.
>
> > Any ideas on the equation or where I can find it will be helpful.
>
> > Thanks.
>
> > Bobby.
>
> Hi Bobby
>
> If you are working with an antenna that radiates RHCP it is totally
> insensitive to LHCP.
> If you have an antenna that radiates "RHCP" (or LHCP) the axial ratio is
> the ratio of the Minor axis to the Major axis of the E field. So, it
> varies from zero to one as the radiated field varies from Linear to
> Circular.
>
> Jerry

You mentioned insensetivity above, are there any other polarities
insensitive to others ? I note that weather antennas are now migrating
to
dual diversity antennas for horizontal and vertical, is it possible to
totally isolate those too.?
Art

1401. Re: Antenna Axial Ratio RHCP LHCP

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 15:18:01 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <JKFAh.5988$4_5.2086@trnddc05>
Source record: 45915

"art" <aunwin@insightbb.com> wrote in message
news:1171464290.508629.94170@v33g2000cwv.googlegroups.com...
> On 13 Feb, 22:18, "Jerry Martes" <j.jmar...@verizon.net> wrote:
>> "Bobby" <originalbobjo...@aim.com> wrote in message
>>
>> news:1171432535.917620.105300@h3g2000cwc.googlegroups.com...
>>
>> > All,
>>
>> > How do you determine the axial ratio from a RHCP wave to a LHCP wave
>> > from an antenna? In essence, I need an axial ratio transformation from
>> > RHCP to LHCP.
>>
>> > Any ideas on the equation or where I can find it will be helpful.
>>
>> > Thanks.
>>
>> > Bobby.
>>
>> Hi Bobby
>>
>> If you are working with an antenna that radiates RHCP it is totally
>> insensitive to LHCP.
>> If you have an antenna that radiates "RHCP" (or LHCP) the axial ratio
>> is
>> the ratio of the Minor axis to the Major axis of the E field. So, it
>> varies from zero to one as the radiated field varies from Linear to
>> Circular.
>>
>> Jerry
>
> You mentioned insensetivity above, are there any other polarities
> insensitive to others ? I note that weather antennas are now migrating
> to
> dual diversity antennas for horizontal and vertical, is it possible to
> totally isolate those too.?
> Art

Hi Art

I may make mistakes by using non scientific terms. When I read my post,
I realize that nothing is actually defined by my above statement. I would
submit that a LHCP antenna will receive no RHCP signal. I'm sure you know
that any linearly polarized antenna is insensitive to linearly polarized
signals that are orthogonal to the line of polarity of that antenna.

Tell me more about the "weather antennas". What frequency do they use?
Where do they transmit from?

Jerry

1402. Re: Antenna Axial Ratio RHCP LHCP

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 15:52:30 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1171468350.359290.117060@q2g2000cwa.googlegroups.com>
Source record: 45916

On 14 Feb, 07:18, "Jerry Martes" <j.jmar...@verizon.net> wrote:
> "art" <aun...@insightbb.com> wrote in message
>
> news:1171464290.508629.94170@v33g2000cwv.googlegroups.com...
>
>
>
>
>
> > On 13 Feb, 22:18, "Jerry Martes" <j.jmar...@verizon.net> wrote:
> >> "Bobby" <originalbobjo...@aim.com> wrote in message
>
> >>news:1171432535.917620.105300@h3g2000cwc.googlegroups.com...
>
> >> > All,
>
> >> > How do you determine the axial ratio from a RHCP wave to a LHCP wave
> >> > from an antenna? In essence, I need an axial ratio transformation from
> >> > RHCP to LHCP.
>
> >> > Any ideas on the equation or where I can find it will be helpful.
>
> >> > Thanks.
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> >> > Bobby.
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> >> Hi Bobby
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> >> insensitive to LHCP.
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> that any linearly polarized antenna is insensitive to linearly polarized
> signals that are orthogonal to the line of polarity of that antenna.
> Tell me more about the "weather antennas". What frequency do they use?
> Where do they transmit from?
>
> Jerry- Hide quoted text -
>
> - Show quoted text -

Weather experts have found that using both horizontal and vertical
polarizations coming from the same antenna tho in separate pulses that
with oncomming clouds and weather systems that the received picture is
more defined where size of droplets can be determined as well as other
things.
I would suggest that things like wind shear would also be more
discernable.
My antennas because elements are non defined in placement to each
other are capable of multi polarizations which is why I posed the
question.
Art

1403. Re: Antenna Modeling Software

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 16:18:51 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1171469931.063149.8790@j27g2000cwj.googlegroups.com>
Source record: 45917

On 13 Feb, 22:20, "Black Sheep" <black_sh...@maryhadalittlelamb.gov>
wrote:
> I am looking to purchase some antenna modeling software.
> Can anyone make a suggestion as to which one they think is the best,
> easiest to use and best value for the money.
>
> --
> Posted via a free Usenet account fromhttp://www.teranews.com

I would buy only programs that allow for variables in dimensions such
that the program can migrate towards more advantageous models. I
really see no advantage purchasing a program that solely determines
the merits of a model
that you alone have put together. The variable dimension forms tho
more expensive than the standard forms are now comming down in price
tho one in South Africa is still in the four figure range for
unlimited pulses and variable dimensions but there are some that are a
lot less expensive as more algorithms come to the fore.
Art

1404. Re: Antenna Axial Ratio RHCP LHCP

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 16:55:06 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <K9HAh.1626$yg7.732@trnddc08>
Source record: 45919

"art" <aunwin@insightbb.com> wrote in message
news:1171468350.359290.117060@q2g2000cwa.googlegroups.com...
> On 14 Feb, 07:18, "Jerry Martes" <j.jmar...@verizon.net> wrote:
>> "art" <aun...@insightbb.com> wrote in message
>>
>> news:1171464290.508629.94170@v33g2000cwv.googlegroups.com...
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>>
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>>
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>> > On 13 Feb, 22:18, "Jerry Martes" <j.jmar...@verizon.net> wrote:
>> >> "Bobby" <originalbobjo...@aim.com> wrote in message
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>> >> > All,
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>> >> > Any ideas on the equation or where I can find it will be helpful.
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>> >> > Thanks.
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>> > You mentioned insensetivity above, are there any other polarities
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>> submit that a LHCP antenna will receive no RHCP signal. I'm sure you
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>> signals that are orthogonal to the line of polarity of that antenna.
>> Tell me more about the "weather antennas". What frequency do they
>> use?
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> polarizations coming from the same antenna tho in separate pulses that
> with oncomming clouds and weather systems that the received picture is
> more defined where size of droplets can be determined as well as other
> things.
> I would suggest that things like wind shear would also be more
> discernable.
> My antennas because elements are non defined in placement to each
> other are capable of multi polarizations which is why I posed the
> question.
> Art

Hi Art

What frequency for the weather signals when using diversity?

Jerry
>

1405. LQQKING FOR INFO ON TAPE ANTENNA

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 16:57:03 UTC
From: John Doe <hgorden@adelphia.net>
Message-ID: <HpedndwJY87tok7YnZ2dnUVZ_vOlnZ2d@adelphia.com>
Source record: 45920

LQQking for a source of a TAPE antenna. Unit has center mounting, and both arms are tapes unwinding from the center.
This antenna can be used on both HF & VHF.
Thanks,

1406. Re: Antenna Axial Ratio RHCP LHCP

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 17:04:31 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1171472670.936210.318120@k78g2000cwa.googlegroups.com>
Source record: 45921

On 14 Feb, 07:52, "art" <aun...@insightbb.com> wrote:
> On 14 Feb, 07:18, "Jerry Martes" <j.jmar...@verizon.net> wrote:
>
>
>
>
>
> > "art" <aun...@insightbb.com> wrote in message
>
> >news:1171464290.508629.94170@v33g2000cwv.googlegroups.com...
>
> > > On 13 Feb, 22:18, "Jerry Martes" <j.jmar...@verizon.net> wrote:
> > >> "Bobby" <originalbobjo...@aim.com> wrote in message
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> > >>news:1171432535.917620.105300@h3g2000cwc.googlegroups.com...
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> > >> > All,
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> > >> > How do you determine the axial ratio from a RHCP wave to a LHCP wave
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> > >> > RHCP to LHCP.
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> > >> > Any ideas on the equation or where I can find it will be helpful.
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> > >> > Thanks.
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> > that any linearly polarized antenna is insensitive to linearly polarized
> > signals that are orthogonal to the line of polarity of that antenna.
> > Tell me more about the "weather antennas". What frequency do they use?
> > Where do they transmit from?
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> > Jerry- Hide quoted text -
>
> > - Show quoted text -
>
> Weather experts have found that using both horizontal and vertical
> polarizations coming from the same antenna tho in separate pulses that
> with oncomming clouds and weather systems that the received picture is
> more defined where size of droplets can be determined as well as other
> things.
> I would suggest that things like wind shear would also be more
> discernable.
> My antennas because elements are non defined in placement to each
> other are capable of multi polarizations which is why I posed the
> question.
> Art- Hide quoted text -
>
> - Show quoted text -

If you put that same question to Google it would be more informative.
Apparently every forward thinking nations have scientists dabbling
with it
funded by the concern with global warming. I find this all very
interesting because as a ham I had been concentrating on vertical and
horizontal polarizations only Seems like space has opened up the
antenna field such that many will be able to review the path that
antennas have taken over the last century that have appeared to stymy
progress and with an open mind
change course
Art

1407. Re: Antenna Axial Ratio RHCP LHCP

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 17:14:28 UTC
From: jimlux@earthlink.net
Message-ID: <1171473268.161880.185640@v33g2000cwv.googlegroups.com>
Source record: 45922

> >> >> > How do you determine the axial ratio from a RHCP wave to a LHCP wave
> >> >> > from an antenna? In essence, I need an axial ratio transformation
> >> >> > from
> >> >> > RHCP to LHCP.

> >> >> If you are working with an antenna that radiates RHCP it is totally
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> > polarizations coming from the same antenna tho in separate pulses that
> > with oncomming clouds and weather systems that the received picture is
> > more defined where size of droplets can be determined as well as other
> > things.

Lots of questions, lots of possible answers.. here goes:
1) While a theoretical antenna of one polarization sense is
insensitive to the opposite sense, in reality, antennas are perfect,
particularly "off boresight". that's what axial ratio tells you.. how
"perfect" is the CP (1 is perfect, 0 is a linear pol, non circular
antenna). Think of it as a continuum from a straight line (linear) to
a circle. Elliptical pol is the general case, and axial ratio is the
ratio between the major and minor axes of the ellipse (to fully
specify the antenna, you'd also need to specify the angle of one of
the axes and the "handed ness")

2) The radiation from an antenna, in a particular direction, can be represented by a linear combination of two orthogonal polarizations (orthogonal here has a special meaning... two linear pols separated by 90 degrees is but one case). The two popular systems are CP and linear (that is you say that the field is (a+bj) horizontal + (c+dj) vertical. You can do the same for RHCP and LHCP. (and, actually, for any two linear pols that are different). This is one way to "make" a cp antenna (combine two linear antennas with the right relative amplitudes and phases).

3) bear in mind that an antenna may be perfectly CP on boresight (axial ratio=1) and not CP in other directions. In fact, it can be proved that no antenna can have the same polarization everywhere (see the "hairy ball theorem")

Much more info can be found on the web.. wikipedia has an entry on polarization,antenna books talk about it (Orfanidis' book is online at Rutgers) Kraus has a nice discussion (particularly appropriate since axial mode helical antennas are particularly good at being CP)

Now to weather radar...
spherical particles (raindrops) are perfect "depolarizers"... send any pol to the droplet, and what comes back is equally distributed between both pols. (spheres are used as cal targets for this reason)
ice crystals, on the other hand, show significant polarization effects.
Since the polarization effects are also "size of particle" dependent (relative to wavelength) you can also figure out things like particle size distribution. that way you can tell the difference between a few big raindrops and lots of little raindrops.

Most other physical phenomena show some polarization effects, which is heavily used in radar remote sensing.
You transmit radar pulses of two different polarizations, and receive the returns with a dual pol receiver, so you essentially get 4 different complex numbers (HH, HV, VV, VH, for linear pol) for the backscatter.
An example might be looking at forests.. in the summer, when they have their leaves on, they pretty much randomize the polarization, but in the winter, the Hpol backscatter is very different from the Vpol backscatter. Plowed soil has a very different polarization signature from flat earth. Conifers look different from broadleaf plants.

1408. Re: Antenna Axial Ratio RHCP LHCP

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 17:21:28 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <syHAh.3748$Aa5.1977@trnddc01>
Source record: 45923

"art" <aunwin@insightbb.com> wrote in message
news:1171472670.936210.318120@k78g2000cwa.googlegroups.com...
> On 14 Feb, 07:52, "art" <aun...@insightbb.com> wrote:
>> On 14 Feb, 07:18, "Jerry Martes" <j.jmar...@verizon.net> wrote:
>>
>>
>>
>>
>>
>> > "art" <aun...@insightbb.com> wrote in message
>>
>> >news:1171464290.508629.94170@v33g2000cwv.googlegroups.com...
>>
>> > > On 13 Feb, 22:18, "Jerry Martes" <j.jmar...@verizon.net> wrote:
>> > > > "Bobby" <originalbobjo...@aim.com> wrote in message
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>> > > >news:1171432535.917620.105300@h3g2000cwc.googlegroups.com...
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>> > > > > All,
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>> > > > > Any ideas on the equation or where I can find it will be helpful.
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>> > > > > Thanks.
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>> > > > varies from zero to one as the radiated field varies from Linear to
>> > > > Circular.

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>> > >> Jerry
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>> polarizations coming from the same antenna tho in separate pulses that
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>> My antennas because elements are non defined in placement to each
>> other are capable of multi polarizations which is why I posed the
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> If you put that same question to Google it would be more informative.
> Apparently every forward thinking nations have scientists dabbling
> with it
> funded by the concern with global warming. I find this all very
> interesting because as a ham I had been concentrating on vertical and

> horizontal polarizations only Seems like space has opened up the
> antenna field such that many will be able to review the path that
> antennas have taken over the last century that have appeared to stymy
> progress and with an open mind
> change course
> Art

Hi Art

Sorry Art, my news server seems to have garbeled up your last post. It was completely scrambled so as to be unreadable. Could you please tell me what frequency the "weather experts" are using when they use polarization divirsity? About 90 percent of my antenna learning is directed to learning about weather data reception from NOAA satellites. Anything I can learn from the really smart guys like you will be greatly appreciated. Please tell me more about radio frequency related weather signals, and how polarization diversity is used.

Jerry

1409. Re: Antenna Modeling Software

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 17:23:04 UTC
From: jimlux@earthlink.net
Message-ID: <1171473784.713089.42470@k78g2000cwa.googlegroups.com>
Source record: 45924

On Feb 14, 8:18 am, "art" <aun...@insightbb.com> wrote:
> On 13 Feb, 22:20, "Black Sheep" <black_sh...@maryhadalittlelamb.gov>
> wrote:
>
> > I am looking to purchase some antenna modeling software.
> > Can anyone make a suggestion as to which one they think is the best,
> > easiest to use and best value for the money.
> Have you tried the free/demo version of EZNEC? "How To Use" that
>antenna modeling program is well described in in HAM publications by guys
>like Cebik http://www.cebik.com/amod/amod103.html. It is easy to
>use even without outside assistance. I'd like to know why every ham with
>antenna interest doesnt have a copy of EZNEC. Try the moseling
>software at http://www.eznec.com/ then, if you have time, tell me
>why it isnt of interest to you.

>
> I would buy only programs that allow for variables in dimensions such
> that the program can migrate towards more advantageous models.

I'm partial to 4nec2 (which is free) which uses the standard NEC2
engine underneath. It has variables and optimizers as well. It can
also fire up the NEC4 engine, if you have a copy of it.

While I wouldn't insist that hams use EZNEC, I do think that if you're
interested in antenna design, SOME modeling program is worth fooling
with. Original vanilla NEC is a bit archaic in it's interface
(punched cards and line printer output) but there's lots of front and
back ends (e.g. EZNEC, 4nec2, MultiNEC (from AC6LA), SuperNEC, etc.)
Some are free, some cost a little, some cost a lot. If you wind up
having to model BIG things (thousands of segments, dielectric media,
etc), then the pricier products are easier and faster. Most hams are
modeling things that are well represented by wires, so all the Method
of Moment (MoM) codes, of which NEC is an example, work pretty well.

1410. Re: 2nd RFD: rec.radio.amateur.moderated moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 17:27:11 UTC
From: nm5k@wt.net
Message-ID: <1171468174.699160.286110@a34g2000cwb.googlegroups.com>
Source record: 45918
Cross-posted to: news.groups.proposals,rec.radio.amateur.antenna,rec.radio.amateur.dx

On Jan 26, 10:48 pm, "Sal M. Onella" <salmone...@food.poisoning.org>
wrote:
> "Paul W. Schleck, K3FU" <pschl...@novia.net> wrote in
messagenews:45b8f455$0$171$540ea2cf@novia.net...
>
> < snip >
>
> > This is a Request for Discussion (RFD) to create a new moderated
> > discussion newsgroup for amateur radio on Usenet.
>
> < snip >
>
> I read the request and I'm not sure how to respond. Yes, I would like to
> see a NG that had the politics and flames flushed out of it by a "duty
> roster" of moderators. However, I'm bothered that it is proposed to
> *supplement*, not *replace* the other newsgroup. How could I be sure that
> some (valid) posters weren't behind in the old, abuse-filled group, toughing
> it out???
>
> What I'm saying is that I want a clean break. If I have to check *two*
> newsgroups as a substitute for previously having had to check one, that's
> unfortunately not an improvement.
>
> If my dilemma is too obvious and I shouldn't have bothered stating it, I'm
> sorry.
>
> 73,
> KD6VKW

You'll *NEVER* see me in a moderated group. Not saying that you would
be missing much, but there ya go... I deal with the hecklers,
goofballs, and
wanna be porn stars by not reading their posts. Fairly simple really.
MK

1411. Re: Antenna Axial Ratio RHCP LHCP

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 17:55:45 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <12t6j9sg2spj533@corp.supernews.com>
Source record: 45925

art wrote:
> On 13 Feb, 22:18, "Jerry Martes" <j.jmar...@verizon.net> wrote:
>> "Bobby" <originalbobjo...@aim.com> wrote in message
>>
>> news:1171432535.917620.105300@h3g2000cwc.googlegroups.com...
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>>> All,
>>> How do you determine the axial ratio from a RHCP wave to a LHCP wave
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> You mentioned insensetivity above, are there any other polarities
> insensitive to others ? I note that weather antennas are now migrating
> to
> dual diversity antennas for horizontal and vertical, is it possible to
> totally isolate those too.?
> Art

>
Any cross polarization situation will exhibit insensitivity to others.
For instance take a vertical antenna and a horizontal antenna at a
distance. There is a signifant reduction in signal strength.
Or take a dipole oriented NS and a dipole oriented EW and you will see a
loss of signal also.

Dave WD9BDZ

1412. Re: Antenna Axial Ratio RHCP LHCP

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 19:01:19 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1171479679.359659.267050@h3g2000cwc.googlegroups.com>
Source record: 45826

On 14 Feb, 09:55, "David G. Nagel" <n...@core.com> wrote:
> art wrote:
> > On 13 Feb, 22:18, "Jerry Martes" <j.jmar...@verizon.net> wrote:
> >> "Bobby" <originalbobjo...@aim.com> wrote in message
>
> >>news:1171432535.917620.105300@h3g2000cwc.googlegroups.com...
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> >> Hi Bobby
>
> >> If you are working with an antenna that radiates RHCP it is totally
> >> insensitive to LHCP.
> >> If you have an antenna that radiates "RHCP" (or LHCP) the axial ratio is
> >> the ratio of the Minor axis to the Major axis of the E field. So, it
> >> varies from zero to one as the radiated field varies from Linear to
> >> Circular.
>
> >> Jerry
>
> > You mentioned insensetivity above, are there any other polarities
> > insensitive to others ? I note that weather antennas are now migrating
> > to
> > dual diversity antennas for horizontal and vertical, is it possible to
> > totally isolate those too.?
> > Art
>
> Any cross polarization situation will exhibit insensitivity to others.
> For instance take a vertical antenna and a horizontal antenna at a
> distance. There is a signifant reduction in signal strength.
> Or take a dipole oriented NS and a dipole oriented EW and you will see a
> loss of signal also.
>
> Dave WD9BDZ- Hide quoted text -
>
> - Show quoted text -

David, could you add to your posting some of it doesn't seem to jive.
Art

1413. Re: LQQKING FOR INFO ON TAPE ANTENNA

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 19:29:22 UTC
From: charlie <wehatespam@wymsey.co.uk>
Message-ID: <xtSdnZi3DZKM_k7YnZ2dnUVZ8tChnZ2d@pipex.net>
Source record: 45827

John Doe wrote:
> LQQking for a source of a TAPE antenna. Unit has center mounting, and both
> arms are tapes unwinding from the center.
> This antenna can be used on both HF & VHF.
> Thanks,
>
>
http://home.att.net/~jleggio/projects/rdf/tape_bm.htm

http://www.eham.net/reviews/detail/1443

http://www.qsl.net/cars/tape2beam.htm

I'm sure googling will find you more.

Charlie.

--
www.wymsey.co.uk

1414. HF random wire antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 19:38:00 UTC
From: Juha Ojaniemi <Juha.Ojaniemi@iki.fi>
Message-ID: <53h6ouF1stvq2U1@mid.individual.net>
Source record: 45828

Hi,

I have limited space for a HF antenna, so I built a random wire antenna.

The instructions I found (in Finnish):
http://koti.mbnet.fi/takamaa/tiedostot/Satunnaisen%20langan%20baluuni.JPG

I wound the balun and bought 20 m wire. Then, OH1NT, an older ham, adviced me that 40 m wire would be better for 80 m band. So I hung up 40 meters of wire.

So far I have received good reports at least from European stations. I look forward to DX QSO's.

Here's my blog entries on the subject (sorry, in Finnish):

http://juhonov.mine.nu/index.php?entry=entry061111-173311
http://juhonov.mine.nu/index.php?entry=entry070213-172940

1415. Re: Antenna Axial Ratio RHCP LHCP

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 19:53:07 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1171482786.963724.295990@a75g2000cwd.googlegroups.com>
Source record: 45829

On 14 Feb, 11:01, "art" <aun...@insightbb.com> wrote:
> On 14 Feb, 09:55, "David G. Nagel" <n...@core.com> wrote:
>
>
>
>
>
> > art wrote:
> > > On 13 Feb, 22:18, "Jerry Martes" <j.jmar...@verizon.net> wrote:
> > >> "Bobby" <originalbobjo...@aim.com> wrote in message
>
> > >>news:1171432535.917620.105300@h3g2000cwc.googlegroups.com...
>
> > >>> All,
> > >>> How do you determine the axial ratio from a RHCP wave to a LHCP wave
> > >>> from an antenna? In essence, I need an axial ratio transformation from
> > >>> RHCP to LHCP.
> > >>> Any ideas on the equation or where I can find it will be helpful.
> > >>> Thanks.
> > >>> Bobby.
> > >> Hi Bobby
>
> > >> If you are working with an antenna that radiates RHCP it is totally
> > >> insensitive to LHCP.
> > >> If you have an antenna that radiates "RHCP" (or LHCP) the axial ratio is
> > >> the ratio of the Minor axis to the Major axis of the E field. So, it
> > >> varies from zero to one as the radiated field varies from Linear to
> > >> Circular.
>
> > >> Jerry
>
> > > You mentioned insensetivity above, are there any other polarities
> > > insensitive to others ? I note that weather antennas are now migrating
> > > to
> > > dual diversity antennas for horizontal and vertical, is it possible to
> > > totally isolate those too.?
> > > Art
>
> > Any cross polarization situation will exhibit insensitivity to others.
> > For instance take a vertical antenna and a horizontal antenna at a
> > distance. There is a signifant reduction in signal strength.
> > Or take a dipole oriented NS and a dipole oriented EW and you will see a
> > loss of signal also.
>

> > Dave WD9BDZ- Hide quoted text -
>
> > - Show quoted text -
>
> David, could you add to your posting some of it doesn't seem to jive.
> Art- Hide quoted text -
>
> - Show quoted text -

David , maybe it was I that was not so clear.
My arials are based around a cluster of elements that are at various placement with respect to each other tho all are resonant as is the cluster as a whole. So when it is used for diversity operation because more than one element is resonant choices can be made as to where to feed to advantage
as quick as possible with a change over such that the reflection is meaningful with respect to time. I don't believe that the weather people radiate both at the same time as the search is for purity with respect to polarity. In fact all the arials ive seen cannot possibly be pure since they all seem to have elements in the vertical position which cannot lead to purity in any form. I saw one in a antenna book (shelnikov)where the elements were in helical form one behind the other at a 90 degree offset but I have no further knoweledge of that one. Somebody mentioned that some radios are now made with two ports such that the receive portion automatically switches to the loudest signal to overcome fading so I may well be incorrect about simultaneous transmissions or even if two arials are in use.
Art

1416. Re: Antenna Modeling Software

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 20:04:02 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1171483442.860017.281500@j27g2000cwj.googlegroups.com>
Source record: 45830

On 14 Feb, 08:18, "art" <aun...@insightbb.com> wrote:
> On 13 Feb, 22:20, "Black Sheep" <black_sh...@maryhadalittlelamb.gov>
> wrote:
>
> > I am looking to purchase some antenna modeling software.
> > Can anyone make a suggestion as to which one they think is the best,
> > easiest to use and best value for the money.
>
> > --
> > Posted via a free Usenet account fromhttp://www.teranews.com
>
> I would buy only programs that allow for variables in dimensions such
> that the program can migrate towards more advantageous models. I
> really see no advantage purchasing a program that solely determines
> the merits of a model
> that you alone have put together. The variable dimension forms tho
> more expensive than the standard forms are now comming down in price
> tho one in South Africa is still in the four figure range for
> unlimited pulses and variable dimensions but there are some that are a
> lot less expensive as more algorithms come to the fore.
> Art

I just remembered that with respect to that expensive South African
program that if you were a student you would be eligable to purchase
it for a period of one year for about $80 which may well allow you the
time to choose a more applicible purchase for your needs
Art

1417. Re: Schlecks' Schlock!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 20:57:02 UTC
From: morgasm@mail2queen.com
Message-ID: <1171486622.913110.273910@l53g2000cwa.googlegroups.com>
Source record: 45831
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.cb,alt.usenet.kooks

On Jan 28, 12:39 am, John Smith I <assemblywiz...@gmail.com> wrote:
> To Whom It May Concern:
>
> Just so you have a complete picture of Paul W. Schleck, I took the
> following from one of his posts in news.groups.proposals:
>
> "Mark Morgan, KB9RQZ, is correct that all of our proposed moderators and
> consultants hold the highest class of Amateur Radio Service license in
> their countries (Amateur Extra for the U.S. team members, Class A or
> similar in the case of Jack Cook, who holds both UK and Australian
> licenses). However, that doesn't mean that we would be judgemental or
> unfair to other classes of license. We would certainly be open to
> adding moderators to our team that hold other classes of license. We
> will certainly decline articles that are disrespectful to or prejudicial
> against other participants for any reason, including license class. We
> would prefer to judge ideas, and take posts at face value, rather than
> prejudge individuals and credentials in a vacuum."
>
> Now that just speaks volumes about this man, his caliber, his "ethical
> standards", etc. Now, doesn't it?
>
> Gawd! I feel sick ...
>
> Warmest regards,
> JS

heres a group just for
marqueer.........alt.kooks.cocksucker.marqueer.oddfaggots

1418. Re: Queston on Yagi Antennae

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 21:34:40 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1171488880.885678.35240@h3g2000cwc.googlegroups.com>
Source record: 45832

On 12 Feb, 05:02, "AndyS" <andysha...@juno.com> wrote:
> Andy writes;
>
> I know I could go to my EZNEC and find this out for myself,
> but I figure someone here has already done this and a quick
> answer is all I need..
>
> In "normal" Yagi antennae, the elements are parallel
> and at 90 degrees to the mounting boom.
>
> In some TV antennae, the elements are at an angle to the
> mounting boom, slanted in the direction of the station being
> received. Otherwise, they look pretty much like a Yagi.
>
> My question is, what effect does "slanting" the elements
> forward have on the impedance, and the pattern ?
>
> [[[[[[< < < < <
>
> Normal Yagi Slanted Yagi
>
> Thanks in advance for the meaningful answers..
>
> Andy W4OAH

Very true, a yagi is a planar antenna i.e on a single plane whereas
only one element is resonant and where ALL others are parasitic. This
also holds true for a log periodic except the frequency is a variable
which selects the element closest to resonance for the theoretical
feed point i.e. of matching impedance to the feed point impedance. The
point about just one element that is resonant is the reason in my mind
that antenna advancement
has been retarded over the last hundred years excabated by the design
of the yagi which is really an empirical design that denies the
simplicity of normal radiation and its corresponding mathematics. Now
I know somebody will immediately jump to the dual driven element forms
but that is beside the point under discussion.
Art

1419. Re: Queston on Yagi Antennae

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 21:41:34 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1171489294.321352.61520@p10g2000cwp.googlegroups.com>
Source record: 45834

On 12 Feb, 05:02, "AndyS" <andysha...@juno.com> wrote:
> Andy writes;
>
> I know I could go to my EZNEC and find this out for myself,
> but I figure someone here has already done this and a quick
> answer is all I need..
>
> In "normal" Yagi antennae, the elements are parallel
> and at 90 degrees to the mounting boom.
>
> In some TV antennae, the elements are at an angle to the
> mounting boom, slanted in the direction of the station being
> received. Otherwise, they look pretty much like a Yagi.
>
> My question is, what effect does "slanting" the elements
> forward have on the impedance, and the pattern ?
>
> [[[[[[< < < < <
>
> Normal Yagi Slanted Yagi
>
> Thanks in advance for the meaningful answers..
>
> Andy W4OAH

Quick answer you say ? A change in direction of current flow inpedes
that flow. Radiation is at right angles to the radiator thus radiation
drops of at the centre at that same point.
Short enough ?
Art

1420. Re: Ranger AR3500 100 watt Ebay

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 21:41:51 UTC
From: otis amps <google@ns.sympatico.ca>
Message-ID: <zmLAh.6501$R71.98091@ursa-nb00s0.nbnet.nb.ca>
Source record: 45833

no, I figure she's good for a few warnings too.
Plus I got plentity of relitives.

Dave wrote:
> trying to get your wife banned also?
>
> "otis amps" <google@ns.sympatico.ca> wrote in message
> news:5_sAh.6274$R71.93027@ursa-nb00s0.nbnet.nb.ca...
>> http://cgi.ebay.com/10-METER-HAM-RADIO-BY-CLEARCHANNEL-100-WATTS_W0QQitemZ140085280508Q
QihZ004QQcategoryZ4674QQrdZ1QQcmdZViewItem
>>
>> Its me speedster2006 I had to change my Ebay name because ebay threaten to
>> ban me for good this time.
>> You know i sell alot of 10 meter radios for 11 meter use.
>>
>> I put the Ebay name in my wifes name safire2007 for this auction
>>
>> Thanks Harold
>
>

--
Stuck in Googles Garbage Archives forever or until this internet fad dies

1421. Re:delay line? velocity factor???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 23:21:59 UTC
From: ml <m@di.net>
Message-ID: <m-0BE7F5.18214814022007@news.verizon.net>
Source record: 45835

I.....verse with it; it would work to fill a
> volume around the antenna. But to get the full effect, it should be a
> pretty large volume, containing the electric field in the neighborhood
> of the antenna. Not very practical. In coax, the electric field is
> between the wires; in the dipole, it's also between the wires, but the
> volume is very much larger. On the other hand, people have been
> shortening resonant antennas for a long time by increasing the
> inductance: thus, loading coils and "slinky" antennas.

Similarly,
> people make "slow" coax by making the center conductor a helix, and
> thus make delay lines.
>
> Cheers,
> Tom

<<ok what is a 'delay line'??

i would think that would just increase the surface area and therfore
sorta increase performance

1422. Re: radioshack UHF corner reflector outdoor antenna feed point impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 23:32:09 UTC
From: CCW N4AOX <wynn9701@bellsouth.net>
Message-ID: <HZMAh.7876$m7.3118@bignews5.bellsouth.net>
Source record: 45836

Tam,

Thanks for the information and the URL on Lewallen'w work. This
configuration appears the same as the front end of the channel master 3018
VHF/UHF combo. As such it appears I could expect 10 dBi to 8dBd from it. I
will try to run down the analysis source and see if a dipole feed impedance
was computed. Thanks again.

"Tam/WB2TT" <t-tammaru@c0mca$t.net> wrote in message
news:Bv-dnaO84vfjfSXYnZ2dnUVZ_sapnZ2d@comcast.com...
>
> "CCW N4AOX" <wynn9701@bellsouth.net> wrote in message
> news:HVWth.15567$uW.9135@bignews3.bellsouth.net...
>>I thought about using one of these for DTV reception. I am curious about
>>the feed point impedance. The antenna (see it at radioshack.com) looks
>>like a corner reflector of sorts. But, it has an extended boom ahead of
>>the feed point dipole with yagi like elements (cut much shorter than the
>>dipole). The feed point is an approx. 1/2 wave split dipole, insulated and
>>center fed.
>>
>> The feed point 1/2 wave dipole (center fed) would have a 75 ohm
>> impedance free space. Corner reflector design data shows an approx. 70
>> ohm impedance for a similar configuration, but without the extended boom
>> ahead of the feed dipole.
>>
>> The RadioShack accompaning literature implies a 200-300 ohm feed point
>> impedance, ie. it states that a 300 / 75 ohm balun and RG-6 feed line
>> should be attached. Has anyone measured, or modeled the feed point
>> impedance of this antenna or have an explanation of how they arrive at
>> 200-300 ohms?
>>
>> N4AOX
>> wynn9701@bellsouth.net
>>
>>
>>
> Sounds like my antenna, if the current price is 24.99. It is 300 Ohm
> output. It's called a Corner Reflector Yagy. I would'n get too exited
> about the impedance, but you can get some idea about the gain by going to
> http://www.hdtvprimer.com/ANTENNAS/comparing.htmlI
> Scroll down to the Radio Shck VU75, and look at the UHF gain. Keep in mind
> this is an old design consumer product, and probably predates any computer
> simulations. More than likely (hopefully) the 300 Ohms means it works
> better feeding a 300 Ohm load than a 75 Ohm load. In general, when you add
> directors to a dipole the impedance goes down from 75 Ohms, not up. They

> may have gotten the impedance up because the feed point is several inches
> from the center of the driven element.
>
> I am using it with a 300:75 Ohm transformer at the feed point, feeding a
> Channel Master UHF only ptreamp, mounted just below the rotator. Feed line
> is about 50 feet of RG6. On good days I get HD stations from 65 miles
> away. Antenna is at about 25 feet.
>
> Tam
>

1423. Re: Need Ideas for HF Antenna at Fire Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-14 23:46:02 UTC
From: ml <m@di.net>
Message-ID: <m-ADEF89.18460214022007@news.verizon.net>
Source record: 45837

2 ideas poped into my my head

you could get a verticle antenna , burry the ground radials or hid them
and use some sort of tilt mount like dx engineering has, perhaps if the
building has say in the back a long side to it it can be mounted
horizontal when not in use then fliped up when needed

a variation of this might be a collapseable tower or mast if the
roof is flat and the antenna lowered is near the roof it should be
hard to see

another idea might be to use a tuner like a sgc237 at the center or near
center of a dipole

a properly sized dipole would be somwhat visible thou i think the most
hard to see off all antennas, you could mount the sgc on the lower part
of a center supporting mast run ladder line to the dipole center up
along a plastic/fiberglass support of course it would certainly tune
more efficiently than a at the rig tuner

but it's just my crazy ideas

In article
<dixon.8-A2645F.15594609022007@charm.magnus.acs.ohio-state.edu>,
Bob Dixon <dixon.8@osu.edu> wrote:

> Our local fire station would like us to provide an HF station to be
> operated by hams during an emergencies. They have offered to pay the
> cost of this. We already have an VHF station there. The problem is the
> antenna. It cannot be visible (or at least not be at all obvious; they
> are allowing the VHF antenna on the roof now.). The most likely needed
> band is 75/80 meters, for in-state communications. So we need high-angle
> radiation, and a vertical does not seem to be a good choice.
>
> The roof is metal, so putting an antenna in the attic will not work.
> The building is a fairly large 2 or 3 story structure, and in the
> country with no other buildings nearby.
>
> Here are some ideas I have:
>
> 1, A horizontal loop, running all around the building up near the top,
> but somewhat below the metal roof. Would likely be non-resonant,
> although perhaps we could choose the length. Mount it on stand-off
> insulators just off the wooden siding. Use white insulated wire and
> paint all hardware white, to blend in with the white siding. Feed it at
> some convenient point, perhaps with a 4:1 balun and then coax into the

> building. Open wire feed would be better, but we cannot get that into
> the building and down to the station. Use a coax antenna tuner in the
> station. The SWR would not be good, but the losses of RG/8 at 75M are
> not that high. Maybe we could use some kind of outdoor automatic tuner
> directly connected to the antenna, but I don't know of any offhand.
>
> 2. Use the rain gutters as an antenna. I did this long ago in a house
> and it worked fairly well on 40M. Bridge all the joints with copper
> braid, painted white, to endure reliable connections. At one of the
> corner downspouts near the ground, connect the center conductor of a
> coax cable to the downspout. Bury radials extending out from the
> building an appropriate length, in a 270 degree sector, and connect to
> the shield.
> I don't know if the gutters are connected to the metal roof, but if so
> that might or might not rule out this approach. Use a coax antenna
> tuner in the station. I know this is basically a top-loaded vertical
> antenna, but the choices are limited.
>
> Comments on both these ideas, and other alternative suggestions, would
> be greatly appreciated.
>
> 73,
>
> Bob W8ERD

1424. Re: 2nd RFD: rec.radio.amateur.moderated moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 00:50:15 UTC
From: Charles <fort514@mac.com>
Message-ID: <140220071836525518%fort514@mac.com>
Source record: 45838
Cross-posted to: news.groups.proposals,rec.radio.amateur.antenna,rec.radio.amateur.dx

In article <1171468174.699160.286110@a34g2000cwb.googlegroups.com>,
<nm5k@wt.net> wrote:

> You'll *NEVER* see me in a moderated group. Not saying that you would
> be missing much, but there ya go... I deal with the hecklers,
> goofballs, and
> wanna be porn stars by not reading their posts. Fairly simple really.

Don't say never. You just posted to a moderated group.

Like you I can ignore and kill file, but some groups are so infested
that it is not enough because the good people give it up and leave. So
there is nothing left to read after you are done ignoring.

--
Charles

1425. Europe Tests Established Chemicals on Millions of Animals

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 01:30:19 UTC
From: TONY_GAL <from_tl@myway.com>
Message-ID: <1171503018.077584.248730@l53g2000cwa.googlegroups.com>
Source record: 45839

Tony
Nottingham
England

14 February 2007

TO: All People Who Care

I am a private individual posting this message to help Laboratory Animals. I apologize if this message is out of place in this group but I think you need to know this.

A new European Chemical Testing Policy called REACH has now been finalised by the European Union. Under these proposals Chemicals of every kind - from those used in industrial processes to the ingredients of consumer products - will be tested on Millions of animals from mice to fish to dogs, causing untold suffering.

If you believe that REACH should make more use of Alternative Testing to test its Chemicals then please take action now.

If you are a European citizen please contact your local papers and own MEP asking them to promote the development of humane non-animal testing methods under the REACH legislation, which is the best hope we have for sparing animals the misery of a testing laboratory.

A sample letter can be found at the BUAV (British Union for the Abolition of Vivisection) website at www.BUAV.org (Select Campaigns, Chemical Testing, Get Active then Writing to the local press).

For all Non-European members, you can still help. Please tell all your colleagues and friends in the UK and Europe about REACH.

Everyone can help and you can make a difference.

Thank You

1426. Re: Antenna Axial Ratio RHCP LHCP

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 02:46:33 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <12t7id43lj487b1@corp.supernews.com>
Source record: 45840

art wrote:
> On 14 Feb, 09:55, "David G. Nagel" <n...@core.com> wrote:
>> art wrote:
>>> On 13 Feb, 22:18, "Jerry Martes" <j.jmar...@verizon.net> wrote:
>>>> "Bobby" <originalbobjo...@aim.com> wrote in message
>>>> news:1171432535.917620.105300@h3g2000cwc.googlegroups.com...
>>>>> All,
>>>>> How do you determine the axial ratio from a RHCP wave to a LHCP wave
>>>>> from an antenna? In essence, I need an axial ratio transformation from
>>>>> RHCP to LHCP.
>>>>> Any ideas on the equation or where I can find it will be helpful.
>>>>> Thanks.
>>>>> Bobby.
>>>> Hi Bobby
>>>> If you are working with an antenna that radiates RHCP it is totally
>>>> insensitive to LHCP.
>>>> If you have an antenna that radiates "RHCP" (or LHCP) the axial ratio is
>>>> the ratio of the Minor axis to the Major axis of the E field. So, it
>>>> varies from zero to one as the radiated field varies from Linear to
>>>> Circular.
>>>> Jerry
>>> You mentioned insensetivity above, are there any other polarities
>>> insensitive to others ? I note that weather antennas are now migrating
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>>> dual diversity antennas for horizontal and vertical, is it possible to
>>> totally isolate those too.?
>>> Art
>> Any cross polarization situation will exhibit insensitivity to others.
>> For instance take a vertical antenna and a horizontal antenna at a
>> distance. There is a signifant reduction in signal strength.
>> Or take a dipole oriented NS and a dipole oriented EW and you will see a
>> loss of signal also.
>>
>> Dave WD9BDZ- Hide quoted text -
>>
>> - Show quoted text -
>
> David, could you add to your posting some of it doesn't seem to jive.
> Art
>

Art;

OnPage 23.35 of the ARRL 2006 Handbook is a Graph showing the relative
loss between two antenna's for various angles from 0 degree to 90 degree

misalignment. For 0 degree misalignment there is no loss, at 50 degrees there is a 3.84 dB loss and at 80 degrees there is a loss of 15.2 dB. 90 degree misalignment shows an infinate loss. This is for linear antenna's. Circular Polarized antennas of opposite turns show an infinate loss between two antenna's.
If I can help further please feel free to contact me direct:
nagel.david@sbcglobal.net

Dave WD9BDZ

1427. Re: Antenna Axial Ratio RHCP LHCP

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 02:54:40 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <12t7it5srmjo4dd@corp.supernews.com>
Source record: 45841

art wrote:
> On 14 Feb, 11:01, "art" <aun...@insightbb.com> wrote:
>> On 14 Feb, 09:55, "David G. Nagel" <n...@core.com> wrote:
>>
>>
>>
>>
>>
>>> art wrote:
>>>> On 13 Feb, 22:18, "Jerry Martes" <j.jmar...@verizon.net> wrote:
>>>>> "Bobby" <originalbobjo...@aim.com> wrote in message
>>>>> news:1171432535.917620.105300@h3g2000cwc.googlegroups.com...
>>>>>> All,
>>>>>> How do you determine the axial ratio from a RHCP wave to a LHCP wave
>>>>>> from an antenna? In essence, I need an axial ratio transformation from
>>>>>> RHCP to LHCP.
>>>>>> Any ideas on the equation or where I can find it will be helpful.
>>>>>> Thanks.
>>>>>> Bobby.
>>>>> Hi Bobby
>>>>> If you are working with an antenna that radiates RHCP it is totally
>>>>> insensitive to LHCP.
>>>>> If you have an antenna that radiates "RHCP" (or LHCP) the axial ratio is
>>>>> the ratio of the Minor axis to the Major axis of the E field. So, it
>>>>> varies from zero to one as the radiated field varies from Linear to
>>>>> Circular.
>>>>> Jerry
>>>> You mentioned insensetivity above, are there any other polarities
>>>> insensitive to others ? I note that weather antennas are now migrating
>>>> to
>>>> dual diversity antennas for horizontal and vertical, is it possible to
>>>> totally isolate those too.?
>>>> Art
>>> Any cross polarization situation will exhibit insensitivity to others.
>>> For instance take a vertical antenna and a horizontal antenna at a
>>> distance. There is a signifant reduction in signal strength.
>>> Or take a dipole oriented NS and a dipole oriented EW and you will see a
>>> loss of signal also.
>>> Dave WD9BDZ- Hide quoted text -
>>> - Show quoted text -
>> David, could you add to your posting some of it doesn't seem to jive.
>> Art- Hide quoted text -
>>
>> - Show quoted text -

>
> David , maybe it was I that was not so clear.
> My arials are based around a cluster of elements that are at various
> placement with respect to each other tho all are resonant as is the
> cluster as a whole. So when it is used for diversity operation because
> more than one element is resonant choices can be made as to where to
> feed to advantage
> as quick as possible with a change over such that the reflection is
> meaningful with respect to time. I don't believe that the weather
> people radiate both at the same time as the search is for purity with
> respect to polarity. In fact all the arials ive seen cannot possibly
> be pure since they all seem to have elements in the vertical position
> which cannot lead to purity in any form. I saw one in a antenna book
> (shelnikov)where the elements were in helical form one behind the
> other at a 90 degree offset but I have no further knoweledge of that
> one. Somebody mentioned that some radios are now made with two ports
> such that the receive portion automatically switches to the loudest
> signal to overcome fading so I may well be incorrect about
> simultaneous transmissions or even if two arials are in use.
> Art
>
Art;

I responded to your other email but what you are saying here is that you are using multiple antenna's which are selected automatically to sense the strongest signal reguardless of the orientation of the received signal. i.e. if the signal is at 45 degrees the antenna that is fixed to a 45 degree angle will be the strongest signal. If I have it correct it makes perfect sense but is not cross or circular polarization just rotated wave front.

Dave WD9BDZ

1428. Re: delay line? velocity factor???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 04:32:57 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1171513977.415779.185320@s48g2000cws.googlegroups.com>
Source record: 45842

On Feb 14, 3:21 pm, ml <m...@di.net> wrote:
> I.....verse with it; it would work to fill a
>
> > volume around the antenna. But to get the full effect, it should be a
> > pretty large volume, containing the electric field in the neighborhood
> > of the antenna. Not very practical. In coax, the electric field is
> > between the wires; in the dipole, it's also between the wires, but the
> > volume is very much larger. On the other hand, people have been
> > shortening resonant antennas for a long time by increasing the
> > inductance: thus, loading coils and "slinky" antennas.
>
> Similarly,
>
> > people make "slow" coax by making the center conductor a helix, and
> > thus make delay lines.
>
> > Cheers,
> > Tom
>
> <<ok what is a 'delay line'??
>
> i would think that would just increase the surface area and therfore
> sorta increase performance

Wikipedia gives a definition of delay line; a length of transmission line is technically a delay line, but often for longer delays, a special line is made in which the center conductor is a wire wound around a core (often of the same material as the dielectric between center and outer). The winding should be done with space between the turns, not close-wound, to give more uniform delay versus frequency. For a uniform TEM transmission line, the delay time is the square root of the total capacitance between the conductors times the total net inductance of the length of the conductors: Tau=sqrt(L*C). Many E&M texts go into how to accurately calculate the inductance and capacitance for coaxial line with straight conductors.

In an antenna, you can increase the inductance by adding a lumped inductance, commonly called a loading coil, or you can replace the straight wire with a wire formed into a helix. Google "slinky antenna". You'll find lots of info. I'm not making any claims that a slinky antenna is either a good antenna or a poor one; it's just one way to make a shortened dipole or monopole antenna, or even a shortened Yagi.

Cheers,
Tom

1429. Re: delay line? velocity factor???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 05:19:49 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <12t7rcfffbug29f@corp.supernews.com>
Source record: 45843

K7ITM wrote:
> On Feb 14, 3:21 pm, ml <m...@di.net> wrote:
>> I.....verse with it; it would work to fill a
>>
>>> volume around the antenna. But to get the full effect, it should be a
>>> pretty large volume, containing the electric field in the neighborhood
>>> of the antenna. Not very practical. In coax, the electric field is
>>> between the wires; in the dipole, it's also between the wires, but the
>>> volume is very much larger. On the other hand, people have been
>>> shortening resonant antennas for a long time by increasing the
>>> inductance: thus, loading coils and "slinky" antennas.
>> Similarly,
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>>> thus make delay lines.
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> capacitance for coaxial line with straight conductors.
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> straight wire with a wire formed into a helix. Google "slinky
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> slinky antenna is either a good antenna or a poor one; it's just one
> way to make a shortened dipole or monopole antenna, or even a
> shortened Yagi.
>
> Cheers,
> Tom

>
In the early days of computers they used to use a length of wire as temporary memory. At the start of a store cycle a piece of data would be input to the wire, after a period of time the data would come out and be placed into the computation.
Admiral Grace Hopper used to give an example of time and delay in her speeches. She would say that one day she called down to the computer department and asked for a micro second. They sent her 1000 feet of wire. She then called down and asked for a nanosecond, they sent her one foot of wire. No point to this just a good story.

Dave N

1430. Re: Antenna Axial Ratio RHCP LHCP

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 05:51:28 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <CxSAh.21914$1H5.12523@newsfe16.phx>
Source record: 45844

"David G. Nagel" <nagel@core.com> wrote in message
news:12t7id43lj487b1@corp.supernews.com...

> OnPage 23.35 of the ARRL 2006 Handbook is a Graph showing the relative
> loss between two antenna's for various angles from 0 degree to 90 degree
> misalignment. For 0 degree misalignment there is no loss, at 50 degrees
> there is a 3.84 dB loss and at 80 degrees there is a loss of 15.2 dB. 90
> degree misalignment shows an infinate loss. This is for linear
> antenna's.

Yes. I wasted *hours* at Field Day a few years ago trying to make FM
contacts on 440 with my beam oriented parallel to the horizon. (I play with
TV DX and I brain-cramped with my 440 beam.)

When somebody pointed out my error, I wanted to crawl in a hole. This
monumental screwup came despite the fact that I had been making 2m contacts
with a correctly-oriented beam. Go figure. But it proved the heck out of
the theory!!!!

1431. Re: HF random wire antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 08:24:44 UTC
From: Matti Ponkamo <mattipoN05PAM@luukku.com>
Message-ID: <gNUAh.57$jG1.22@read3.inet.fi>
Source record: 45845

"Juha Ojaniemi" <Juha.Ojaniemi@iki.fi> kirjoitti
viestiss&#65533;:53h6ouF1stvq2U1@mid.individual.net...
> Hi,
> I have limited space for a HF antenna, so I built a random wire antenna.
> The instructions I found (in Finnish):
> http://koti.mbnet.fi/takamaa/tiedostot/Satunnaisen%20langan%20baluuni.JPG
> I wound the balun and bought 20 m wire. Then, OH1NT, an older ham, adviced me
> that 40 m wire would be better for 80 m band. So I hung up 40 meters of wire.
> So far I have received good reports at least from European stations. I look
> forward to DX QSO's.

Hi Juha,

Just what I needed. (In finnish: Tata ma olen aina halunnu...)

TNX and 73
Matti P., OH1GPU

1432. Re: Antenna Pattern Distortion due to 2 antenna placed in near vicinity

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 11:36:33 UTC
From: Rohit <rksindhu@gmail.com>
Message-ID: <1171539393.691061.101100@l53g2000cwa.googlegroups.com>
Source record: 45846

(I am working in GHz range and so the spacing of multiples of
wavelength means it will be only few cms.)
One more observation i have made is that i have placed my antennas on
a rectangular plate and then on a curved surface. The former setup
gives me around -20db gain at 270deg, i.e back side of the rectangular
plate whereas in the latter case there is no such diffraction effect.
Why is it so?

1433. Re: Antenna Pattern Distortion due to 2 antenna placed in near vicinity

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 11:37:43 UTC
From: Rohit <rksindhu@gmail.com>
Message-ID: <1171539463.564386.26250@a75g2000cwd.googlegroups.com>
Source record: 45847

Also i want to know how is the minimum spacing between antennas
decided ?

1434. Re: 2nd RFD: rec.radio.amateur.moderated moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 13:38:11 UTC
From: Roger <GetValidAddress@my.com>
Message-ID: <r868t2herqesup70rfq1nom1jbbrurvn2m@4ax.com>
Source record: 45848
Cross-posted to: news.groups.proposals,rec.radio.amateur.antenna,rec.radio.amateur.dx

On Wed, 14 Feb 2007 11:27:11 CST, nm5k@wt.net wrote:

>On Jan 26, 10:48 pm, "Sal M. Onella" <salmone...@food.poisoning.org>
>wrote:
>> "Paul W. Schleck, K3FU" <pschl...@novia.net> wrote in
messagenews:45b8f455$0$171$540ea2cf@novia.net...
>>
>> < snip >
>>
>> > This is a Request for Discussion (RFD) to create a new moderated
>> > discussion newsgroup for amateur radio on Usenet.
>>
>> < snip >
>>
>> I read the request and I'm not sure how to respond. Yes, I would like to
>> see a NG that had the politics and flames flushed out of it by a "duty
>> roster" of moderators. However, I'm bothered that it is proposed to
>> *supplement*, not *replace* the other newsgroup. How could I be sure that
>> some (valid) posters weren't behind in the old, abuse-filled group, toughing
>> it out???

Most would stay with the un moderated group. History has shown that.

>>
>> What I'm saying is that I want a clean break. If I have to check *two*
>> newsgroups as a substitute for previously having had to check one, that's
>> unfortunately not an improvement.

I agree.

>>
>> If my dilemma is too obvious and I shouldn't have bothered stating it, I'm
>> sorry.
>>
>> 73,
>> KD6VKW
>
>
>You'll *NEVER* see me in a moderated group. Not saying that you would

I have used moderated news groups and found in general they are a
waste of time. They end up reflecting the moderators view points and
opposition is stifled. So I avoid them. I see this is cross posted to
a moderated group to which I do not belong.

>be missing much, but there ya go... I deal with the hecklers,
>goofballs, and
>wanna be porn stars by not reading their posts. Fairly simple really.

Which is the self governing mechanism of most news groups.

I see the proposed rec.radio.amateur.moderated as a waste of time and resources of those who handle such matters. So I would say that in the long run we would be better off with one un moderated group than an un moderated group along with a moderated one which dilutes the pool. Just kill file the posters and threads you don't want to read and let life go on a lot simpler with more people exposed to the knowledge that would otherwise be diluted by spreading it into another group.

Me? I would not bother subscribing to a moderated group.
>MK
Roger Halstead (K8RI & ARRL life member)
(N833R, S# CD-2 Worlds oldest Debonair)
www.rogerhalstead.com

1435. Re: Antenna Modeling Software

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 15:07:20 UTC
From: Black Sheep <black_sheep@maryhadalittlelamb.gov>
Message-ID: <45d47728$0$16407$88260bb3@free.teranews.com>
Source record: 45874

On Wed, 14 Feb 2007 01:00:46 -0800, Wimpie wrote:

> On 14 feb, 07:20, "Black Sheep" <black_sh...@maryhadalittlelamb.gov>
> wrote:
>> I am looking to purchase some antenna modeling software.
>> Can anyone make a suggestion as to which one they think is the best,
>> easiest to use and best value for the money.
>>
>> --
>> Posted via a free Usenet account fromhttp://www.teranews.com
>
> Hello Black Sheep,
>
> Can you provide us with some information about your antenna
> challenges? It will make us easier to answer your question.
>
> I am thinking of antenna types (wire antennas, printed circuit board
> antennas, with / without dielectric materials, size with respect to
> wavelength, etc), how frequently will you us it, available budget, is
> it for professional or amateur use, etc.
>
> Best Regards,
>
> Wim
> PA3DJS

My needs are for amateur antennas, wires, verticals, yagis & etc.
Just want to model antennas which I have ideas about or those which are
already built and what might happen if it were modified to another
configuration.

I guess if price were a consideration no more than $150.

--
Posted via a free Usenet account from http://www.teranews.com

1436. Re: Antenna Modeling Software

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 15:10:26 UTC
From: Black Sheep <black_sheep@maryhadalittlelamb.gov>
Message-ID: <45d477e2$0$16407$88260bb3@free.teranews.com>
Source record: 45875

On Wed, 14 Feb 2007 14:32:30 +0000, Jerry Martes wrote:

> "Black Sheep" <black_sheep@maryhadalittlelamb.gov> wrote in message
> news:45d2aa42$0$16308$88260bb3@free.teranews.com...
>>I am looking to purchase some antenna modeling software.
>> Can anyone make a suggestion as to which one they think is the best,
>> easiest to use and best value for the money.
>>
>> --
>> Posted via a free Usenet account from http://www.teranews.com
>
> Hi Black
>
> Have you tried the free/demo version of EZNEC? "How To Use" that
> antenna modeling program is well described in in HAM publications by guys
> like Cebik http://www.cebik.com/amod/amod103.html. It is easy to
> use even without outside assistance. I'd like to know why every ham with
> antenna interest doesnt have a copy of EZNEC. Try the moseling
> software at http://www.eznec.com/ then, if you have time, tell me
> why it isnt of interest to you.
>
> Jerry

I have looked at EZNEC but there are others out there also. This is why
the question is being asked.

Which ones do you like and why? What one would you recommend to me and why?
What features do you like about the program you are using.

Basically, you be the sales person for whatever modeling progam you use.

--
Posted via a free Usenet account from http://www.teranews.com

1437. Re: Antenna Modeling Software

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 15:15:45 UTC
From: Black Sheep <black_sheep@maryhadalittlelamb.gov>
Message-ID: <45d47921$0$16407$88260bb3@free.teranews.com>
Source record: 45873

On Wed, 14 Feb 2007 09:23:04 -0800, jimlux wrote:

> On Feb 14, 8:18 am, "art" <aun...@insightbb.com> wrote:
>> On 13 Feb, 22:20, "Black Sheep" <black_sh...@maryhadalittlelamb.gov>
>> wrote:
>>
>> > I am looking to purchase some antenna modeling software.
>> > Can anyone make a suggestion as to which one they think is the best,
>> > easiest to use and best value for the money.
>> Have you tried the free/demo version of EZNEC? "How To Use" that
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>>antenna interest doesnt have a copy of EZNEC. Try the moseling
>>software at http://www.eznec.com/ then, if you have time, tell me
>>why it isnt of interest to you.
>
>>
>> I would buy only programs that allow for variables in dimensions such
>> that the program can migrate towards more advantageous models.
>
>
> I'm partial to 4nec2 (which is free) which uses the standard NEC2
> engine underneath. It has variables and optimizers as well. It can
> also fire up the NEC4 engine, if you have a copy of it.
>
> While I wouldn't insist that hams use EZNEC, I do think that if you're
> interested in antenna design, SOME modeling program is worth fooling
> with. Original vanilla NEC is a bit archaic in it's interface
> (punched cards and line printer output) but there's lots of front and
> back ends (e.g. EZNEC, 4nec2, MultiNEC (from AC6LA), SuperNEC, etc.)
> Some are free, some cost a little, some cost a lot. If you wind up
> having to model BIG things (thousands of segments, dielectric media,
> etc), then the pricier products are easier and faster. Most hams are
> modeling things that are well represented by wires, so all the Method
> of Moment (MoM) codes, of which NEC is an example, work pretty well.

I suppose any good modeling program would work for amateur antennas.
What I would appreciate is a good as to which one you like and why.
Recommend the one you like best to me. I am willing to spend up to $150
for good modeling software. Easy to understand and use would be important.

Its my understanding that the author of EZNEC hangs out in this group, I
wish he would put his 2 cents in also.

--
Posted via a free Usenet account from http://www.teranews.com

1438. Re: Antenna Axial Ratio RHCP LHCP

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 15:16:36 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1171552596.502625.209600@k78g2000cwa.googlegroups.com>
Source record: 45849

On 14 Feb, 18:46, "David G. Nagel" <n...@core.com> wrote:
> art wrote:
> > On 14 Feb, 09:55, "David G. Nagel" <n...@core.com> wrote:
> >> art wrote:
> >>> On 13 Feb, 22:18, "Jerry Martes" <j.jmar...@verizon.net> wrote:
> >>>> "Bobby" <originalbobjo...@aim.com> wrote in message
> >>>>news:1171432535.917620.105300@h3g2000cwc.googlegroups.com...
> >>>>> All,
> >>>>> How do you determine the axial ratio from a RHCP wave to a LHCP wave
> >>>>> from an antenna? In essence, I need an axial ratio transformation from
> >>>>> RHCP to LHCP.
> >>>>> Any ideas on the equation or where I can find it will be helpful.
> >>>>> Thanks.
> >>>>> Bobby.
> >>>> Hi Bobby
> >>>> If you are working with an antenna that radiates RHCP it is totally
> >>>> insensitive to LHCP.
> >>>> If you have an antenna that radiates "RHCP" (or LHCP) the axial ratio is
> >>>> the ratio of the Minor axis to the Major axis of the E field. So, it
> >>>> varies from zero to one as the radiated field varies from Linear to
> >>>> Circular.
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> >> For instance take a vertical antenna and a horizontal antenna at a
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>
> > David, could you add to your posting some of it doesn't seem to jive.
> > Art
>
> Art;
>
> OnPage 23.35 of the ARRL 2006 Handbook is a Graph showing the relative

> loss between two antenna's for various angles from 0 degree to 90 degree
> misalignment. For 0 degree misalignment there is no loss, at 50 degrees
> there is a 3.84 dB loss and at 80 degrees there is a loss of 15.2 dB. 90
> degree misalignment shows an infinate loss. This is for linear
> antenna's. Circular Polarized antennas of opposite turns show an
> infinate loss between two antenna's.
> If I can help further please feel free to contact me direct:
> nagel.da...@sbcglobal.net
>
> Dave WD9BDZ- Hide quoted text -
>
> - Show quoted text -

David I am not privy to a copy of what you are talking about but we may be talking at cross purposes. My point is that a element at right angles or parallel to the earths surface cannot present a pure polarised field.
When looking at a radiating beam you have two vectors, one at right angles to the other, therefore I fail to see how radiation would appear at right angles to the earths surface. True the right angled vector is reduced when it is broken up into two vectors when it is seen as curl but the horizontal vector cannot be removed or cancelled unless the element is tilted somewhat.
Anybody can prove this to themselves by the use of the plethora of computor programs Admittedly the tilt required is small but it is there none the less.
Art

1439. Re: Antenna Axial Ratio RHCP LHCP

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 15:47:01 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <12t904i4g4tlq4c@corp.supernews.com>
Source record: 45850

Sal M. Onella wrote:
> "David G. Nagel" <nagel@core.com> wrote in message
> news:12t7id43lj487b1@corp.supernews.com...
>
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> contacts on 440 with my beam oriented parallel to the horizon. (I play with
> TV DX and I brain-cramped with my 440 beam.)
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> When somebody pointed out my error, I wanted to crawl in a hole. This
> monumental screwup came despite the fact that I had been making 2m contacts
> with a correctly-oriented beam. Go figure. But it proved the heck out of
> the theory!!!!
>
>

It's called a brain fart...

It's also why antenna science is an ART.

Dave WD9BDZ

1440. Re: Antenna Axial Ratio RHCP LHCP

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 15:48:47 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <12t907rcfjk8j8e@corp.supernews.com>
Source record: 45851

art wrote:
> On 14 Feb, 18:46, "David G. Nagel" <n...@core.com> wrote:
>> art wrote:
>>> On 14 Feb, 09:55, "David G. Nagel" <n...@core.com> wrote:
>>>> art wrote:
>>>>> On 13 Feb, 22:18, "Jerry Martes" <j.jmar...@verizon.net> wrote:
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> angles or parallel to the earths surface cannot present a pure
> polarised field.
> When looking at a radiating beam you have two vectors, one at right
> angles to the other, therefore I fail to see how radiation would
> appear at right angles to the earths surface. True the right angled
> vector is reduced when it is broken up into two vectors when it is
> seen as curl but the horizontal vector cannot be removed or cancelled
> unless the element is tilted somewhat.
> Anybody can prove this to themselves by the use of the plethora of
> computor programs Admittedly the tilt required is small but it is
> there none the less.
> Art
>

Art;

Your right horizontal is horizontal and vertical is vertical and never
the twain shall meet.

Dave

1441. Re: Antenna Pattern Distortion due to 2 antenna placed in near vicinity

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 16:56:06 UTC
From: Allodoxaphobia <bit-bucket@config.com>
Message-ID: <slrnet9456.1ota.bit-bucket@shell.config.com>
Source record: 45853

On 15 Feb 2007 03:37:43 -0800, Rohit wrote:
> Also i want to know how is the minimum spacing between antennas
> decided ?

It's *never* "decided". It is constantly _argued._ Just hang around here.

1442. Re: 2nd RFD: rec.radio.amateur.moderated moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 17:10:13 UTC
From: Chika <miyuki@spam-no-way.invalid>
Message-ID: <4eb5a33606miyuki@no.spam.here>
Source record: 45854

In article <CX%Ah.10$rI2.7@newsfe12.lga>, Bill Ogden
<wogden@attglobal.net> wrote:
> FWIW, I have found moderated groups to be not very useful unless they
> are for a very narrowly defined topic. I avoid them when possible.

Must admit that I don't often get involved in moderated groups either.
news.groups.moderated has had more posts from me than any other, and I've
only posted there twice.

> Is there a way to have a newsgroup server reject all cross-posted
> messages? The cross posting to multiple news groups seems to be the
> source of much of the garbage. I suspect the whole newsgroup concept
> would be improved if cross posting were automatically eliminated. (I
> notice this message is being cross posted !)

Couldn't say for certain, but some news clients will filter out
crosspostings on download. The one I use, for example, does it.

--
//\ // Chika <miyuki><at><crashnet><org><uk>
// \// "Word to the wise guy; be nice or be dog food!"

... NetWare does not have bugs, it has "Undocumented enhancements"

1443. Re: 2nd RFD: rec.radio.amateur.moderated moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 17:42:53 UTC
From: Bill Ogden <wogden@attglobal.net>
Message-ID: <CX%Ah.10$rl2.7@newsfe12.lga>
Source record: 45852
Cross-posted to: news.groups.proposals,rec.radio.amateur.antenna

FWIW, I have found moderated groups to be not very useful unless they are for a very narrowly defined topic. I avoid them when possible.

Is there a way to have a newsgroup server reject all cross-posted messages? The cross posting to multiple news groups seems to be the source of much of the garbage. I suspect the whole newsgroup concept would be improved if cross posting were automatically eliminated. (I notice this message is being cross posted !)

Bill - W2WO

1444. Ship's Tour Of My Universe To Begin - Call To Arms! Duty Stations! Fire When Ready! Cease Fire Procola! Pt. I/III

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 17:48:48 UTC
From: johnfrancisayres@rock.com
Message-ID: <1171561728.313126.4480@v33g2000cwv.googlegroups.com>
Source record: 45855
Cross-posted to: rec.arts.startrek.tech,rec.radio.amateur.antenna,alt.society,alt.usenet,alt.politics.liberalism

Call To Arms, means, you will inspect your weaponry and prepare to do battle. Duty Stations, means, all men and women must assume their duty stations, weapons at the ready. Fire When Ready, means, man or woman your weapons, sight the target, finger the trigger, and fire when ready. Cease Fire Procola, means, continue fireing until the enemy targets are dispatched, and there is no sight of an enemy anywhere on the horizon. Procolas means, after ending all possiblities of any lingering survivors staying alive. It means to wipe them out, and leave no survivors.

This means, it is time to kill all Lesbianists, and all other enemies in my universe, the many groups of naughty kids in my universe, rascaleers and others, and we will continue this fight, untill they are all dead, and in my Epcot Centers, or untill they have surrendered. Rascaleers are evil people who wish only to harm others.

Religious Practices - Fistiker Practice - What Is A Dependency? - When Sexaling - Labia And Felate - Genitals, Titties, The Labia, And The Many Sexaling Organs - Bears In The Woods - Expecate - How Do You Tell When Your Period Is? Labiating A Labia - Bears, Wild Animals, And People - Brad Pitt, And Angelina Joline - Abominant Elephant Kids - What Causes A So-Called "Nuclear' Explosion Or Detonation? - Cleansing Your Self With Your 'Built-In' And 'Attached', Cleansing And Washing, Clearifying And Erasing Energies Producing Genitals And Sexaling Systems, Eroteming And Orgasming Nervous Systems, And Baby Making Related Purifying Energies Generation Stations Aparati, Or Apparatuses, And Armatures - Ticklement Tuning Forks - Focal Patterns - Assistive Religious Practices - How To Make Prayer Statements - What To Say, When You See Me Using My Dick To Purify Others, And So Forth - Who Was Kris Kringle? - Lesbianists' Torment Campaign Under Way
Updated: 18-01-07 Rev.a.00.a 02:50 PST

Religious Practices

This is a little confusing, but hold on, and I'll try to explain it. There are many parts to my religion. We call them, parts, but we can also call them, practices, some of them, but not all of them.

We have the fundamental 'root' practice, which is sexaling. From the root practice, comes all other practices.

There are side practices, and there are derived practices. There are also, accompanying practices. There are many other types of practices, but I don't remember the names for them all, right now, as I'm still

amnesiatic, and will be for a long time.

Fistiker Practice

Bringing about orgasming in another person is a fistiker practice. A fistiker practice is a side practice, but it is also something a little different from a side practice, depending on how you bring the orgasming about, and depending on how many people are involved, and depending on who is the primary person, the person whom we are working on, and who are the helping people, the people who are joined together, to help the primary person to orgasm. There are a number of other dependencies as well.

What Is A Dependency?

A dependency is some thing that is needed that will help to define something else.

As in the case of an accident victim, we have a crutch to define one level of severity of an accident victim's situation. But we might also have a wheel chair to define another level of severity for the same, or other, accident victim. These objects help to determine how badly or miserably a person is injured.

A crutch can help define a level of severity in the injury. A wheel chair can help also to define a higher level of severity. These are both dependencies. They help us to define something, and they are used to help us to define an accident victim's level of severe injuries.

When Sexaling

You can use your lips, for example, or your tounge to twiddle the toes of a woman, and the woman begins to orgasm. That twiddleing of your tounge on her toes to help her to erotem, and to experience erotistical orgasming, can be any number of things, depending on the involvement and complexities of dependencies.

Rubbing the vaginal face, the vaginal wall, or rubbing to either side of the vaginal crevice, the labial folds or felates, can help a woman to erotem and erotistically orgasm, and depending on the involvement and complexities of dependencies, the dependencies can be any number of things, if we try to define the sexaling activity more fully and completely.

We'll skip this for now, as it is a little too difficult to remember, right now. Just remember, the primary practice is sexaling, and that sexaling is like the roots of a tree. All other religious practices grow out of the 'roots' of the tree, sexaling, and can be defined in many different ways, such as a helping practice, a side practice, a subsidiary practice, a canceling out practice, an accompanying practice, and there are many many other terms for what kind of practice some thing is, depending on what dependencies are involved.

Labia And Felate

What is the difference between a felate and a labia?

A felate is the skin tissue of the outer surface, and some of the tissue of the tips and edges of the labia. It does not include the inner side of the labia, but only the outer side, and the surrounding edges, as far as I can remember.

A verb, or action word, as I call it, is 'felate' as in 'Felate that woman's or girls' left felate'. That means to suckle on the left felate of the woman or girl.

Felate is a verb, but it is also a 'nominal' word, or naming word for objectifying an object.

Do we say 'Labialize that woman's felate!' To labialize something is to make something into a labia. We wouldn't, unless we were a doctor, say that about a felate. But we might say it if we were doctors, and we had a woman who met with a bear, and the bare clawed at her genitals, and the sharp claws ripped her labial skin up, then we might say in a surgeon's room 'Labialize that woman's ripped up labia.' That would mean to stitch it up, and make it nice and neat, and clean and well stitched up, and then useful to her, again, and it would involve a lot of surgery, as many nerves would need to be connected, as they had been ripped apart, and the wiring was all dislocated. But in the end, we would be able to fix her labia, and her genitals, if they were also hurt, and then we could dismiss the patient from the hospital, after the labia healed, and after she recovered from her trauma of having her labia shredded by an impolite, rude, mean, uncaring, and hungry bear.

Genitals, Titties, The Labia, And The Many Sexaling Organs

The labia is not the genitals, but some people do consider them as a part of the genitals. The genitals are inside the woman's vagina, in my way of thinking. The vaginal wall is not part of the genitals. The vaginal orifice is part of the genitals of a woman. This seems odd, doesn't it. Well, that is how it works, in my brain, and I designed women, as well as men. If you notice, in my writings, I've talked about the draft table, and the throttle. These are major parts of a woman's genitals. They are inside the vagina, and you can reach them through the vaginal orifice. Before you get inside of the vaginal orifice, there are a few things outside, such as a pee tube, and an ejaculate tube, and the clitoris, as well as the labia. These are not part of the genitals, but are working parts of her sexaling organs. A woman's or girls' sexaling organs are not equal to her genitals. Genitals are for baby making, and for other purposes. Titties are not part of the genitals, but they are part of the womans' sexaling organs. This will require a long discussion to clear up, so I will save it for another day.

Bears In The Woods

That's the way it happens some times, when women or girls go out into the woods, and sexal with their female friends. They can get hurt by

bears, if they are not accompanied by men, who are tough, and strong, and who stay alert, to guard and watch out for dangerous animals, such as bears, wolves, cayotes, bobcats, puma, and even racoons. Racoons do attack humans, if they smell some thing that will taste good to the racoon. If a person has a skin tear, and is bleeding, even a tiny bit, the racoon will smell it, and come running, and then find the person, and so will panthers, and all kinds of animals will come, and it's just like a bunch of sharks and fishes of different kinds, and Moray Eels, they like the smell of blood, and they come and investigate, when they smell it.

Women and girls have periods, and it is not every twenty eight days, as I've explained about before, and blood runs down, out of their vagina, and they generally do not know it, as it is only a tiny drop of blood, or less, most of the time, and the blood is often wiped from the skin surface, when the woman or girl is on the potty, or toilet, and the woman or girl will not even see the tiny drop of blood that comes out of the vagina and drips down the labia, on the inside, and then falls or dribbles down to the felates, and then falls off the felates, while she is on the toilet into the toilet, or while she is out doors, and walking about, onto the earth, if the woman is walking on a park walkway, or bicycle path. If she is wearing underwear, it will not fall onto the earth, but it will dry up on the panties, or underwear, and the smell of the dried blood will attract wild animals if she is out doors, walking or jogging in a wooded or regional or rural area, where there are lots of, or even just a few, animals.

Pumas can smell the blood, from miles away, and so can tiny oselots, and bears, and many animals can. They can smell blood, because they know they need meat to survive. That is built into their brains, that are located throughout their bodies, and not only in the skull, and animals are very sensitive to the smell of blood, as well as to the smell of urine, and to the smell of poop. Some animals, such as racoons, will come up from behind a woman, and grasp at her panties, as the racoon may smell the odors of fecal matter, from her butthole. Men may be raked by the claws of raccoons from behind, as they smell the odors of fecal matter, and try to find out more about it, as the racoons know that there is something delicious hiding behind those odors from the buttholes of women, girls, men, and boys.

Expecate

When women and girls go out hiking, it is best to wash out the vagina, first, and then use a fermented oil, as a douching agent. The oil will help to slow the flow of the blood down the inner walls of the vagina, and it may help to trap the blood, and make it difficult for it to leak out, unless the amount of the flow of blood, is very large. In that case, it is best to stay home, and not go out, when a large amount of blood is expecated from the vagina. Expecated means to expell outwardsly. Expectate can also be used, as it is generally the same word, that is, and it also has generally the same meaning, but

perhaps it has a few more uses, maybe, but it is from a variant language of the English language, and is basically the same word.

You should expecate your fluids in your vagina, from your vagina, before you go out hiking. If you know when your period is, and there are ways to tell when you have a period, or when you know when you are about to have a period, than if you normally have a large amount of blood flow from your vagina, as that has been your experience, it is probably best to go and sunbath at the beach, far away from wild animals and their habitats, or by the pool side. Racoons sometimes come out of the woods, to the shores of beaches, and trumbel along, listening and watching, and sniffing the air, when they smell dried blood, or wet or moiste blood, inside of the swim suit lining in the groinal area.

How Do You Tell When Your Period Is?

To learn when your period is, you need to look into the toilet bowl that you pee into, and then see if there is any red droplets. You can place a piece of toilet paper onto the surface of the water, and it might help to show the redish color mixing with the urine.

Another way is to take a piece of toilet tissue paper, and wipe your felates, in the morning, or during the day, or at night. Night is a good time, but during the day, it is just as good. Some women like night time because they feel the day is finished, and they are now going to make a final check. Well, it doesn't always happen the way we want things to happen. You might start leaking blood fluids, at two or three or four or five, a.m., or at six, or seven, or eight, or while you are in the shower, or in the bath tub, bathing, before you plan to go out for the day.

It may take you several years for you to find out when your period begins, and when it ends, by checking for blood flow. When you have determined the number of days between one period and the next, and you are absolutely certain of it, and you have confirmed it, many times, and you have checked to see if there might be something you didn't notice, at other times, when you checked, eventually, you'll learn when your blood flow begins, and how long it lasts, and when the next blood flow begins. Once you know, then you can time your excursions to the woods, or to the beach, with your friends, both women and men.

Bears, Wild Animals, And People

Men are needed to help scare bears away, if they come to close, and pepper spray is a good way to get them to leave the area. Bears do not like the small of pepper spray, and you need a cannister of pepper spray that will fire fifty to eighty to one hundred and eighty five feet or more, to scare away a bear, safely.

Loud noises surprise bears, but hungry bears get angry and feel challenged by you, and may come at you at a fast pace, and not stop, once they are angered. If you are a good shot with a rifle, and you

see a bear, from a few hundred feet away, and it is moving slowly, towards you, following you, you can shoot it with a good fifty calibur weapon, from that distance, and it will go down, in an instant, if you hit it square in the noggin, about one inch or less above the nose.

You need to be a good shot, and several people should aim, and fire at the same time, to kill the bear, to be sure some one hits it, and then puts it down, and kills it.

Do not think that because you have one rifle, or two handguns, and a rifle, that you are safe. If you do not know how to shoot, and if you are an inexperienced marks woman, or marks man, than your chances of hitting the bear are near zero, for all three of you, at three hundred feed.

You need years of practice to become a good marksmen, and you can start with the lower calbur weapons, to get a feel for weapons that fire projectiles, and that make loud noises.

There is no such thing as a friendly bear, and people think, 'Oh, look! Isn't she cute, that bear.' If they think that way, they might as well have left their last will and testament behind, and signed all their assets over to another person.

Bears are animals that need to eat just as humans do, and just as all animals do. If you are so foolish to think that bears are cute, you are a lame brained idiot. Bears are dangerous animals. And so are all wild animals. If you think a racoon is a cute animal, you get the lame brained award for the year award, and trophy to sit on your desk at home to remind you of how stupid you are.

Brad Pitt, And Angelina Joline

Only idiots would think that wild animals, that eat people, are cute. They need remedial training, as they do not understand that their lives are in danger, every time they walk out the door of their home. Even in the cities, there are nasty people, who smile, and pretend they are your friends, and these same people, such as Hillary Clinton, Brad Pitt, Cheryl Davis, a friend of Brad's, but that's his current girl friend, Angelina Jo-line. She is not a Lesbianist, and Brad pretends to be her friend. He likes to watch her get eaten by bears, my abominant kids, when the Lesbianists feed humans, one at a time, to the bears, or to the crocodile abominant children of mine.

Abominant Elephant Kids

I have carniovorus, human being abominant elephant kids, and they are rude, mean, nasty, and really terrible. They scare people, and then they pick them up with their trunk, and place them on their head, and then they tell them not to move, or they will stample on them, or tromp downwards, and crunch them, painfully, from the foot, to the shin, to the thigh, to the pelvis, to the waiste, to the lower tummy, to the mid section, to the chest, and then the neck, and then the

head, finally killing them. They will take a person, pull the person up and lift him or her up into the air with his or her trunk, and then pull the person into his or her mouth, and then crumple up the person, and then spit the person out, and the person is all broken up, and chewed up, with all the bones, broken, in the legs, and in the arms, and in the waiste, pelvis, torso, neck and shoulders, and head.

The Lesbianists use lots of these elephants. They are pretty to look at, but they are mean, and nasty. When strangers see them, they think, 'Oh, what a pretty elephant.' They don't know that the elephant is my abominant kid, and can speak English, as many people recently found out near Africa, in Sri Lanka, and then also in New Guinea.

They were very surprised at the talking elephant. But they didn't know that the Lesbianists had let the Elephant, my abominant kid, lose from the cages that they kept him sealed up in. There were one or two, or maybe eight of them, in Sri Lanka, and eight or nine in New Guinea. Lots of people got eaten up, and killed. The elephants are still lose in New Guinea, but in Sri Lanka, they herded them into the pens, and brought them to New Delhi, to then begin a rampage in New Delhi.

Well, the Lesbianists are doing this, daily, because they feel they have lost this battle, and that they are just wasting time, doing nothing, as they can not get to me. So they want to have a lot of fun. Now they are releasing lots of my abominant kids, in many places, and in New Delhi, Bombay, Sri Lanka, and New Guinea, many people have been hurt and killed by these idiot kids, these abominant elephant kids of mine. The Lesbianists have thousands of animals they want to release, out into the public, in England, in Switzerland, Georgia, South Carolina, Paris, and many other places.

The Lesbianists think they are going to have a lot of laughs watching the abomniant kids of mine, tear people up, and rip them to shreds. They also think that the animals, who are not abominant kids, but are just bizarre animals, that catch people in very large, nets, that have threads as thick as ropes, and that are very sticky, are going to do a lot of wierd and crazy things, no one here on this planet, other than them, have seen. They think they are going to get a lot of laughs when they see the mayhem and havoc, the disruption to society, and frustration on the faces of people who get caught in the nets, and then turned into living mummies sealed up in a type of pulpyish paper so the person can slowly disolve, but stay alive, for up to a year or more. Maybe as long as ten to thirty years, in some cases, and I'm not kidding.

You may think I'm kidding, but I'm not. This began a few days ago, and the Lesbianists are intent on continuing this, for the next few years. Isn't that surprising. I never expected that. They are very strange people, aren't they. They are real sicko's aren't they.

I think you should all go and meet my kids, with a day pass, and ask them about it. Other wise, you might find your self in a very large

spider's web.

Labiating A Labia

To labiate is to suckle the labia, and to take one or the other of the labia into the mouth, and tickle it with the tounge, or twist it gently with the lips.

'Labiate that woman's left labia!' 'Felate that womans left felate!' The difference is, labiating is to suckle the entire left labia, inside or under the edge of it, on the inner side, and the edge of it, and the outside of it.

Felateing the felate, is to suckle the edge of the labia, the upper exposed edge. It does not include the labia, in its entirety. Only the upper, protruding skywards, or in which ever direction it is pointing, that portion of it that is extending outwards. If you lift it up between your finger tips, you'll pull up on the entire structure revealing the underside, or the unexposed underside of the labia. There is also the outer side of the labia.

The Felate is the top tip edge of the labia, generally speaking, and it is itself an isolated system, and not part of the labia. It's connected to the labia, but it serves a different function. It droops downwards, to seal out the possiblity of any thing entering the vagina from below, in an upwards moving manner. Bugs can not fly up into the vagina, as the felates prevent them from flying up into it. Without the felates, the vagina would be unprotected. The labia would not protect the vagina, as the labia is merely the skin tissue mass that the felates are attached to, and in an instance of removing a felate from a cadaver, or dead body of a woman, or girl, once the felate is removed, the labia have no closure over the vagina, in most women and girls.

There are exceptions, as we've had many animals in our heritage line. There are many differences when we line up ten women, and inspect their vagina, their felates, and labia, their bumbey pack, as children are encouraged to call the lower hanging sexual organ of the vaginal cape, as it is also called by doctors.

On this planet, the bumbey pack may not be called a vaginal cape, with the inferior texts with unadvanced, primitive, witch doctor level sexual sciences that do not help any one along, such we find with the myth that women and girls have a period every twenty eight days.

That is total nonsense, as I've explained about it, before. The truth is, every few days, to every eight to fifteen days, to even eighteen days, or evern thirty two or fifty five days, depending on where the woman has grown up and where her ancestors have grown up, the number of days between one period and another period can be very dissimilar, from one woman to another woman. Some women have a period every two or three days, or even every day. There is no reason an ovary can not fall, every day, several times a day.

An ovary is so small, no one can see it, without special optical technologies, such as pass through see through technologies, and other optics, and other videoing technologies. A microscope is an out moded, ancient, and novel device, fit for only museum use on display shelfs. It's like an old car of the twenties, or there abouts, or even earlier, of course, depending on how sophisticated it gets. Micron microscopes, the so called, 'electron' microscopes, are a misnomer to begin with, as an 'electron' is not a fictious concept, but no one knows what an electron is, generally speaking except for the Lesbinists.

An electron is a small bit of electrically heated plasma, that you can heat, with the right technologies. It can fit on the tip of a pencil or pen. This is a big joke to the Lesbianists, as are also their jokes about protons, and neutrons, and nuclei, or the so called combined nucleus, as in 'nuclear' family. Nuclear family, is not a 'tight' organization of two persons, and their children.

A nuclear family is a family that has been nuclearized, that is, exposed to radiological salts kiddies, and their radiative or radiological energies. That's another one of the Lesbianists' jokes on all of the scientists who the Lesbianists could get to swallow it.

What Causes A So-Called "Nuclear' Explosion Or Detonation?

A vast number of children are making babies at a very high rate of speed, and the energies that they give off, as they make babies, and then peel off from the area where they made their babies, one after another, as they rocket away, is what causes a nuclear blast. The tummy mommies and tummy daddies are making babies at such a frantic pace, they make millions and billions, and trillions, and more, before you can even send a signal to your eye lid to blink, from your brain part that sends the signal out. The signal will travel just a very short distance across a crupture, not even half way, more like, one or two feet in distance, if we are to look at the size of a crupture as the same size as our current universe. It travels about not even one foot, not even one inch, and not even one millimeter, and not even one millionth of a millimeter, and far smaller than that still, before the parents are already through making babies, and they have retired, and passed on, and several kabillion generations of families, and multiply that by a very large number, and you'll get how many generations of families lived and died, and passed on their DNA to their sons and daughters.

It's a hail storm of erupting magnitude when the tummy mommies and tummy daddies begin making babies, and making their families larger.

It all happens so rapidly, with more than that number of successive generations of families, in less time than the energy pulse will travel down an optic nerve, across a crupture, that very minute or very tiny distance, as I stated above.

That kind of frenetic baby making activity, makes for a lot of heat, as well as, it generates a lot of stresses, and a lot of energies go flying off in all directions, as the sexaling couples experience many nice orgasms and eroticisims, together.

Temperatures, their body temperatures, collectively, and the incredibly vast number of movements, which also generate temperatures, by the animals, the tummy mommies, tummy daddies, tummy babies, the relatives, and the many generations of families, go skyrocketing, and the magnitude of numbers, and the intensity of all the activities the animals are busy with, as they make tummy babies, simultaneously, or nearly simultaneously, is of phenomenal proportions.

If we slow them down, to our pace, and then compare them to our pace of life, they would be just like us, and things would move slowly for them, and not much would change, for many kazillions plus years, and then many, many more years.

However, they are moving so much faster than we are, and the length of time they live, to them, it is a long time, four or five, or eight or nine hundred years, in our time, maybe, in some cases, depending on the type of radiological salts kiddies making babies.

On their scale or pace of life, they live that long. But on our scale, the length of time they live, is so tiny, we can not measure it, unless we have a very high level of advanced mathmatics that can account for such a small time period, or span of life.

Anyway, the frenetic adventures of the colony of radiological animals, when they start to make babies, after they are woken up, and prompted to make babies, with a detonating surge of heat energies, light wave energies, pressures energies, trampolining energies, which get them started, with the right combination, of heat, light, atmospheric temperatures, atmospheric pressures, food sources avaiability, drinking water avaiablity, trampolining energies, and a number of other types of energies, that awaken them, and then get them turned on, and sexaly active, they will suddenly erupt into a frenetic, mass of baby making furor, to us, any way, and with that, we have our so called, 'nuclear' detonation.

Cleansing Your Self With Your 'Built-In' And 'Attached', Cleansing And Washing, Clearifying And Erasing Energies Producing Genitals And Sexaling Systems, Eroteming And Orgasming Nervous Systems, And Baby Making Related Purifying Energies Generation Stations Aparati, Or Apparatuses, And Armatures

You women and girls, your vagina is your Holy instrument for assisting you to cleanse your self, and wash away the dirt and grime of daily living, the insults to you from strangers, the verbal abuse you experience in your arguments and conversations with friends and family, neighbors, relatives, work associates, and community acquaintances.

Your Holy body is a weapon to fight back against all the negativities you experience in your life, as you orgasm and erotem, showering off purifying energies, and lots of other beautiful other things and dings, as you vibrate your entire body concordially, in harmonic rythym, cadence, and rapture, with my Holy Body.

Your breasts, your butty butt, your butty butt hole, your vaginal hole, your groin, your throes, your vaginal cleavage or labial folds as they are called here by these nitwittish doctors on this planet, who do not know any thing about the human body, your chest, your back, your legs, your arms, your hands and fingers, your ankles, feet, and toes, your ears, lips, mouth, tounge, cheek, your rectal cavity, your tummy button, your stomach, throat, your brains, and you have many more than just one in your body, but many millions and more of them in your body, and that is not an overstatement, and every part of your body, inside and out, your many nervous systems and all your organs, they are all set to orgasm and erotem, and generate purifying energies with the help of the power company, as I've explained about them, before.

Ticklement Tuning Forks

You have ticklements, tuners, or pitch fork tuning forks, that chime, in every cubic millimeter to every cubic inch, and in even tinier places, you have tinier ticklements, or tuning forks, and in larger areas, you have larger ticklements, or tuning forks, and they are all set to vibrate in various patterns of sexual thrilling eroticisms, and orgasming ecstacies, as you pump up the levels of sexalating energies you have available to you, in you, and showering off from you, and those patterns and focal points change, slightly, minutely, as every micro second goes by, as we change our location in our universe, and our relative location or position to every thing else in our universe changes, from night to day, and from day to night, ongoingly, non-stopingly, never repeating the same set of tuning focal patterns. Focal patterns are frequencies.

Focal Patterns

These frequencies, or harmonic consistencies, are harmonic displays or the 'in rythm' with GOD, consistencies that allow you to be united with GOD, me, my devine and holy body, and my devine and holy mind, and being or GOD SELF and GOD BEING, every moment.

Men and boys have the same ticklements, or tuning forks, and they are located in every organ of their bodies, just as they are in women's bodies and in girls' bodies, and they allow all of you children of mine to stay in frequency with me, as you sexalate, erotem, and orgasm, practicing my religion, and as you live your daily lives.

These many ticklements and tuning forks are all connected to your brains and to your nervous systems, and each living being in your body, has them as well, and every living being has them as well.

All my children, animals, living beings, and human beings, are all connected to me, through these tuning forks, and also, through the holy bodies all my children have inside of them, and also through a myriad of other mechanisms that I have functioning in your bodies, in your astral 'energy' bodies, and the many millions of energies bodies each of you have in you. My animals children and living beings childrens have fewer connectivities and fewer energies bodies, as they do not need as many as my human being daughters and sons. This is because you, my human being children, need to be more connected to me, as you are the only ones who can actively practice my religion, with your own self determination, and desire to practice, to become closer to me, GOD, purer, and holyer.

I'm connected to all of you, day and night, three hundred sixty five days a year, in countless many fold untold numbers of ways and manners, and with countless many fold untold numbers of mechanisms. All of my children are likewise connected to me, in similar ways and manners, and with similar mechanisms.

As you women, girls, men, and boys sexually rapture, erotem, orgasm, and reach sexual peaks, and then sustain them, you grow holyer, as you become purer, brillianter, and closer in GODLYNESS to ME, GOD.

Obviously, then, the primary means for you to grow pure and holy is to sexalate, and as you continue, over the days, and weeks, then months, years, decades, hundreds of years, thousands of years, millions of years, and more, you slowly grow more pure and holy.

Sexaling is my primary and most fundamental religious practice and your primary religious practice for you to become cleansing machines, washing machines, purifying and sanitizing machines, so that you can clearify and erase your karmic markups, and purify your lives, and the lives of those around you, with your selfless actions of grace and serenity, sexaling and showering purifying energies in all directions for the sake of your self, and for the sake of others.

You women and girls need men and boys to assist you to become the powerful cleansing and purifying machines that you are capable of becoming.

Men and boys used to be somewhat nearly as useful as purifying and cleansing machines, as women and girls, but men and boys have different jobs, and different priorities, and there fore, the burden of work to purify my universe, and to clearify the karmic markups of all my children rests on the shoulders of all women and girls, with men and boys assisting women and girls.

You men and boys need women and girls to lead you, and to help you to become more proficient, powerful, and more capable cleansing, washing, purifying, and sanitizing machines.

Assistive Religious Practices

The practice of praying Nam Myeo Ho Ren Ge Kyeo is an assistive practice that allows you to become in touch with my GOD SELF, equally as well, but the time it takes, is much longer, as very little purifying energies are produced, merely by using your brain, muscles, ligaments, sinews, bones, mouths, tounges, and jaws, as energies sources.

There are many other assistive practices, from meditation, to breathing techniques, to yogic techniques, to ballet like techniques, to dance techniques, to body movements of various kinds, to help you to increase and or also store up your energies, and then for you to release them, for you to then become more firmly and closely connected to ME so that you can eventually begin to gain a higher appreciation of ME, GOD.

My many religions teach many ways to do this, and before my many religions were corrupted by the Lesbianists, they worked to varying degrees of success.

Therefore, sexaling is the primary fundamental religious practice, and all other practices in my religions that I've taught over time, spanning all of my previous teachings from the begining of our time together, since I, my GOD SELF, created you as my children, are assistive practices, of one kind or another.

Sexaling, eroteming, orgasming, phlumetting are important practices, and as you orgasm, you are purifying your self, and others by pushing out and spraying your self with purifying energies as your holy and sacred energies shoot out to cover you and emmerse you in full body coverage, from head to toe, showering and shattering energies every where around you. They then build up and cover over all others who are around you, as well, with your purifying erototistic and orgasotistic purifying energies, clearifying yours and their karmic markups.

Astral traveling is another type of practice, but we'll define it, another time. Experiencing hyper trance states of mind and being, and a nearness to GODLYNESS are also a practice, and we'll define it, when I can remember every thing I need to remember about it.

Participating in my religious ceremonies is an assistive religious practice you can enjoy, as you become purer and holyer, and after you recognize that I am your Mother and Father, and your CREATOR, and that you exist because of me, as I made you from pieces and parts of me, your CREATOR.

After you realize this, you can enjoy participation in ceremonies with me, as training priestesses and priests, and you can make your way up the purity ladder, the more you participate with me, GOD, in my religious prayer hand signaling ceremonies.

Praying Nam Myeo Ho Ren Ge Kyeo to my Holy Body, or to the Gurkian Mandala, as I've explained about, is an assistive practice that will bring results.

It will not bring results as well and as effectively and as quickly, as sexaling, which is the most holy and virtuous practice, along with eroteming, orgasming, phlumetting, astral traveling, peaking, and so on.

I've spoken about peaking, before, and women and girls can peak, and experience wonderful feelings.

In any case, do not confuse assistive practices, with the fundamental and primary practice of sexaling. We'll get back to all those other things, to define them, betterly, another time, after my brain heals, a little bit more, and after I erase more karmic markups that keep my brain karma from improving, fast enough for me.

How To Make Prayer Statements

Remember to include a prayer statement, such as 'I pray to the holy ephemeral body of the Creator, John Francis Ayres, for the [insert private prayer statement]', such as, '... for the serenity of mind, and the gratefulness of heart, for all those around me, who have helped me to become the person I am, and can become.' or, '... for the peace of mind, and serenity of heart, for the love of all men and boys, and the cooperation of all women and girls.' These prayers said by a woman or girl. Men can pray, similarly, '... for the grace and deviness of the women and girls who surround me, I am greatful to them, and I pray for their continued good health, and prosperity'.

You can also say, 'I pray to the holy body of the Creator, John Francis Ayres, for the [insert private prayer statement]', but only when I am in the middle of a religious hand signaling prayer ceremony, i.e., while I am doing a prayer ceremony, and saying my prayers with religious holy hand prayer signals that my special kids who are religious kids, can pick up and then act on, in concert with other groups of kids of mine, who also are religious kids, most of them, I think, and who work together with my primary groups of religious kids.

I have lots of kids, and some are normal kids, who go about their jobs, as expected, for earnings, just as most people we know. But I also have lots of other groups of children, who are more, religiously oriented, to varying degrees, and who are very religious as their work is all for the sake of my religious self, my GOD SELF. My religous kids catch my hand signing, and then they pass the messages along to others of my groups of children, and with all of the different groups of children I have doing 'good' works for me, as well as groups of children who do 'religious' works for me, as well as groups of children doing normal work for me, but for the sake of my religion, nevertheless.

They all coordinate themselves, somehow, I have yet to figure out how they do it, but between them all, they get the jobs done, that I ask them to do, while I am religiously - and the prayer statements I am signing are very holy - hand prayer signaling, i.e., hand signing.

So, unless you know for a fact, by seeing me on a tv, such as during a live broadcast, once I get my religious conveyance set up, and built by my children, after all the conditions are met, for securing this world from the grasps of the Lesbianists, and after killing all the Lesbianists, and / or after making the remaining Lesbianists surrender, and then after all other conditions are met, as I don't know all the conditions, I've set, as my memories are still foggy, as I'm amnesiatic, as well as mentally retarded, but in any case, if you see me on tv, on a live broadcast, doing my hand signing, you'll know I'm in the middle of one of my prayers, and then you can say, 'I pray to the holy body of the Creator, John Francis Ayres, for the [insert private prayer statement]', and you can omit the 'ephemeral' if you like, as it will work better if you omit the word 'ephemeral' as while I'm praying, I'm my normal, GOD, self, though I may not look to you, on the surface, to be any different, over the video links, or even in person. It never the less works better if you use my recommended methods of making prayer statements, this way, for you to maximize your private prayer statements.

All of my groups of kids have lots of friends, and they do lots of work for me, and I do not remember how many groups of them there are, and how many children I"ve got, as yet, but in time, I'll be able to give you a better idea of how they work together to get the work done, that I ask them to do for me, with my religious hand prayer signals, or hand signals, as in hand signing, or signing.

My kids use signing for all their work assignments, so I use hand signing that they can catch, pick up and read, and it is all pretty much very religious in nature, and it is very solemn, as I am GOD, and when I'm signing, they know I'm GOD, and do not doubt it.

When I am not signing, they might now and then, doubt that I am GOD, but never the less, I am GOD, and my signing proves it to them - when I am saying my religous hand prayer statements, by hand signing - with out any room for doubts in their minds.

In other words, I'm a typical person, just a little mentally retarded, brain smattered, or brain damaged, after my many youthful and other brain bashings I recieved, the wiring is a little scrambled up, upstairs, and after many poisonings by the Lesbianists - from makeing coffee from kerosene, diesel fuel, gasoline, and motor oil contaminated coffee beans and then from drinking that coffee, without knowing it was contaminated with petrol fluids, as often happens to people - and with ill health karma that has me on disability, and I've been through a lot, life after life, and sometimes, my children may have had a thought or two, 'I wonder, if he is going to make it, like he said he would?'

Well, to dispel all doubts, I sign, and when I'm signing, I remind them of my old self, back in the old days, when I used to sign, religiously, and they know how serious a guy I was, so they do not harbor any doubts, so long as I am hand signing.

What To Say, When You See Me Using My Dick Or Other Parts Of My Body To Purify Others, And So Forth

You can say, 'I pray to the holy body of the Creator, John Francis Ayres, for the [insert private prayer statement]', also while you see me praying, Nam Myeo Ho Ren Ge Kyeo, or also while you see me in a ceremony, using my dick and scrotum, or other parts of my Holy Body to purify others, during the middle of a prayer ceremony, and I need not be hand signing, or praying Nam Myeo Ho Ren Ge Kyeo, as I am in the middle of prayers and activities ceremony, which is just as good as a religious hand prayer signaling ceresony, any day.

My dick and scrotum package is very Holy, and it has a very useful function, and that is, it purifying others. My lips do, too, and my butt hole, does as well. They all purify others very effectively and efficiently during my religious ceremonies.

My entire body, during a religious ceremony, butt hole, mouthal hole, lips, tounge, cheeks, legs, knees, feet, toes, butt, chest, back, arms, elbows, hands, fingers, head, neck, throat, ears, nose, and so forth, is entirely the body of GOD, as I am GOD, and therefore, while I am useing my body, during my religious ceremonies, and for my religious ceremonies, and you see me on tv doing so, then after you have verified that I am in the middle of a prayer ceremony, you can say your private prayer, in the manner as I've explained, 'I pray to the holy body of the Creator, John Francis Ayres, for the [insert private prayer statement]'.

I only use my dick and scrotum package for prayer ceremonies, except when I need to pee, so if you see that I am using it, during a prayer ceremony, or if you see me using any other part of my Holy Body, during a live broadcast prayer ceremony, then you'll know right away, that I am in the middle of a prayer ceremony and it is okay to use the statement, 'I pray to the holy body of the Creator, John Francis Ayres, for the [insert private prayer statement]'.

The same is true, pretty much, for any priestess or priest, who practices with me, in my religious holy body prayer circle, their bodies become very Pure, Holy, and Devine, but only after many life periods, that is, after many, many aeons, as they do not attain the same level of purity for a while, the same level of purity as I am at by my good old self, or the same level of pureness that is of ME, GOD, since I'm GOD, and they are not.

That means, it takes priestesses and priests longer to become pure, holy, and devine. I happen to be pure, holy, and devine, but that's because I'm GOD, and it is only during my religious ceremonies that you can understand that as you make your prayer statements, and sexal, etc.

After a long, long while, priestesses and priests will also become pure, holy, and devine, as their holy bodies, energies bodies that are pure, holy, and devine, but on a lower scale than are MY energies

bodies, since I'm GOD, and I'm in charge of keeping things tied together, here in my universe.

After many aeons plus years of practice in my holy body praryer circle, the priestesses and priests become pure, holy, and devine, and then their bodies, their normal bodies, become very purifying, just as mine is, now, when I am in a prayer ceremony. I am in a prayer ceremony, daily, a few times, to a number of times, a day.

I've gone eighteen hours straight, once, and no sooner than I go to sleep, and then wakup, right away, I begin again, and I've gone many days, straight, praying, continuously, non-stop.

This is nothing, though, and is all preparatory, as in the future, when I get my health back, as I haven't been too healthy, for quite some time, I will be praying around the clock, some days, and for many days at a time, taking a break only to eat, drink, poop, pee, and clean up.

When priestesses and priests join with me, we will go for years without stopping, and with the priestesses, and with the priests, the both of them there, present, doing the prayer ceremony on my behalf, they can represent me, while I take a nap, go and shower, get some food, nourish myself, drink some fluids, read a book or news paper, or watch the news, or a movie, game show, video, or play a video game, and so forth. I won't be taking long breaks, and that is very funny sounding, but anyway, it happens that priestesses and priests will lose their attention, and then get lost, somehow, and then go and watch tv in their bed room, or whatever, and then we have to go and look for them, and they will get a few markoffs, and with enough markoffs, they will be asked to leave the religious conveyance, and they will be put on a type of vrobatiton, or under survielance, to see if they are good or not. My kids do all my survielance work, and they keep track of every one, so 'you'd better be good, you'd better be nice, you'd better look smart I'm telling you why, Santa Clause is coming, to town'.

Who Was Kris Kringle?

Did you know that Kris Kringle got its start from me? What a coincidence. I don't think he was wearing anything, though, or rather, I don't think I was wearing any thing, but you never know, as tolerances have changed over the long aeons of time, as they pass.

When priests and priestesses become that pure, holy, and devine, as pure, holy, and devine as I am, after their many aeons of religious practice in my holy body prayer circle - pure and devine on the exact same level as I am at - then they can represent me, as Mr. mini-GOD, and Mrs. mini-GOD.

You can not represent me as Kris Kringle, and whoever my wife was, back then. I think I had a lot of guys on that team, and a lot of women and girls, too, since sexaling was a part of that religion, too.

You can learn more about it, if you're interested, by getting a day pass, and checking in with my kids, and then, signing up and joining our country, and then by becomeing a citizen, as I've spoken about, before.

You can include any good prayer, that comes to mind, that you feel is needed by you, to improve your life, and to level up your life.

You are the only ones who can pray, and practice, you women, girls, men, and boys, and there fore you are connected to me in many more ways than other living beings, the animals, and the amoebes, cells, and other living beings.

There fore, you are, both genders, the ones who will clean up the mess you have made, and you will continue to keep my universe clean, as you sexal with your genitals, and with your bodies, and with all your gizmos, igniters, trigger mechanisms, love bumps, love patches, tuning forks or ticklements, and so forth, as you are sexaling beings, who I, GOD, created, and you will sexalate, erotem, orgasm, phlumett, astral travel, peak, hyper tranceate, and so forth, just as I intended you to, from now till forever.

You will become virtuous and worthyable beings, worthyable tummy mommies, and worthyable tummy daddies, with your practice of my religion, who will bring into my universe, my many children who will join with you, and assist you and me, in cleaning up our universe, and the mess you have all made of it.

Is that understood? The answer had better be, "YES SIR!".

Lesbianists' Torment Campaign Under Way

Lesbianists are clearly releaseing wierd, ghastly, horrible, and dangerous preditorial animals, giant insects, giant spiders, giant lizards, snakes, and reptiles, ghastly, preditorial sea animals and sea mammals, winged, preditorial and horrific, aggressive scavenger and killer buzzard like creatures and other winged and destructive animals, and other horrible creatures, as well as my abominant kids to kill, maime, torture, and cause major disruptions and suffering to people, around the globe, in many locations.

Apparently, the whole world is now affected, or will be affected, by this dischordance and disharmonic display of defeated lunacy.

The peace has been shattered by the Lesbianists. It was not good before, the situation in the world, with the balooneying governments of the world, doing what they wanted to do, and torturing, and canabalizing people, and feeding people to my abominant cave bears kids, and to my crocodile people kids, and mistreating people, like Bill Gates, Steve Hawkins, Steve Irwin, many women, young girls, and men.

The war in Iraq, the phoney Saddam Hussein Trials, and all the bogus manipulation of the press and media, and the suppression of what is actually the case, with our being used and abused, poisoned, and maltreated by the Lesbianists, was a rotten situation. That was normal, or normality for us. Our karma is very poor, and we have the karma to suffer this abuse, and these torments, daily, unknowingly, in most if not nearly all cases.

But, it is becomeing really bad and there is need for serious concern, and action, to correct this situation. It has gotten out of hand, completely, and there is no stopping the Lesbianists in their wanton, and coldly miserable wish and lust for chaos and disturbances to others.

Now, more clearly than ever, as the Lesbianists rampage, the Lesbianists are causing major disruptions, suffering, anguish, and there is just an awful discordance of shock, dismay, and misery, that is growing, every moment. This is as real as the sunlight shining from the sun on a hot day in summer.

I don't have a clue what people are doing, and what is happening to them, as they are captured, tortured, and caused miserable sufferings, in many places. There must be horrible agony for many people, at this moment, and as each moment passes.

Our reality as it was has suddenly been shattered and torn up, and replaced with the lunacidal, Lesbianistic, mayhem and chaos.

Reuters reports a Lesbianists' joke for the Lesbianists, sarcastically and ironicly stateing, "New Perils Push Doomsday Clock Closer to Midnight" "(Reuters) Scientists have advanced the clock 2 minutes closer to midnight."

http://us.rd.yahoo.com/my/today/new_perils_push_doomsday_clock_closer_to_midnight;_ylt=AmUXlewr5ev2kNK_SfOHDFAL1vAI/*http://news.yahoo.com/s/nm/20070117/us_nm/doomsday_clock_dc_4

This is their private joke, to make this scenario more laugable than before for them. They could not care less, as they are manipulating every thing, and that statement is completely meaningless to them, as they are in control of every thing, in their conspiritorial lunacy to rule human beings, and to trash every one.

We'll see what the coming days, weeks, months, and years bring, and maybe there will be hope for change, when people begin to take action, to correct this situation, globally, united in spirit, permanently.

These are the most evil of evil people and abominant kids, in our immediate vicinity in our universe. We must begin our cleanup campaign here, as it begins where I am, and will continue from here on out, till we have rid my universe of all of these horrible people, and all others like them, and have made them surrender, or have sent them on to my Epcot Center.

I will establish my relgion in my universe, and begin my ministry, and they are not going to stop me, as my religion will bring positive change for all of us, forever.

I must establish myself outside the bounds of this Lesbianistic society, so your efforts and concern for our future, and your selfless giving of donations to my ministry, to allow me to set up my ministry, outside the bounds of this Lesbianistic society, non-dependent on Welfare, Supplemental Security Income or SSI, Medicaid, and non-reliant on the supported and financed Housing and Urban Developement or HUD subsidized apartment that I live in.

Once I receive in the mail, the 'Gift' donations to set up my ministry outside the bounds of this society, I believe things will gradually begin to positively change for us all, and the shift to positivity will begin, and a new universe for us all, will become for the first time, ever, a potential reality with the sincere religious practice by all of my followers, all of you, who are practicing my religion, diligently, and daily, or as much as your health and your time permits.

There in, with your efforts to practice, will bloom your flowers of dignity and hope, justice and freedom, willingness for sharing, cooperating, and participating with others in our new age of enlightenment, the Gurkian Age, and your new found respect for self and others.

Captain Off The Bridge.

John Francis Ayres
GOd
And Children

It Is Now Time To Kill All Government Workers, Public Workers, Preachers, Islamic Clerics, Christian Bible Teachers, Bible Thumpers, And All Other Persons Who Support The Lesbianists And Their Lesbianistic Societies Around The World - 'Fivers' To Kill Lesbianists And All The Lesbianists' Supporters - Coma Patients - All Persons Who You Kill Will Transel To My Epcot Center - Japanese And List Keeping - Surrendering And Pledging To Serve All People In My Universe - What Does This Mean? Updated: 21-01-07 Rev.d.01.a 19:56 PST

It is now time to kill all police of every police department in every country in the world. It is now time to kill all jail and prison workers in every country in the world. It is now time to kill all zoo keepers who work in zoos and other related places around the world. It is also time to kill all pet store personel, and pet store owners. We do not need people housing and feeding potentially dangerous animals. You are further ordered to kill all pets in all pet stores, and elsewhere, even in private homes. You may then eat them, after you have cleaned out their guts and removed tummy foods and rectal feces, etc., that are decaying matter, that is harmful to your health, and after you have prepared them for eating by cooking, grilling, fire

place cooking, barbecuing, smoke house fermenting, or by other safe and sanitary, healthful cooking methods.

It is also time to kill every fire department official or worker, no matter what capacity the person works in, as a fire truck driver, as an ambulance driver, as an assistant driver, as an attendant or support crew person, as a maintenance man of the fire or the police departement, it is now time to kill them all.

Further, it is time to kill all public bus drivers, who work on any metropolitan or local area or state or interstate, or national bus company. It is time to kill all ships' captains and their crew members. It is time to kill all railroad rail line workers. It is time to kill all subway drivers and subway line workers, no matter what their job is.

Further, it is now time to kill all military personel, SWAT team personel, all government personel, and all civilian, or trained military, national guard, state or federal militia, toy soldiers, the people who dress up in old time war regalia, and outfits pretending they are old time, earlier period, confederate soldiers, or old time earlier period, union soldiers, who act out old time North the 'Union' vs. South the 'Confederates' and who participate in city and town parades, across the United States.

It is now time to kill all retired military personel who support the deranged, crazed, insepient, and corrupted Lesbianistic societies we live in, around the world. It is also now time to kill all persons who in any way support the governments of the world, including but not limited to, all school, university, kindergarden, missionary, day care center workers, nursery school teachers, teachers aids or teachers assistants, United Nations workers, United Nations teachers, substitute teachers, catholic school teachers, Irish protestant school teachers, parochial school teachers, all religious denominations around the world school teachers and their school support workers, government funded school teachers, tuition assistance by the government school teachers, all personel who work for the United Nations, all civil service agents, all DEA agents, all FBI agents, all FDA agents, all EPA agents, and workers, BLM agents who are Lesbianists as well as those BLM agents' who are Lesbianists as well as those friends of theirs, who support the Lesbianists.

It is also time to kill all other federal, state, or local, or globally tasked organizations, such as the CIA workers, INTERPOL workers, the several groups of workers within the Canadian Mounties, NIC a spy department of the U.S. Navy, the Korean C.I.A., the United States Presidential Police agents the Secret Service Agents, National Park Rangers, State Park Rangers, Forestry Service workers, Pentagon workers, National Library Of Congress workers, and all others who work in any capacity supporting any government organization, those listed above, and all others, as well as all persons who support the Lesbianists in any way at all.

It is now time to kill all judges, bailiffs, Supreme Court Justices, and the employees who work in their organizations, and all other judges, legal clerks, para legal workers, court stenographers, justices of the peace, lawyers, attorneys, state attornys, prosecuting attornys, defense attornys. It is time to kill all officials of all government organizations, and all the people who work for them and or even only support them, such as restaraunt workers who feed them lunch, coffee shop workers and owners who feed them coffee and food, bars and restaraunt personel and owners of bars and restaraunts who support and feed any and all persons connected to the governments of the world and who work for them in any capacity at all.

It is also time to kill all the money lenders who loan money to the Lesbianists, the mortgage company owners who provide the Lesbianists with house purchasing loans, and all the supermarket workers and supermarket owners, who supply food to the Lesbianists, as well as all of the druggists, the pharmacy workers, who supply medicines to the Lesbianists. It is time to kill all the taxi cab drivers who give rides to the Lesbianists, and to every person who supports the Lesbianists in any way, at all, unless those people surrender to my kids.

It is also now time to kill all civilian or civil servant or state civil servant worker who supports in any way, any Lesbianistic organization, such as the police departments, federal agencies, fire departments, libraries, schools, and so forth. It is also now time to kill all persons who maintain or provide services to any of the above listed organizations, and to all of the similar organizations in every country in the world.

This is my order to all of you, and you are all ordered, by me, GOd/ GOD, to kill all of them, unless they surrender. People also call me, 'Allah'. I'm the same person. Just do as I tell you.

You are to take my fuels' bombs with chlorine plastics' explosives formulas, and all other explosives formulas I've explained about on my bulletin board and the fuels' bombs explosives formulas including but not limited to radiological 'fracturable' rocks that provide so-called 'nuclear' explosions, all of my bombs' formulas, and all other bombs' formulas derived in part or in whole from what we have learned as I've explained on my bulletin board and to take them, and make the bombs and explosives, and to then use them, and then destroy and kill all of the Lesbianists, and all of the Lesbianists military bases, buildings, and kill every last one of them, all of them, leaving no one alive.

'Fivers' To Kill Lesbianists And All The Lesbianists' Supporters

You are to then make certain they are all dead. If they are not dead, you are to kill them with a 'fiver'. A 'fiver' is a bullet with five lines drawn or scored with a knife or sharp instrument into the tip of the bullet, to form a 'five' line pattern, so that the bullet will fracture into 'five' parts.

You are to take three 'fivers' and shoot each person who has not stopped breathing, and who is not dead yet, and shoot the three fivers into the head of the person, to make certain the person dies.

Three 'fiver's will destroy enough brain material, to kill any person if the bullet is large enough, and the handgun, rifle, or weapon is powerful enough.

The handgun bullet size must be at least larger than a .22 calibur, and at a minimum, 7 millimeters. You may use .38 calibur, 9 millimeter, 10 millimeter, .45 calibur, or any other, large sized bullet to make certain they are dead. Buckshot, 8 guage to 10 guage, or any comparable rifle load or handgun load, or home made weapon load, will work equally as well, with three shots into the skull. A machete or similar instrument should then be used to chop the head off of the person at the neck line. If you have a machete or hatchet, or axe, and if you prefer to chop off the head of the person, then by all means, you are to do so. The point here is to kill the person one hundred (100) percent, and not leave the person in a coma.

Coma Patients

A person in a coma is perfectly alive, and can hear every word you are saying, but can not respond. People in a coma after severe accidents, such as near fatal traffic accidents, where their limbs were broken into pieces, or war victims, who are on life support in Veterans' Hospitals, can be in agonizing pain, and no pain medications are given to the patient as the patient has no way of communicating with the doctors, nurses, or staff members to complain about the pain, in many or in most cases, if not nearly all cases. Some patients can write or scribble out a note about the severe pains, or make gestures with their hands, pointing at painful spots they are able to point to, and then making squeezing motions, to indicate as best as they can, that there is something wrong in the area. Some people may catch the meaning of the gestures, but others do not, and may just wonder what is going on with the patient and they may wonder what the patient means by the hand gestures. Others, doctors and nurses, and staff members will merely find it amusing that the patient is making the gestures. Some doctors and nurses, and possibly staff members, will figure out the patient is in pain, and then steps can be taken to alleviate the pain, but it is an ordeal for the patient, and it may take months, or in some cases, years, before staff, cleaning persons, food servers, orderlies or assistants, nurses, or doctors figure out what the hand gestures mean.

The coma patient, after healing from the injuries, may still have residual pains, such as residual spinal pains, or neck pains, or ligament pains where ligaments were twisted, or ruptured, or severed, partially or wholly, and the ligaments didn't grow back properly, or didn't grow back fully, or much, or perhaps, in some cases, not at all, which does happen a lot, and each time the patient is moved in her or his bed, the person experiences extreme pain as no medications for pain are given to the coma patient, unless the patient has been

successful in communicating that there is pain felt by her or him, in her or his body.

Leaving coma patients on life support systems is the cruelest thing you can do to a person in a coma as there is no such thing as being 'brain dead'.

It is a cruel and abominable Lesbianists' joke on humanity, and on all persons, that the Lesbianists have perpetrated with their teaching doctors and nurses that coma patients are brain dead, and do not feel, hear, taste, or sense, anything at all, and it is just another one of the Lesbianists' ways to hurt and torture people, and cruelly and ruthlessly abuse human beings, in this case, in most of these cases, by proxy. There are doctors who are Lesbianists, and I have one who is one, that I am aware of, and he knows exactly what causes my health problems, but he sits there, non-responsive, and with a vacant stare on his face as if he doesn't hear, see, or know of any thing that is going on, something like the three monkeys with hands clasped over their, ears, eyes, and mouth, who represent 'hear no evil, see no evil, speak no evil' and then 'therefore, every thing is alright'.

All persons with brains, whether in a coma, or other sleep like state or condition, is perfectly brain alive as the brains and nervous systems, auditory, taste, touch and sense nerve systems, never die, until the patient stops breathing, and passes on.

All nurses and doctors are to remove all life support systems from all persons in a coma, immediately and confirm the persons have died. That will allow them to transel into my Epcot Center, and then be born again, as a tummy baby to a tummy mommy and to tummy daddies.

All persons in a coma, whether in a hospital, or in a nursing home, or at a private home or apartment, or in a group home, or group care center, are to be told the truth of this, and are to be told that you just leared it, and are to be told that I am GOD, and that I have an Epcot Center staff waiting for them to come in, to be treated for their traumatic condition, of not being able to do any thing about their condition to end it, as it is a miserable situation for these people who are in a coma, or in any trance like state or condition that resembles a coma, or a sleeping person, who can not wake up. The person is perfectly brain active, and there are no measuring devices to prove it available to hospital staff or to doctors, as none are made, and the technologies to detect a person's brain activeness and aliveness are kept secret after they are bought up, and then after the records of them are destroyed, and the information on them are kept secret and locked away, in vaults, and in storage facilities, hidden from view so that no one can get the information, and build a device to detect a person's brain alertness status.

After they are told the truth, and that you just became aware of it, you are to tell them to not be afraid, and that all measures to relieve them from their present condition, and all measures to assist

them to transel to my Epcot Center, where they can recieve personal care, and then helped to recover from the trauma of the coma, or coma like state of not being able to wake up, speak, and talk to people. They are then to be injected with a powerful sleep sedaditive, or induced to swallow several strong sleeping pills, as they may become afraid, and then, you are to help them to pass on, and to transel over to my Epcot Center.

In some cases, if you pull on the large toe of a person, or on the thumb, the person may have control to pull in the opposite direction. That is an indication that they are awake, and fully aware of what is going on around them. Please check patients to see that they have soundly fallen asleep, and snoring or breathing quietly, in relaxed manner, may be the only sign that the person is asleep.

Any sign of movement, mentally driven by the patient, no matter how slight, is nearly most always, nearly one hundred percent of the time, a sign that the person is completely brain alive, and that the person is completely aware of what is going on around her or him and can hear every thing. Even passing or expelling gas or farting, can be 'mentally' driven, and a sign the person is awake, and alert, and brain alive. Opening one's mouth is almost always, one hundred percent of the time, mentally driven.

Persons's in a coma, who have Eplilepsy, or other similar brain or neuro muscular disorder, and other conditions where patients experience spasming, whether the condition is diagnosed or not, these patients who spasm, may make some spamodic movement, now and then, and that is only a sign that the person is haveing a neuro muscular muscle spasm. Knee jerks or other similar movements, are not always muscle spasms and can be labored, mentally driven actions. These actions show the patient has control to that extent over her or his muscles, body, skeletal system, and other body systems related to the movement.

In any case, after the patient has fallen asleep, you are then to kill the person, and let the person transel to my Epcot Center, so that the person can recover in my Epcot Center, and then be born as a tummy baby, to a tummy mommy, and to tummy daddies.

All Persons Who You Kill Will Transel To My Epcot Center

Once you are certain all of the police, fire, teachers, and all others who support the Lesbianists' societies around the world are dead, they will transel to my Epcot Center.

It is now the time to bring an end to the lives of these people who support the crazed, insepient, bogus Lesbianists, and to destroy them all, leaving no survivors. Kill all of their family and relatives, and leave no one alive. Kill them all.

My Epcot Center will not be in any way, inconveinced by your brave and heroic actions. All doctors must be killed, all nurses must be killed. All medical techinicians must be killed. All library workers must be

killed. All school teachers must be killed. All art museum and gallery museum workers must be killed. All workers for all of these institutions must be killed. All of them, in every country of the world, unless they surrender and plead for mercy, and then are allowed in to my kids' place, for swearing in and for joining as civilians, my country.

Further, it is time to kill all media corporations personel, such as news casters, news men, news women, anchor persons, cameral men and women, talk show hosts, administrative persons, Hollywood's movie actors and actoresses, all radio broadcasters, and all personel of all radio companies. It is time to kill all news paper company owners, and publishers, editors, and all workers of these companies, unless they surrender to my children and plead for mercy.

It is time for all of you to kill all of them, and make sure not one of them is left living, including and most importantly, all politicians, who must all be killed, without any further delay. It is time to kill them all.

It is now time to kill Oprah Winfrey, Geraldo Rivera, Sarah Jessica Parker, Judge Judy, Jerry Springer, Liz Taylor, Michael Jackson, Clint Eastwood, Cher Bonno, Morgan Freeman, Steven Spielberg, Al Gore and his family, Hillary Clinton and her family, all of them, Jeb Bush and his family, all of them, Nancy Reagan and her family, all of them, former president of the United States President George Bush, Sr. and his family, all of them, including all persons related to him in any way, and all persons who work for him, in any way, and all persons who work for any of his associates, in any way, unless they surrender to my kids, and then plead for mercy.

We are not going to allow the Lesbianists to continue their illegal, inhumane, and horriblesome practices and activities on my planet, and in my universe, a moment longer. They must all die, now.

Is that understood?

I hope the answer is, "YES SIR! Mr. John Francis Ayres, GOd", as a 'negative' reply to my question is not acceptable.

Japanese And List Keeping

I haven't confirmed it, but from what I know, so far, the Japanese are very good at keeping lists, and they know about all the foreign people in Japan, and they keep lists of names of all of them, and they keep lists of names on all of the Korean people, and the Singaporean people, the Chinese people, the Ainu people, and the cast outs or 'burakumin' a group of meat cutters and fish sellers who some how got on a list of people who were felt to be 'unclean'. The 'burakumin' was a group of people who no one in Japan wished to talk about. The Japanese also, apparently, had lists on groups of people, who they didn't know much about, but they knew they were always doing things with each other. Those groups of people were the Lesbianists, so the

Japanese knew all along, who I was talking about and were nearly one hundred percent certain those groups were the Lesbianists living in Japan.

They read what I wrote, and the notes of mine were passed to many people on an e-mail mailing list, and when they heard that Steve Irwin had been killed, they felt they had heard enough and they told all their friends about my notes, and then the Japanese killed all the Lesbianists in Japan on that list they kept.

It's something I heard, and I haven't confirmed it, but I think the Japanese are fully capable of handling that, as they were fully prepared to deal with each one of the Lesbianists, and they knew who they were, and once the Japanese united, and decided to take action. The Japanese escorted all the Lesbianists to a meeting place, to which the Lesbianists were not happy to go to, but had no choice but to agree to follow the Japanese citizens who escorted them there, with the military or Japanese Self Defense Force, the Coast Guard, and National Police, and all other police agencies in Japan, plus the national organization of fire department workers, backing and supporting all the Japanese citizens.

As to what they did with the bodies of the Lesbianists, I'll leave that to them to explain to you, as it was quite brilliant and they had many very good ideas for dealing with the bodies of the deceased Lesbianists, who are apparently now in my Epcot Center.

The Japanese country side is now peaceful and quite, and things the winds are blowing, peacefully, and gracefully over the Japanese country side, cities and towns, across the ponds, marshes, lillies and lotus flowers swamp lands, bogs, bays, estuaries, lakes, streams, rice paddies, fields, mountains, and islands, from what I can understand and gather about the situation in Japan.

Surrendering And Pledging To Serve All People In My Universe

If the Lesbianists and their supporters surrender to my children, and then promise to devote their lives for the sake of others, serving man kind, and all human beings, and all people on this planet, and in my universe, for the rest of their lives, they will be allowed to surrender to my children, and my children will then arrest them and put them in a prison cell. If they are not willing to serve others, despite the fact that they say they will serve others and devote their lives for the sake of others, serving all people in my universe, then my children will ignore them, and my children will not arrest them because my children know they are lying. They must promise to do all they can that is humanely possible, for the sake of others, and devote themselves to the prosperity of others, for eternity. If they are not willing to do that, then please, just send them on to my Epcot Center, and we'll straighten them out, for there. My staff at the Epcot Center has training programs to straighten them out and make them nicer people, so that next time they are born as tummy babies, they will

behave and be nice to others, doing nice things for other people, after they are retrained, a little. The retraining program takes a while, but the results are very good to excellent.

If my kids decide that the person who is surrendering, is telling the truth, my kids will use the special teletransportation technology, something like what we see in Star Trek on tv, with Captain Kirk saying, 'Beam me up, Scotty!', as many of us have seen on daytime tv, or in the movie theater, and my kids have very good teletranportation technology or 'beam me up, Scotty' technology, and the person, once he or she pledges honestly to serve others, will instantly dissappear.

Do not be surprised if when the person surrenders and promises to 'serve others', promising to devote her or his life for the sake of others, the person suddenly dissappears, and instantly, the person is no where to be seen. The person was 'beamed' into a prison cell that my kids have constructed, using other technologies, and we have many prison cells waiting for the Lesbianists and for the Lesbianists' supporters, and for other bad kids in my universe, as well.

For each person you kill, my kids will keep earning points scores on your efforts to send them to my Epcot Center, and you will be paid, when you have finished your job, and then finally, go in to visit my kids. My kids will pay you in the monetary currency that is used in the underground cities my kids have built, for protecting people from these horrible Lesbianists and for protecting people from the abominant kids of mine, and the ghastly and naughty animals and very large bugs and spider like creatures, that the Lesbianists use to help them torture people with, to make the Lesbianists laugh, and to amuse themselves, as I've explained a little about, already. The more Lesbianists and Lesbianists' supporters you send to my Epcot Center, the more earning points you will score, and the more money you will earn, and you will be paid that money, when you go to visit my kids after you have finished your work, killing the Lesbiansts and the Lesbianists' supporters.

If the Lesbianists and the Lesbianists' supporters do not disappear after they surrender, and after they promise to serve others, and pledge to devote their lives for the sake of others, the Lesbianists and the Lesbianists' supporters are lying, and you can then kill them, and send them on to my Epcot Center.

My children will escort the deceased Lesbianists and Lesbianists supporters, once you kill them, into one or an other of my Epcot Centers, and will make sure that the Lesbianists and the Lesbianists' supporters get in for a meeting with one or another of my managers, or with one of the staff members who work with my managers to arrange retraining programs for rehabilitating the Lesbianists and the Lesbianists' supporters.

The Lesbianists and Lesbianists' supporters will not qualify as tummy babies, until they are finished their retraining and rehabilitating

programs. After they finish, they will be out, again, to join the rest of you, once again, but this time, as nice, kind, courteous, and polite people.

What Does This Mean?

It means, I want all the Lesbianists dead, but if they will surrender, and if they promise to serve all human kind, all people, and work and strive to enrich the lives of all others, dedicating their lives to others, then, you do not have to kill them, and you do not have to send them to my Epcot Center. If they are honest when they surrender, and when they promise to serve all people, devoting their lives to all people of the world, then my kids will 'beam' them in, using the teletransportation technologies that my children use. If they are lying, then my children will not beam them in, and they will be stuck where they are. If they are stuck where they are, after they surrender to my kids, and after they promise to dedicate their lives to the welfare of all others in the world, and to all others in my universe, then they were lying, and you may then kill them, and send them on their way to my Epcot Center, for retraining, and for rehabilitation.

It also means to kill any person who works for the Lesbianists, if he or she is supporting the Lesbianists to try to stop you from killing the Lesbianists. Also, it means that you should kill any person who tries to interfere with you, while you are trying to kill the Lesbianists.That's what it means.

Captain Off The Bridge.

John Francis Ayres
GOd
And Children

Fermenting Oils - Fracuses Kiddies - Slugs, Snails, And Other Bottom Feeders - Feeding Everybody In Our Bodies - Putting An End To The Global Menace Of The Lesbianists - Changing Our Societies, And Our Universe, Forever Updated: 22-01-07 Rev.x.00.a 07:45 PST

Mix raw sugar, ocean salt, sessame seeds, dried fermented berries you have taken from a mix of berries fermenting as a flural hydrate liqour, or as a plain fermenting liqour, and make sure you dry them out in the oven, before useing them.

Mix the items together in a container, and mix in a drop or two of apple juice, pear juice, papaya juice, kiwi juice, banana juice, cherry juice, cranberry juice, strawberry juice, peach juice, nectarine juice, or plumb juice, and let the moisture settle into the mixture to allow it to become only partially and only very slightly moiste, and not wet or liquidy.

Allow the mixture to sit in a warm or cool place for a week or two, to eight to fifteen weeks, or even a few years, and it will grow molds in it, and with the longer the duration up to a point of sitting and

molding, the more useful it will become.

It might develop a pungent, unpleasant odor, like a dead animal smells, which may mean that a fungus that is not very suited for you to use as a starter mold for starting a fermented oil batch has developed in the container, and in that case, you can throw the whole mix out, or use it for fermenting beans or something. Cheeses can be made with these kinds of growing funguses and molds, if you are the daring type, who likes to experiment with new and different tastes from variously fermented mixtures.

You can add some ocean salt, and make a soury vinegar, and then try to rescue it with the combination of the soury vinegar, ocean salt, and a little raw sugar, and some honey.

It may be that some bacteria is in the mix, and it needs to be eaten up, before you can use it safely for a healthy mold mix for starting a nice cheese molds and funguses mixture.

Ocean salt can be added in slightly large amounts with raw sugar. Once the odors have stabilized, and once they have developed a more pleasanty odor of a fermenting mixture, with a slight alchohol ferment odor that will indicate that it is alright to use, and that it will not be harmful to you.

In some cases, the bacteria in the base mix, may be a result of hairs or particles of skin from the body of a dead rat or mouse, that some how found his or her way into the sessame seeds, or into the dried spices, or into dried berries that you used, and then died.

In that case, you might as well throw it away, unless you have a lot of patience, and do not mind waiting and working with it, for several years, for it to become something you can use.

One way to make it into something you can use is to mix in a high potency liqour brew, and let it sit for a number or years, and ferment it, and then after it smells nice and rosy smelling, after ten to fifteen years, to thirty to fifty years, you can evaporate the liquids out in a pail on an open porch that has a net covering to keep animals and animals' hairs out of it. Make sure there is good ventilation, and it should evaporate out, safely after a number of days on the porch in the sun. If there is no heat to make it hot enough to combust, and if there is good ventilation, it will not combust, and it will evaporate out, safely. Adding ocean salt and raw sugar to the mixture so as to fill it up with raw sugar and acidic ocean salts, will further help to safely evaporate out the liquids and prevent the liquids from combusting, accidentally.

Once the liquids have evaporated out, safely, you can use the materials that remain in the pail or container, to start a fermented oils brew mixture, or to start a cheese molds and funguses mixture, if you wish to make a nice cheese molds and funguses mixture.

The particles of skin or hair from the dead rat or mouse, or pidgeon, or other animal, will have been eaten up by all the ferment fracuses kiddies, and will no longer pose a threat to your health.

Fracuses Kiddies

Ferment fracuses kiddies are just plain old ferment kiddies who like to devour large bits of human or animal tissues, mites, or cockroaches, or their body parts, and then poop them out, and pee them out into the liqour brew.

You'll always have some of these kiddies in your brew mixes, and they are useful to you, as they eat up the things that you do not want in your tummy. Also, there are other kiddies, such as snails, and other bottom feeders, that find their way in, in the skins and pulp material as tiny animals, or the eggs of animals, and they hatch, and they develop, and they grow big, and they then bottom feed, and they eat any dead rats, and dead rat parts from rats that might have fallen into the brew. These are useful pets, that you want in your rum and liqour brews, as they will keep the liqour brew healthy to drink, and they will keep you from getting ill.

Slugs, Snails, And Other Bottom Feeders

In the old days of bucanneering, as I may have mentioned, before, this was a crucial part of keeping the sailors alive, on their long voyages, and if crew members fell ill due to an unhealthy brew, with a dead rat in the mix, making it sour, and making it unhealthy to drink, then if there are not enough snails, slugs, and bottom feeders in the barrel or rum to eat the dead rat parts, the sailors will get ill, and when they get back to port, they will hang the rummery owner, and give the business over to the son, or to a third party, often times, one of their fellow crew members, who is liked by all the people, locally, and on the ship.

This is the case, still today, with many rummeries owned and handed down in the same family, from such instances as that.

Bottom feeders, slugs, snails, and many types of bottom feeding earth worms, and other types of healthy bottom feeding worms, that cohabitate well with the slugs, and snails, and other animals that are too tiny for you to see in the rum brew mixture, without a powerful microscope like, optical videoing technology, are essential to your brews mixtures, and they may increase in numbers as they make babies like every animal and living being does, and so now and then, you need to reach into your brew container, with your hand, or with a fine mesh small aquarium use fish net, and scoop them out, and flush them down the toilet, or let them loose in a local pond, lake, mountain stream, or water springs fresh water well, where they will help to keep the water clean, ahd healthy.

Once you have the materials to make your fermented oils mixture, you can add them to your container of food oils, and begin to ferment them, or use them to make a nice cheese mixture, to ferment and then

to make solid as it matures with age. You can also use the materials to make a fermented bean mixture, or fermented barley, or fermented rice, or fermented millet, or fermented wheat mixture.

You can also use them to make a fermented brew mixture, as there will be many healthy molds and funguses kiddies in and among the dried out materials. Your health will improve, and by adding different spices, nuts, berries, root particles, ground up kiln dried pine cones that were green to begin with, and then fermented for a few months to a few years, in a brew mixture, then dried out, and ground up into a saw dust powder consistency, you can then have lots of crystals cages salts kiddies of various kinds help you to make a nice regroverative brew, to help you to regroverate your amoebes.

Feeding Everybody In Our Bodies

You know, we need to eat foods to stay alive. We also need to feed all the living animals in our body, to help them to stay alive, so that they can help our health remain normal, from day to day. We also need to feed the amoebes all the foods and juices, salts kiddies, and the poopy liquids and pee liquids, and other liquids with other types of tinier salts kiddies in them, as well as other types of food kiddies, we haven't learned about, yet, but with all of them inside your tummy, you'll be able to feed every one who needs feeding, and then you'll be successful with your amoebe 'auto regroverate mode, on!' formula, so long as you have degunked your body of all the petro chemical oils, kerosene, diesel fuels, and other chemicals, the Lesbianists have been feeding you, from birth, in your diets, if you live in a society, where you are fed baby formula mixtures from Gerbers or Heinze, or any of the other baby foods manufacturers.

Putting An End To The Global Menace Of The Lesbianists

We need to put an end to this practice by the Lesbianists of poisoning us with their petro chemical industry oils and tars salts kiddies, which they use to rot our teeth out, and cause tooth decay, and which they use to cause ulcers in people's tummies, and which they use to cause lots of unpleasant illnesses, and diseases in human beings, and in farm animals. These petro chemical salt kiddies, and formaldehyic salts kiddies, all harm our amobes living beings children, and all the other animals that live inside of us. One day, we will have a lot of people practicing my religion, sexaling, and making prayer statements so as to help us to erase the karmic markups we have, that keep us living under the tyranny of these Lesbianists, and in their societies, suffereing the daily poisonings that cut our lives short. When we have erased enough of our karmic markups with my religion's religious practice of sexaling to purify our selfs and others around us, and to clearify and erase our karmic markups, we will eventually be able to say good bye to the Lesbianists, and their practices of poisoning us, and causing us major headaches, or problems in our lives.

Changing Our Societies, And Our Universe, Forever

At that time, we will be able to say hello to a whole new way of life, and that will be the beginning of our new, thrilling, and excitingly challenging, one world, unified, planetary, global culture, and it will be the begining of our new, thrilling, and excitingly challenging, one universe, universal culture for all of the people in our universe, who we have been living in our universe together with, since we first came out, and began living here in my universe, a very long time ago. We have to start somewhere, and so here we are, now, begining to prepare the foundation for our long and prosperous journey ahead of us, as we clean up our universe, together with each other, and clearify and erase all of our karmic markups, and all of the karmic markups of all my children, and of all living beings who live with us, together with us, in my and our universe. We need to take responsibility for this clean up campaign of ours, as we are the only ones, besides my many worker, unionized children, who can use our brains, and use our sexaling organs, to produce purifying energies of all types, to help us clearify and erase all of our karmic markups, and all karmic markups, and karmic things and dings, of all of my animal children, and of all of my living beings children, and of all of my human children.

My kids have built underground cities, to help us to get started, in learning about the new ways of living together, and of sexaling together, for practicing my religion together with each other, so that we will be able to prepare ourselves, for our new global, unified society, and for our new, universal, united, civilization. We have a long ways to go, but we are starting now, with your efforts to correct this situation by eraseing the karmic markups and karmic things and dings, that have us living in this truly awful situation on this planet, in our universe, that we are now, curently living in. One day, when all the Lesbianists are either dead, or have surrendered to my kids, we will be able to gradually educate ourselves, and change our understanding about women and girls, and about men and boys, to understand the truth about women and girls, and about men and boys, and then we will begin our new and exciting journey into our future, together, with my religion at the basis of our new, unified society, universal culture, and universal civilization.

Captain Off The Bridge.

John Francis Ayres
GOd
And Children

Donations To GOd - Monastic Mode - Who Works For Me, Anyway? - Obeying Orders - Every Politician In The World To Be Executed - Every Hollywood Actor And Actoress To Be Executed - Jump Ship, Explained - Fair Warning - Particle Remis Technology And Particle Dismiss Technology - Dismend Technology And Remend Technology - Mentalcosis / Mentaltosis And Comatosis - Michael Jackson - Retractions Updated: 26-01-07 Rev.b.02.a 06:45 PST

Donations To GOd

Why can't anyone donate any thing to me? I am GOd. So, how come no one can send me a penny in the mail, or a box of cookies, or a pair of socks, or something? I don't think I'm asking for too much, but I'm just curious about why no one can send me anything in the mail?

I don't get any phone calls. No one sends me any e-mail. No one tries to visit me. I have a religion, and I'm asking people to practice it. Now, how come no one can contact me?

I once said that I am in a monastic mode, and it is a cloistered monastic mode. That means, no one can be contacted out side of my monastery by any one inside the monastery, and no one can contact any one inside the monastery, by any one outside the monastery.

If there is no legitimate monastery business then no person will be allowed to contact me, or for that matter, any one else inside my monastery, who is leading a monastic life, with me.

Well, there is only me, right now, but maybe in the future, some one will be in my cloistered monastic discipline with me, helping me with my religious duties of doing my religious ceremonies, as I've mentioned about, before.

Monastic Mode

What does my 'monastic mode' mean? It means that I am here as GOD. You know, there is only me. I of course never sent any one, such as the Lesbianists claim. Why would I? I don't need any one to do the things I need to do. That's sheer idiocy to think I would have a son or daughter, and send them to do my business. That's absurd. You've been snookered into believeing all those hogwash tales, and now you don't know who I am, and you don't have the karma to believe in me, as a result of your following and believeing all those hogwash tales. My kids are everywhere, and they are doing their jobs.

Who Works For Me, Anyway?

Now, as I've been saying, I'm going to have you do your jobs, and that is to use your genitals, and to use your body, and to use your brains, and then participate in my religion, using your genitals and your body and your brain, and sexalate with each other, and purify your karma? Does that sound like a joke to you? If it does, you are very mistaken because it is not a joke in any way, and I am absolutely serious when I say that you are going to use your 'equipment' and I almost want to call it, your 'field' equipment, because you are armed with it, day and night, and you are going to use that equipment, to clearify and erase your karmic markups, and to purify my universe. Is that okay with you? I hope it sure the hell is, as a "NO SIR!" at this point, would be an unsatisfactory reply. Do you understand me? I hope so. You are going to jump ship, as I order you to, or be thrown over board, if you have a problem with that. I hope you understand.

Well, as far as I can figure it, no one realizes that I am GOD, so no one can donate money to me. If some one realizes that I am GOD, than

for the first time, that person will be allowed to donate money to me. That person will be allowed to visit me, or call me on the phone, or donate money or food to me, or practice my religious ceremonies with me, if that person believes, and understands, and realizes, that I am GOD.

Right now, there is no one who realizes or understands that I am GOD. No one of course believes I am GOD. Never the less, I am GOD, and I am sitting here, waiting for donations, to help my ministry get started.

So, that is the reason that no one can get through to me, or donate money to me, or send me a postcard with some kind of message of cheer and support in it.

There doesn't seem to be any body who believes that I am GOD. Well, that isn't surprising. People do not have the karma to believe that I exist, is one way of looking at it. They have ignored my existence, and have not had any real thoughts about me that would link them to me, in my monastic mode.

What does that mean? It means, that no one remembers me, as the guy who created all of you.

It also means, that I am in a religious mode, and no one understands that, or believes that I am in a religious mode.

That is peculiar, since I am giving you a religion, one of my oldest, for you to practice, that will assist you in purifying your life, and that will assist you in eraseing and clearifying your karmic markups.

That's very peculiar, but it is not that peculiar, as you do not have the karma to realize and understand that I am GOD.

In any case, there will be no donations, no telegrams, and no phone calls or letters to me, so long as you do not realize, understand, and then of course, believe that I am GOD.

Well, any way, so it goes.

Obeying Orders

Now, I want all these people, killed. Hillary Clinton. Bill Clinton. Chelsea Clinton. Ted Kennedy. Al Gore. Tipper Gore. Harriet Gore. Cheryl Gore. Dave Gore. Bill Gore, and all people who call them selfs, Gore and pretend to be related to Al Gore, or to Tipper Gore. Mr. Al Gore has lots of friends, who are also Lesbianists, and I want them all killed. Oliver North. Monica Lewinsky. Eve Arden. Elizabeth Arden. Michael Jackson. George Bush Sr. and all other George Bushes. Do you understand what I mean? It means, that they are all Lesbianists and they are all going to die, and we are going to blow up Washington D.C., and destroy Capital Hill, and level that area, and make it sink beneath the waves of the Atlantic Ocean. That's how big a bomb I want you to make, with my fracturable rocks, to then blow that area out of the water, and make it sink below the waves of the Atlantic Ocean.

You'll probably need more than one bomb.

Did you know that Washington, D.C. is lying on a fault line, deep down, and it is on an ocean shelf, that has the ocean under it, lapping at the earth, very far down. That means, that it is on a fault line, and it is on a shelf, that is hanging over the ocean's waters.

Now, if you hit Baltimore, and Maryland, and Northern Virginia, and Washington DC with a large enough bomb to blow Baltimore out of the ground, and level it, and with another bomb large enough to blow Washington DC out of the ground and level it, at the same time, and a few more bombs, large enough to blow Maryland, Virginia, and that whole metro area out of the earth, at the same time, you will sink the nation's capital, that is, Washington DC, below the ground, as it will break off the ledge that it sits on, and it will sink into the ocean, as the ledge crumbles below it. There will be water, from the Atlantic ocean, all the way out to West Virginia.

Now. I have every right to say that, and demand this, as it is a matter of self defense, as I know these motherfuckers are eating people, cannibalizing my kids, for their amusement, thrills, and fun, and they will continue to do that UNLESS THEY ARE STOPPPED! Do you understand that?

I hope so. I am going to see the whole of Washington DC and the area leveled, with Baltimore, and Northern Virginia, and Maryland, as well, and we are going to sink that area into the ocean, and make it disappear below the surface of the waters of the Atlantic. Now, that should be clear, shouldn't it.

This is not a joke. We will have to send a lot of my children to my Epcot Center, in the blasts that will occur, and in the after math of the blasts, but that is unavoidable.

We will have many people, drowning in the waters that come in from the ocean, and that stretch out to the hills of West Virginia, with only slight outcrops of land, hills, here and there, with a few people lying on top of them, blinded and in awful pain, but they will not live long, as they will not be able to survive for long, and they will pass on, die, and then they will transel to my Epcot Center, where they can get medical relief, medical treatment, therapy counseling, and rehabilitative therapies.

Now, that is what we will do to Washington DC and vicinity, so every one, please prepare for it, and get your pain medication in order, so you can take an over dose of pain pills, when your area is blown and shredded to bits, with one or more of my fracturable rocks bombs, as I've explained about.

Every Politician In The World To Be Executed

Next, I want every politician in the world, canceled out. I want their passports for living on our planet, canceled. That means, I want you

to kill each and every one of them. Not only do I want you to kill them, all, but I want you to kill every single one of their associates, around the world. They are all Lesbianists, except for a few of them. If you happen to kill one of the non Lesbianists policitians by mistake, that is okay. They have the option of surrendering to my children, available to them, and once they surrender, they will not be killed, by accident.

Every Hollywood Actor And Actoress To Be Executed

After that, I want every Hollywood actor or actoress killed, and that includes all the actors and actoresses, around the world, and they must surrender to my kids, if they wish to not get killed. There are a lot of them, who are not Lesbianists, so those I've mentioned, who I've let you know are not Lesbianists, you can forget about them, and leave them alone.

There are more than a couple of billion Lesbianists living under the earth's surface, in underground cities. I did not realize there were so many. We need to kill them all, so we will, in time, unless they surrender.

Is that clear, every body? I hope the answer is, "Yes, Sir!" as you had better not answer any other way, or you will get yourself on my shit list. Is that understood? Good. I am the boss of my universe, so if you do not like it, than jump overboard, now, sailor. Have you got that clear? Good.

Jump Ship, Explained

What does 'jump overboard' mean? It means you are going to have severe problems with me, if you do not obey orders, and that there will be difficulty and jail time, ahead of you, if you continue to ignore my commands to you. It means there is going to be trouble, if you do not obey me. My kids are in charge of handling all the details on that, and it is not a joke.

Fair Warning

We are not going to let these Lesbianists run their show, one more minute. We are going to put an end to them, and their activities, here on this planet, and every where else in my universe, and this is fair warning of that.

Particle Remis Technology And Particle Dismiss Technology

As I said, once before, there is a technology called particle remis technology. There is also a technology called particle dismiss. They are the technologies that you can use to feed 2.3 billion Lesbianists down under the surface of this planet, and on every other planet that they are on.

Dismend Technology And Remend Technology

It is easy to dismiss molecules, and to dismiss, or dismend all the beings who need to be dismended, and sent to my Epcot Centers. It is also easy to remend them, and then get them back into the foods that I need them to be a part of.

My kids keep track of every one who needs to be dismended, and then remended. That is a lot of work, keeping track of every one, but that allows us to dismend the living beings, and animals, that I can let off from duty, and from further service, and then send to my Epcot Centers for them to live in. I can then recall them to duty, and remend them, and then have them serve in an apple or an orange, or banana, or a brick. Do you think that is a joke? It is not a joke, and there is no joking allowed, on my shift. Do you got that? I hope so, because if you do not, you will have to learn how to swim a long ways, as it is going to be a long way from shore, after I ask you to jump over board, and I have sailors who practice, all the time, just to show the passengers how it is done, just in case. I will have you jump from ship, if you do not get along with me, and if you disagree with what I am doing, pretty soon, as we are departing, now, or just about now. That means, we are not going to play around, much longer, and we are going to set sail. That means, there are going to be a lot of people practicing my religion, pretty soon, as they will learn about it, and they will begin practicing it.

Mentalcosis / Mentaltosis And Comatosis

Mentaltosis is the state of a vegetable, like a stalk of cellery, or a plumb, or an orange. Comatosis is the state of complete awareness of self and others. Comatosis is not brain dead, i.e., more or less, mentaltosis, with no real significant brain activities occuring, other than the ones that keep you alive, and vegetative, and you do not need assistance to remain and function in a state of mentaltosis, and the Lesbianists know it. You are severely brainally handicapped, and when you come out of it, eventually, after you have your karma fully completed for being mentaltosically ill, and after it is then time to get on to something else, you will be very brainally handicapped, and you'll be an extremely retarded person, with little to nearly no brain awareness going on about self and others, but able to walk, barely, and later, after many many lifetimes as a mentally retarded individual, you'll begin to be able to mumble a little, or babble a little, for umpteen lifetimes, as you begin to get your higher brain functions, back, which takes a very long time to work out, and many many lifetimes to work out, karmically.

Comatosis is like a hit on the head, and when you wake up, your faculties are not all working, and you may not be able to speak, or move, or talk to your friends, but mentally, you are all there.

Mentaltosis is like a train ran over your brain, and every other nervous system in your body, nearly, and you are completely unable to think, or do any thing else, and you are reduced to a mere pumping heart patient, with not much else going for you, except you are breathing, and technically, you are alive. You can sit there for a

million years, or a million or so life times, before you begin to come out of it, and then reveal your disorder of severe mental disorganization, mental disfunction, and mental retardation. There is a big difference between a bonk on the head, and a train running over it, and the rest of your body. Coma patients are fully aware of what is going on around them, and they may not be able to speak, but they are there, and they can twitch a finger, now and then, or flex a toe, or raise their tummy up a tiny bit, to pass gas, usually, and relieve the bloating sensation they are experiencing in their tummy, and in their intestines, or colon. They may be able to grasp your hand, and fully hold on to it, and not let go, for hours, if they have the strength for it. This horrible torture the Lesbianists are perpetrating on comatosic patients, needs to end, now. Person responsible for continuance of hospital policies, despite our informing them of the truth regarding this, are to be shot and killed, and sent to my Epcot Center, if they interfere with the removal of the life support and life support assitive devices, that are plugged into the comatosic patients mouth, or nose, or other orifice of their body, or any part of their body. If some one refuses to cooperate, you are to throw them out of their hospital unit, and give them a good whack on the head. Come back in a few days, and then disconnnect their life support assisitive pumps, and tubes, and so forth, and shoot them in the brain with three 'fivers', as I've explained about, and then send them on their way to my Epcot Center. That is an order. Now do it.

I want you to pull the plugs on all the GI's and civilians who are on a breathing assistance machine, and life support assistance equipment, and I want you to send them all to my Epcot Center, where they can get treatment, and therapy, and then get themselves ready for being born, again, as a fine and a healthy, tummy baby to a tummy mommy, and to tummy daddies. You had better comply, if you know what is good for you, as my kids are now keeping track of your records on this account, and you are not going to do very well, if you do not follow orders. Is that clear. I will not have any insubordination of duty on my watch, and that means, you had better learn to follow orders, or you will be asked to jump over board, and then go for a very long swim to shore.

Michael Jackson

Michael Jackson is the biggest joke in the world. He is a white boy, and he pretends to be related to Janet Jackson, a black woman, partially, and they pretend to be related, and he is as white as an elbow macaroni, or a white goose. He is not a black person, though he does have some black ancestry, but he is a primarily white person, and he pretends to have bleached his skin color, which is a crock of shit. Now, I want you to kill that mother fucker, as well as Sylvestor Stallon, and Arnold Schwarznegar, Clint Eastwood, Morgan Freeman, Kirk Douglas, Matt Damon, Robert De Niro, Anthony Hopkins, Gary Busey, and their Lesbianists' buddies.

Retractions

Mr. Jerry Springer is not a Lesbianist. I was mistaken about him, as he was already killed by them, in a previous lifetime, as he developed a desire to bad mouth them, and they didn't like him, and they kicked him out of their group, and they killed him, with their murderous torture routines. Penelope Cruz is not a Lesbianist, but she was, but they killed her, and tortured her, and she is off the list. Angelica Huston is not a Lesbianist. She was, but they killed her, after torturing her. She is a popular and prominent person, and if she hasn't been abducted yet, by the Lesbianists who will feed her to my abominant kids, like they did to Steve Irwin, and Jeff Corwin, then they will be gettting around to it, not too long from now, as they like to feed her to the abominant kids of mine, just as they do Bill Gates, and lots of other, former Lesbianists. None of the Baldwin brothers are Lesbianists, either, as they were already kicked out, and killed by them, and then grievously tortured by them. They continue to be main attractions for feeding to my abominant kids. Jack Nicholson is not a Lesbianist, now, either, but he was. Ben Affleck is not a Lesbianist, as he was also kicked out of their organization, after they tortured and killed him. Charley Sheen is not one, either, but he was. Martin Sheen is not a Lesbianist, but he works for them, and he was one, before they kicked him out, after they tortured him, and killed him, in a previous lifetime. Michael Douglas is no longer a Lesbianist, either, as they killed him, after their brutal torturing of him. He is up for being abducted, and for being fed to the abominant kids of mine, as he is a prominent person, and Kirk Douglas enjoys watching him get eaten up, and Kirk Douglas will laugh his guts out, as he watches Michael Douglas get tortured by the Lesbianists, which Kirk Douglas is a confirmed member of. Cher Bonno is not a Lesbianist, as I was mistaken in memory, though she was a leader for a while with Oliver North, she was killed by them, after being tortured, because she was getting "soft". Sunny Bonno was a Lesbianist, as well, but he was also killed after being tortured, officially kicking him out of the members league of Lesbianists. Sunny Bonno was captured, and abducted, and a body double was placed on a coroner's table, and Cher Bonno knew that the body double who was dead, who looked like Sunny Bonno, was not Sunny Bonno. The Lesbianists subsequently fed Sunny Bonno, after they captured him off the ski slopes, to my abominant kids. Elizabeth Taylor was thrown out of the corp of Lesbianists, after they heinously tortured her, and murdered her, and the Lesbianists have her slated, scheduled, after they find a way to abduct her, for feeding her to my abominant kids. Dennis Miller is not a Lesbianist. Though he was one, after torturing him, and sushi-izing him, please see my notes on that, the Lesbianist's sushi-izing of Dennis Miller eventually killed him.

It's hard to keep track of some people, as to whether or not they are currently Lesbianists. Others, are not so hard to keep track of, and I want all of those mentioned, killed, immediately.

Captain Off The Bridge.

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1445. Ship's Tour Of My Universe To Begin - Call To Arms! Duty Stations! Fire When Ready! Cease Fire Procola! Pt. II/III

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 17:50:42 UTC
From: johnfrancisayres@rock.com
Message-ID: <1171561842.229130.82450@q2g2000cwa.googlegroups.com>
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Cross-posted to: rec.arts.startrek.tech,rec.radio.amateur.antenna,alt.society,alt.usenet,alt.politics.liberalism

On Praying, Fucking, Sucking And So Forth - Excercising And Activiating To Music Timed To One Thirty Seventh On The Metronome - Fisting And Punching People With Your Clenched Hands And Crasping Or Clasped Knuckles - Phlooching Out And Fisting The Vaginal Cavity, Rectal Cavity, And Mouthal Cavity - The Importance Of Kindlyness And Teamwork - Phenomenal Elegance - Plurlbalescent / Plurablescent Nature Of Negative Punishments And Positive Rewards - Timed Persuasive Mosture - Keeping Every Thing And Everybody In Harmony And In Synch - Deep Sea Ocean Trench Off The East Coast Of The United States - The Shelfs Systems And Trenches Systems - Side Bender Currents - Making A Large Swimming Pool - Stagnasis - Black Powder 'String' Fuses - Black Powder 'Cap And Ball' Pistols - Zircon Diamonds, And Other "Radio Active" Gem Stones, Etc. - Higher Temperatures Develop More Useful Energies For Making Babies - Geiger Counters And Their Usefulness - Novice And Amateur 'Rock Hounding' Rock Collectors Clubs - Decontaminating Your Self With Ocean Salts - Ancient Dry Lakes - Hydrolific Pressures From Water Falls - Underground Lakes - Baha Mexico - Finding Good Rocks With 'Radiological' Salts Kiddies Bullets - Plastiques, Explosives, Radiological 'Bullets', 'Nuclear Detonations', And Decontaminating Yourself Of Radiological Salts Kiddies - Sledgehammering Continents And Land Areas Where Lesbianists Live, Hiding Below - Topsoils - Disintegrating The Milky Way - Retraction Updated: 14-02-07 Rev.a 21:10 PST

On Praying, Fucking, Sucking And So Forth

You are rewarded for praying Nam Myeo Ho Ren Ge Kyeo. You are also rewarded for fucking, sucking, tounging, licking, fingering, dicking or massaging your dick against a woman's bun bun, or inside of her butt hole, where there are lots of sensitivities buttons that get her clicking and eroteming and orgasming, or against her titties to get her eroteming and orgasming, and so on, and for palming or massaging a pelvital button, or the love and joy stick, the dick, or a love button or love patch, igniter switch, or whatever nerve sending touch sensitive love joy button there is embedded into your body, in the pelvis, groin, vagina, and in the musculatures of the groin, pelvis, and vagina, with the palm of your hand, and so on. You also get rewarded for throating a woman with your dick, as there are lots of love buttons in her mouth, and throat, lips, and so forth. Men also have love buttons in their lips, throats, tounges, mouths, butthole, and on their body, and those buttons also get clicking, and turning on and off, and sending sensitivities messages or signals, nerve pulses, up the eroteming nerval system and up the orgasming nerval system. You

get rewarded for dicking men and boys in the throats, and in the buttholes, and their bodies, just as you get rewarded for dicking women. There is no discrimination in this area, and every one is equally rewarded for their meritorious acts of dicking others, women, girls, men, and boys.

Why are you rewarded for praying Nam Myo Ho Ren Ge Kyeo, and for dicking, fucking, and sucking, bumbeying, or moving your vaginal bumbey package against a woman's sexaling body parts to erotemize your self, and the woman, and for breasting your titties, i.e, rubbing your titties against or flopping them against and massaging them against a woman's butty butt or against her other sexaling body parts to get you and your friend sexually erogenized i.e., sexually stimulated, erotemized, and orgasming, and for other sexaling activities that help you and your friend and friends to produce purifying sexaling energies?

You are rewarded for your praying and for your fucking, sucking, dicking, and so forth, for helping to get every thing and every body going at the right pace in synch with every thing and every body else, for every body in my universe who is working for me, to keep them moving in harmony, perfectly meshed and in synch and in a timed persuasive mosture, with each other, so as to keep my universe standing up, strong, wholesome, robust, healthy, well, and fine. You are rewarded for praying as well as for sexaling, as you help move my children along as they do their work, as you pray and as you sexal and spray out energies from eroteming, from erotistically orgasming, and from sexually orgasmically convulsing, i.e., phlumetting, while you shatter out and spray out purifying energies in all directions, that will clearify and erase your karmic markups, and the karmic markups of others, all around you, for millions and more of miles, way out beyond where you are activiating and religialing, i.e., sexaling.

Your dicking, sucking, licking, titty massaging others, and so forth, will get wonderful and wholesome, GODLY, purifying energies shooting out of your bodies, and the energies shoot out at rates of speed that also help my universe to keep synchronized, and to move along at the right pace for it to be able to stand up and remain stable and solid, durile, strong, wholesome, pure, and a nice place to live in.

Every one who works for me, has a rate of speed they work at, a life pace, or life spin. We all have a pace of life. In some cities, it is fast and hustling. In some places, it is slow and whimsical. My kids work according to a rate of speed that is metered, and they keeps every one moving as best as they can, according to this metered pace. The metered synchronized pace that my children work at the rate of is one thirty seventh and one fifth, approximately, on the metronome.

If you help to push my kids along at that rate of speed, or a rate of speed that is close to it, as you pray at a metered synchronized pace and rate of speed, and as you fuck, suck, and so forth at a metered synchronized pace and rate of speed, then you are rewarded with angel

dusts, or purifying energies faerie dusts that my kids daub on your head, and throw buckets loads of over your head and body and that they wash your insides out with and that they wash your body, inside and outside, with as they shower them all over you on the outside of your body, and all around in your body on the inside of you, which then help to clean you up and clearify your karmic markups, cleanse your karma, and purify your life, making you a shining, radiant, pure and holy being, though you may not notice at first, as we are too filthy, karmically speaking, to notice the changes, as our karma is too thick and mucky to allow us to feel the changes that are taking place in our karma and life.

I have a gradient scale for how close you keep people moving, and at what rate of speed you help to push them along, and as you help to push my kids along, so that they can do their work, you are rewarded, in accordance with my gradient scale, with more angel dusts or purifying energies for better preformance, and with less angel dusts for poorer or less effective performance. You have to do some thing that will help my kids move along at a metered pace, so that they can get their work done. Praying Nam Myeo Ho Ren Ge Kyeo sets off a time frame synch. A time frame synch is the metered click, click, click, of the metronome. This time frame synch or metered pace, that you achieve while praying, Nam Myeo Ho Ren Ge Kyeo, will help keep every one moving, at the right pace, if you pray it in a rythym and at a rate of speed that will synch up with a metronome at one thirty seventh and one fifth, approximately. Your efforts to help keep my kids working and moving at a consistent rate of speed, will get rewarded, thus for praying, Nam Myeo Ho Ren Ge Kyeo, you are rewarded, with purifying energies, that my kids dump on you.

Your efforts for fucking, sucking, licking, tounging, titty whipping or banging your titty nipple against the vagina of a woman or girl, dicking, fingering, palming, and so forth, all get rewarded, if you try to keep every thing in synch with the metered pace of the metronome at one thirty seventh and one fifth, approximately. The gradient scale also applies, of course, as you are fucking and sucking, etc., so the better the job you do of keeping your pace at one thirty seventh and one fifth, approximately, the higher your rewards will be. Your rewards are the same, more or less, for both praying and for fucking and sucking, and my kids sprinkle and dump angel dusts, purifying energies, on you as a reward. You also get markups that are meritorious, and you are rewarded with a better and happier life.

Further, when you are orgasming, and eroteming, or pushing out energies as you orgasm, and erotem, you will be pushing out energies that shoot out at consistent rates of speed. These rates of speeds of these energies are in concordance with our pace of life, they all perfectly mesh with the paces of life that my kids keep. The energies as they pass out, and push along through time and space, at synched up and consistent rates of speeds, all help to keep my kids moving along

as they do their work and tasks, and they all help to keep our universe, standing up, strong, healthy, wholesome, well, and fine.

Chaos breaks the legs off the foundation to our universe, and our universe begins to creak and moan, as it begins to crumble, slide, twist, and tumble downwardsly. Making chaotic noises, and chaotic movements, detracts from the harmonics of our universe. Your breaking glasses, and breaking skulls, and legs, and arms, are also chaotic events producing, in most cases, and they will detract from the perfect synch up of our universe, as leg bones and arm bones, skulls, fingers and toes, begin to splinter, as you apply pressures to them, you get negative markups for your actions. A record is kept of every chaotic action you take, or make, and if you make enough chaos, in your lifetime, and in your following lifetimes, then you will suffer from your poor records of performance for keeping my universe standing up, wholesome, healthy, happy, and well.

Every scream you cause to be vocated or vocalized, is recorded, and the intensity of the scream, and yell, and crying out in pain, plus a lot of other factors involved, are all recorded by my kids, and you get negative marks for that kind of performance.

The love making oooohs, and aaaahhhs you cause to be vocated, are harmonic appeals of soothing restfullness to the spirit, and to the mind, are also graded, and you are graded on how well you can cause others to produce them, and your scores are kept, and if you are a lousy performer, with more negatives than positives, you'll end up with a lousy life, as a result, as you are rewarded in accordance for your positive performance, as well as for your negative performance.

Helping to keep all of my children working in harmony, and doing their jobs and tasks, at a metered pace, will be rewarded, not only with angel dusts, but also with a better life with more positive fortune, as you recieve positive points or merit points for your collaborating with my children, and working to support them, and more fun as your life becomes graced with more positive merits and as your rewards begin to pile up, and more good things begin to go on in your life.

If you sit on the side of your chair and have a pair of drum sticks, or are using a bongo drum, or calypso drum, with the long tube belly, or stack, a long barrel tubed drum, or if you sit at your drum set, or set up your electronic drum pads, and begin pounding away, in a syncopated manner, for your pleasure, just drumming away, with no notion in mind as to any thing other than achieving a nice rythym for you and your friends to listen to, if you happen to be with friends, your merit points will be near zero, and your efforts will not rate on my gradient scale, as your actions will not be in accordance with my program for a better universe for all people, and for my kids to live and work in.

If, however, you have the attitude, "I wish to support John's kids, and syncopate myself while I'm drumming, so as to be supportive of

John's kids, to help John's kids work in a syncopated manner, doing all I can to support John's kids", then, your merit points as you drum, will go sky high, through the roof, and you'll get meritorious benefits for your efforts, or merit points, and good marks, for your efforts. It's like helping kindly old women, who are frail and in need of a helping hand and support, cross the street. If you act in a kindly and charitable manner to help support those around you, you get meritorious points for your efforts. These efforts of your's, however kindly, regrettably, though they are kindly efforts, are not the kinds of efforts that we need, my kids and me, need to keep my universe standing up, and moveing strongly. For efforts that support my kids work environment, and that lend a hand to them to help them to get their work done, your meritorious efforts marks will go through the roof, and you'll be blessed with angel dusts, i.e., purifying energies that help to clean up your karma, and erase and clearify your karmic markups, or marks that record your bad and cruel, or negative actions towards others, and towards your self. You can kill your self, and cause grief to others, as a result of your departure, to my Epcot Center, and that rates negative marks and negative points markings or markups for you.

When you try to do any thing, that will help to syncopate my children, and to make my children's working environement more syncopated, and rythmical, with your concentrated mind, and determination to make that a reality, in other words, a prayerful attitude in mind, hoping to make John's children's working environments syncopated, and rythmical, and in rythym with every one elses', i.e., all of my other kids' syncopated working environements, then with that attitude of hopefulness, or a prayerful attitude, than, you are rewarded for your efforts, and determination, and as you drum away, or pound and beat on your calypso drum, or on your metal Bahamian or Tinian, or Haitian, or Jamaican, drums, or on your dresser drawers, if your mom does not mind, as you pound away, keeping your mind set on your determination to keep all of my kids working in unison with each other, and helping them to keep in syncopated harmony, all in perfect flux, and perfectly meshed in timing, with every one else, as they work for me, then your rewards and positive points markups, will be very high, and you'll be rewarded by my children, with angel dusts that they daub on your forehead, and dump all over you, from their barrels they carry full of angel dusts, or purifying energies to clearify your markups from your karmic markup piles, kept inside of your body, kept in storage in the molecules.

Your markups are inside the molecules inside your body, but they are also out side of your body, in every molecule, nearly, going way out to the very farthest edges of my universe. We will eventually get to all of them, and purify or clearify and erase all of your karmic markups, the notations and records that my kids keep on you, and on your activities, and eventually, we'll get them all, and your life will then be full of grace and happiness. It will be a long time before we get to all of them, as you and I and every one in my

universe, have been here, and enormous length of time.

As you drum, or skip, or dance, or do areobics, in syncopation, with the attitude that you want to keep all of John's kids in step, and in synch, and in unison and harmonicly meshed and in perfect flux with each other, or perfectly meshing with each other, and every one else who works for me, whether you drum, skip, dance, or do areobics, it does not matter, if your mind is set and determined to help my kids, with your efforts, you will be rewarded for your efforts, no matter whether you skip, jump rope, dance, or areobically excercise.

As you sexalate, if you keep in your mind that you wish to keep all of John's kids in syncopated harmony, perfectly in flux, and in unison, just as when you are drumming, or skipping rope, or dancing, or playing basketball, or playing tennis, or badminton, or any sport, with your movements all timed, and in perfect syncopation, when you sexal with the right attitude to keep John's kids in synch, perfectly meshed in perfect accordance and flux, with each other, and with every one else, you will be rewarded grandurally, that is, grandly, or in a grand or very great manner.

Excercising And Activiating To Music Timed To One Thirty Seventh On The Metronome

Music timed to one thirty seventh on the metronome, and one fifth, or as close to one thirty seventh on the metronome that you can get, is okay, and it will help you to dance, play tennis, play sports, do areobic excercises, and other types of activities, at that pace that we need to keep to help keep my kids working smoothly, and you'll be graded on your performance, and on your attitude while you are dancing, or excercising, and the more intently you concentrate and use your mental energies and mental control to stay in synch, and in step, the better will your scores be, and the higher your marks, and the greater your rewards of purifying angel dusts and purifying energies that my working and unionized kids will pour and spread all about you, inside and out, and all over you.

Sexaling itself is a religious act. Yes. That's true. But, if you sexalate with this powerful prayerful attitude, or hope in mind, with your determined mind, and your concentrated mind, as you sexalate, and help others to sexalate, and help others to erotem, orgasm, phlumett, and shatter off wonderful energies from orgasming, eroteming, and phlumetting, your positive points and merit marks, and many other types of scores my kids keep on your efforts and behavior, all of them will go higher than any one can see, way out beyond the furthest galaxy that you can possibly see from your bedroom window, with your telescope. They'll go out to the futhest edges of my current univerese, and even beyond the barrier walls, holding up our universe, that my kids put in, to keep our universe standing up, stable, strong, and durile or durable and with tensile integrity.

Any action for helping my kids do their work, syncopated, and in unison, and in harmony, will be rewarded, with angel dusts, and with positive marks and score points in your records that we keep on you and every one else in my universe. Your sexaling actions get rewarded, far more than any other activityating, as your sexaling actions are the most needed actions, to keep my universe, pure, durile, holy, sacred, free from negativities, healthy, wholesome, stable, and constantly in a state of improvementing.

Most people go around destroying things, and causing chaos. We, my kids and I, need people who are going to help improve the wonderfulness of our, my, yours, my kids, and all of my other kids, wether they work for me, or not, meaning, all of my guppies, who are like you, my relatively normal kids, as well as all of my abnormal kids, the abominants kids I've got, that go around thinking it is funny to eat people, and to pull them into their mouths, and crush them in miserable pain and agony, like my elephants abominants kids do to relatively normal human beings kids of mine.

Fisting And Punching People With Your Clenched Hands And Crasping Or Clasped Knuckles

You all have been bad kids, all of my guppies, all of you who do not work for me and go around thinking, 'Oh, gee. Aren't I special.' My guppies are these minded people, who are arrogant, who talk back to their mama's and to their papa's, and to their relatives, and brothers and sisters, and to their friends in school, and to their teachers. Later in life, they become worse, and they talk back with their actions of being mean to each other. As my guppies grow older, and become older people, they start fisting others, and that means, punching people, hitting them with their clenched fists and hard knuckles, and hurting them when they pound on their face, or on their stomach, or on their body some where, and break bones, and tear muscles, and stretch ligaments with their pounding each other.

Phlooching Out And Fisting The Vaginal Cavity, Rectal Cavity, And Mouthal Cavity

Fisting is a word used by some people to mean, to insert your hand into the vagina of a woman, and gay people, homosexually driven people, fist each other in the butt hole, if either men or women, or in the vagina, if women. Some people find it interesting to fist each other in the mouth, by sticking their fist inside the mouth of a person, pretending it is a dick or a dildoe. You need to phlooch out the neck muscles, and billow them up, or poof them up and out, and that will help them to gently relax, and then become expandable or stretchable, as when they relax, they will easily stretcth out, and there will be some give, or freedom of expandingness. The neck muscles then become easy to stretch and push on from the inside with out hurting the person. It then is easy to insert your fist into the throat, to massage the inside of the throat, and to use your hand, or fist, to tickle the igniters, and triggers that set off love buttons and bells, and whistles, that help women and men to erotem, orgasm,

and phlumett.

Fisting by inserting your fist into the vagina of a woman, when it is relaxed, and after you've massaged if for many hours, and after it begins to billow out, or poof out, and then open wide, and then you can see inside of it, and from the entrance of the vagina, there is a clear gaping cavity, you can then insert your clenched fist hand into, to massage the inside of the vaginal cavity. Doing this is very nice, and is very exciting to do, to help women and girls to erotem, orgasm, and phlumett. You can phlooch out the butt hole, by massaging it, for several hours, and it will begin to poof out, and expand, and you'll see a nanny gate face on it, and that means, it will begin to look a little bit like a vulva, or the vagina of a woman or girl when at rest, or exposed between a woman's or girl's legs as she is sitting or relaxed with no panties on or with no or few clothes on and nothing covering her hips, pelvis, lower pelvis, pelvital ridge, crotch and groin, butt and butthole and lower back, there by exposing her butt and vagina. If you compare a vagina with a phlooched out butthole, you will see they resemble each other, slightly. There is no vaginal cleavage of course, around the butthole, but there is a slight resemblence between a phlooched out butt hole, and a vagina, or vulva, none the less.

The Vagina And Vulva Compared To The 'Nanny Gated' Butthole

What is the difference between a vagina and a vulva? They are more or less the same, but the vagina includes lots of parts, inside as well as out side. The vulva is outside, basically, only, as far as I understand and remember these things, now. When you massage a butthole, long enough, it will begin to look like a vulva, or vaginal face. That's called the nanny gate, or on the male, the male butthole vagina, as I've spoken about it, before. On the woman, it is the female butthole vagina, a double 'immitation vagina' for the real one, as I've mentioned. Men's and women's buttholes are the same, and they both look like 'immitation vaginas' as I've also mentioned, after you phlooch out the butt hole of either the female or of the male. Once you phlooch out the butthole of a man or of a woman, it will poof out, and expand, and the butthole entrance and cavity will become relaxed, and easy to insert your clenched fist into, to then push up your fist into the butthole cavity, and massage it, once the person has cleaned out the butt hole cavity and once it is clear and free from debris matter, or food matter, and rotting food particles, and fleshy foods, or hamburger meat and so on. Phlooching out the vaginal caivity takes a little longer, but with patience, you can phlooch it out, and then fist, in this manner. If you phlooch out the butt hole, and rectal cavity, you can fist your male friends, and your female friends, and every one, once they have cleaned out their poop hole, and made it free from rotting debris, will enjoy mutual, and reciprocal, fisting. Fisting in this way, for sexaling, is alright. Fisting in the other way, for beating people up, is not nice, and you are given poor marks for your actions of nautyness, meaness, and cruelty towards others.

Over the long course of time, you all have been naughty at one time or another. I have many ways to fix you, and to retrain you, and to rehabilitate you, but you always go bad, and sour, again, as that is your main drive, or driving internal force in your lives.

The Importance Of Kindlyness And Teamwork

Why have all of my guppie kids all gone south, or in other words, gone down the road towards unkindlyness? Because, as I've explained, you forgot what the Love Of GOD is. My religion will help people to understand what the Love Of GOD is, and that will help keep them on the correct path of kindly actions towards others, and it will help them to understand and remember that teamwork to help my working, unionized kids to keep our universe healthy, strong, durile, standing up, stable, a safe and happy place to live, and a wonderful place to live, is very important.

Doing things that support my kids working efforts, will be rewarded, and doing things that detract from the harmony and syncopation of the metered pace of my kids who are working, and that slows them down, and that causes dischordance, will not be favorably rewarded, and you'll become a female schmuck, or a male schmuck over the length of time, as you live on in my universe. A schmuck is an unlikeable person. Sexaling is the most important thing there is for us to do, other than feeding ourselves correctly to keep us healthy, and excercising, and leading a balanced, well regulated life, listening to your mama and to your papa. My religion is based on sexaling, as sexaling is the most holy and pure activity we can participate in, or do by ourselves.

All the bullshit propaganda of the Lesbianists, that Jesus said this, and that Buddha said this, and that God will save you if you do this, and so forth, is pure balooney, bullshit, and made up nonsense. I, GOD, will not do any thing for any body, unless you help me and my children to make this universe, a more kindly, and a more wonderful and prosperous universe for all of us. If you do, I will have my kids, bless you with angle dusts as they daub them on your forehead, and then pour barrels of angel dusts over you, as they dump barrels full over your head and body, for your extra good work, sexaling, in syncopation, with my kids working rythyms, and in rythym with their syncopations, flux, and their phenomenal elegance.

Phenomenal Elegance

What is phenomenal elegance? It is their keeping harmony with each other as they work and keep every thing in order, in my universe for me, GOD.

You can not escape from this reality of your good actions and your bad actions being recorded, as my kids keep records on every one, and we make certain every one is rewarded for their good actions, and we make certain that every one recieves as close to what they deserve, to help balance things out, in accordance with their markups, for their bad actions. If they are bad, they will not meet nice people, and they

will meet naughty people, and not so nice things may begin to happen between them. If they are good, and if they try to help my kids, as I've explained about, they will get rewarded, and they will slowly begin to break away from keeping company with bad people, and they will gradually ascend to higher rankings or status, and then they will begin to lead a better life, and they will begin to escape from meeting with bad people, and the good kids' lives will become blessed by my kids, as my kids begin to sprinkle angel dusts on the good kids, and daub the heads of the good kids with purifying energies, and then dump purifying energies all over the bodies of the good kids who listen to their mama's and papa's, and sexal with them, and as they sexal with their mama's and papa's, and sisters and brothers, relatives, neighbors, and others, the good kids help my kids keep this universe running smoothly, in harmony, in flux, perfectly meshed, and in perfect syncopation. Mama's, papa's, sisters, brothers, relatives, neighbors, and others, all get their heads blessed with angel dusts, purifying energies, for their good actions along with the good kids, you, I hope, of course, too.

Plurlbalescent / Plurablescent Nature Of Negative Punishments And Positive Rewards

This is very important for every body to understand. I have my working, unionized kids reward the good people, and I have my working, unionized kids keep records on every action of every one of you, and I have my kids make sure the bad kids, meet with what they deserve, or some thing close to it, which may not be too nice, most of the time, and I have my kids make sure that the good kids, all meet with what they deserve, or something close to it, and that is usually always something nice. It may sometimes not be something conspicuously nice, but it is nice, usually, or positive in nature, always. The bad kids will get rewarded by something that is negative in nature, always, usually, or plurlbalescent. What does plurlbalescent mean? It means, it might not be noticably negative, but it is still negative, in nature, in essence. This is a topic we can discuss, another time, or you can ask my kids for more information on it, when you go in and visit them, with your mama's and papa's, sisters and brothers, relatives, school teachers, principal, costodians, janitors, school workers, and others.

We have had too much chaos of late, and for quite some time, and it is now time to slow it, and bring it to a halt. We are going to produce positive harmonic concordances that will assist my kids as they work, and that will help them to stay working in harmony with each other, with your fucking, sucking, eroteming, orgasming, your shooting out of purifying energies as you orgasm, and erotem, and with the increase of the oooohs, and aaaahs, you help to produce, with your practice of my religion.

We have to bring an end to the moronic violence of the Lesbianists. If that requires a lot of my children, making lots of babies, and lots of

energies, and percussive forces, when you set off a fracturable rock bomb, then that is what it will take, as you blow Washington DC and the Baltimore metro area off its ocean ledge, and into the Atlantic, with that fracturable rock bomb, if it is big enough. Yes, there will be lots of painful, ouches, and screams, and so forth, but it is trite, compared to the violence these idiots have been perpetrating, over the long span of time that they have been in my universe.

We have been here for a very long time. It is nearly impossible to figure out how long, other than with mathmatical computations. Our brains will burn out, if we try to figure it out in our heads. It does not matter how long we have been here. It does matter what we do while we are here. You are not going any where else, and you are all staying in my universe, so you will all drop your pants, and your dresses, remove your shoes, socks, clothes, underwares, panty hosees, and panties, disrobe, and begin helping others to make lots of ooohs, and aaaahs, and lots of eroteming and orgasming energies. That will be the begining of your getting into line with the rest of us, here in my universe, my kids who work for me. As you eroto with each other, you'll get graded on your performance, and you'll get paid by my kids, once you join our country, as I've explained about, before.

Timed Persuasive Mosture

What is a timed persuasive mosture? It is just keeping every body in synch with each other, persuasively and accurately moving along, orderly, in an ordered fashion or manner, and with every body in rythm and syncopated with each other.

Mosture is a type of motus, or motion or fluidity of movement. The timed fluidity or fluidness of my kids working along in synch with each other, is critical to having every thing in my universe, standing up and sturdy, with every thing holding together, as it should be. Otherwise, if my kids and their work get out of synch, things can come crashing down, and things can come falling apart, and we do not want that.

This is a big universe, and we have a lot of people in it, my kids, and you wouldn't believe how many kids I have. Anyway, they all have to stay in syncopated, fluid motion, with their paces of life perfectly meshing with each other's paces of life, to accomplish their jobs and tasks, in an orderly, and in a fluid movement, harmoniously, and without delays.

The persuasiveness is accomplished with the help of your sexaling, and by your keeping pace, and synching your sexaling activities, and the movements involved in your sexaling activities, and by your spraying out your energies, as you erotem, orgasm, and phlumett. The persuasiveness is also accomplished by your keeping pace in unison with others while you are praying the syncopated phrase, Nam Myeo Ho Ren Ge Kyeo.

Every thing is timed, and so as you activiate, or carry out these activities of sexaling, eroteming, orgasming, phlumetting, as well as the movements involved in sexaling, and as you pray, your synching of your movements and sounds in time and in pace with the syncopated and metered metronome click, click, click, at the timed pace of one thirty seventh and one fifth, on the metronome, approximately, helps to persuasively move, or persuasively drive and push, every body about, and along, as they do their work for me, in their many syncopated paces of life, or life spins. I have many children working at different life spins, as I've mentioned before, and each group of them has a different pace of life, or time spin. Your activiating, as explained, helps drive them along, each at their own pace of life, or time spin, perfectly meshed with every other child of mine, also in his or her, and at his or her own particular time rate of speed, time spin, life spin, or, pace of life.

Every one and every thing must move along in perfect flux, or perfectly meshed with every body, and with every thing that is going on in my universe, on every possible level. There are many levels where activities are going on, and many people are working at different life spins. Every one, no matter what level they are on, and at no matter what life spin they are living at, must stay in flux, perfectly meshed and in perfect harmony, perfectly syncopated with every one, else.

You are rewarded for your helping to move my kids along, in perfect flux perfectly meshing with every one and with every thing that is going on in my universe, with your efforts at sexaling, and with your praying, as explained, earlier.

In our new society, which we will create, you will score earning points, and every thing you do, as you sexal, and so forth, and as you pray, is scored, and a record of your capabilities, or excellence, or lack of excellence, is kept. You are paid according to your work performance, as you sexal, activiate, pray, erotem, orgasm, and phlumett. Also, you are graded on how well you get along with others, and on how well you try to harmonize and then sexalate with others. You score earning points, accordingly, and you get paid, according to how well you perform.

Keeping Every Thing And Everybody In Harmony And In Synch

Explaining how this works, how praying, fucking, sucking, dicking and hugging, etc., helps keep every thing in synch and in harmony and how your efforts are rewarded, is a tiny bit more complicated than my simple explanation, but that is it in a peanut shell.

For those Lesbianists hiding among you who do not wish to surrender, you Lesbianists will find we are not going to be acting kindly towards you. All of you Lesbianists, where ever you are in Washington DC, or hiding underground, or in Paris, or in Rome, Peking, and so forth, you will be dealt with harshly, as we need to put a stop to your activities, and a "maybe" is not acceptable in this case. We are not

going to allow you to continue your chaotic, nonsensical, violent activities one moment longer, and we will blow you up flying high up into the sky, and off the ocean ledge down below you, in Washington DC, as we sink your Washington DC area into the ocean, along with all of Northern Virginia, and the ocean coastal area of Maryland and Baltimore, along with large parts of the states of Virginia and Maryland, out to West Virginia, as that area settles down into and below the waves of the Atlantic Ocean, after we bomb it with one or more of my fracturable rocks weapons for mass removal of Lesbianists from the face of the earth and from their hiding places under the surface of the earth. The Lesbianists in the Washington metro area and hiding under it, had all better surrender to my kids, or they will all get their pants and clothes blown off and shredded from their bodies, if they do not, as they are given a free ride out and up into the upper atmospheres of our planet, and then, beyond. All other Lesbianists had better surrender, too, or they risk getting a free ride out, as well.

Deep Sea Ocean Trench Off The East Coast Of The United States

There is a trench that extends south wards from Washington DC, some times reaching 25 miles out in some places, and in other places, it reaches out to eight hundred miles from the shore. In the north, it reaches out in some places, 85 miles out to one hundred and twenty five miles out, to three hundred and fifty five miles out, to eight hundred miles out in some places, in the south.

It is fifteen miles deep when you go out forty five miles off the coast from Washington DC and from the Chesapeak Bay. The ledge bottom is found about three and one half miles down, and the mouth of the opening continues for ten miles, approximately, downwardsly, on the western side of the trench. The It has a gaping mouth, and it opens up and lets ocean water inland, under the continent, eighty five miles down below Washinton DC, three to six to eight miles wide, from top to bottom, from the underside of the top of the mouth, the bottom of the ledge, to the bottom of the mouth. From under the nation's capital, to the south, it travels to over eight hundred and eighty five miles. To the north, it travels three hundred and thirty five miles, to six hundred and fifty miles, to about nine hundred and fifty nine miles, inland under the continent, depending on where you wish to locate the edge of it under the continent, northwardsly. It travels to the west, inland, three hundred and thirty five miles, to just over eight hundred miles, depending on where you find the edge of it. It travels inland further westardsly, the further you travel north. It is slightly over one thousand and eight hundred miles from north to south, in total, as you'll discover, once you explode enough, and after you explode large enough fracturable rock bombs, over Northern Virginia, Maryland, Washington DC, Baltimore, covering the metro area vicinity.

The U.S. Navy, and the U.S. Coastguard know about the trench, or parts of it. They are not allowed to discuss it with anyone. No one is allowed out there, to research it as it is off limits to just about every one. Some navy personel of high rank, and coast guard personel of high rank, are allowed out to take soundings, every now and then, with their Lesbianists' staff members, and Lesbianists' personel in the Navy, and in the Coast Guard. The Soviets, at least, Boris Yeltzin, Vladmir Putin, Mikhael Gorbachev, and Zelda Gorbachev, know about it, and so do all the other Lesbianists. They can confirm it, if they wish to play ball with me, and if they wish to save their asses, after they decide to surrender to my children.

The Shelfs Systems And Trenches Systems

The shelf estends to under Lexington Kentucky, at about ten miles below it. It is five miles up under Chatanooga Kentucky. It is five miles below Washington D.C., in some areas. It is three miles below Baltimore Maryland, in some parts of the city. It is eight miles up below Pittsburg, Pennsylvania. It is fifty five miles up below, or under, West Chesterfield, New York. It comes up to eighteen to thirty miles below McLean Virgina. It is eighty eight miles below Norfolk, and the mouth, downwardsly, is five to ten to fifteen miles wide open, in a downwardsly direction. It some areas, it can be found below Ohio, and under Indiana. It crosses under the West of Kentucky, and into the south of Illinoise, five to ten, to thirty miles. It is a variegated trench system. It extends to Tennissee, parts of North Carolina, Mississippi, Alabama, Georgia, South Carolina, and to under parts of Northern and Western Florida, and is open out and into the Gulf of Mexico. The whole area of Eastern U.S.A., is sitting on an open shelf, trench system, and there is water passing below it, and out into the gulf, in several areas, over to eighty five miles west of Corpus Cristi, Glen Garden, population eight hundred and fifty, which south of Galveston, and north of Corpus Cristi, between the two cities. There is a mouth eigty five miles south of Tampa Bay, Florida, in the Gulf of Mexico. There are several openings or mouths to the underground fault line system, and deep sea ocean trench system, and shelfs systems, and water is passing from the Atlantic to the Gulf of Mexico. There is also a trench system in the north, under Niagra, that extends southwards, several hundred miles, and it has many branches to it, and it extends into this system of shelfs, trenches, and under continental water flows.

Side Bender Currents

What is a side bender? It is a current comeing out of the mouth of an opening, from under a continental shelf system, that allows waters to flow out. As the water flows out of the mouth, the outlet current of water, it flows very forcefully in an outwardsly direction, and it pushes the water out with great force, generally. If a submarine is traveling in the vicinity of a side bender, the submarine may get hit broadside, and that will often turn the submarine topsy turvy, and around facing the opposite direction it was traveling in, or another

direction, not the one it was traveling in, most often. The crew will get swung about inside the submarine, and they will fly through the cabin, and pounce off the floor to the ceiling, and hit the ceiling, and then hit the sides of the corridor they were walking along in, and finally end up on the floor when the submarine rights itself, with its balast, and you'll get many sprained or stretched ligaments, and broken bones, arms, wrists, fingers, legs, knees, ankles, feet, toes, necks, backs, hips, spinal injuries, and other injuries. It can leave a crew of a submarine nearly one hundred percent, injured and in a ship's hospital, or a Navy or military hospital for recovery. Side benders are often called upwellings of currents by the Navy, but that is not generally the case as they are not upwellings, but they are side pushing currents, that come flowing out from under continental water flow openings, horizontally. There may be some upwards lift involved, if there is a reason, such as a mouth is angled at a slight sloping angle, as it releases the flowing waters out from its tube like cavity or hole.

Crew members and military passengers of Naval submarine vessels are generally told not to talk or discuss any thing about side benders with non Navy persons, and with persons unrelated to their ship or unrelated to their ships voyage, as the governments of the world, do not want any one to find out about side benders, and they do not want people, geologists, marine geologists, undersea deep sea ocean studies researchers, or others, to research and investigate side benders. It's a big secret, these side benders, and that's what the marines, and the navy personel are sworn to keep, or face a fireing squad, on insubordination, or on some trumped up charge of spreading naval secrets, acting as a foreign spy and receiving money, or something like that. Naval personel will generally obey orders, and not discuss side benders, or other 'secret' information, with any one, as they risk losing their job, and they might face a fireing squad, or a hanging patrol, sometimes called a marching platoon, or a hanging platoon, a group of soldiers commissioned to carry out orders to hang some one who is in the military. If you pay a naval officer or enlisted person, or other person with Naval submarine duty, such as some marines, and others, enough money, they may be willing to share some information on side benders, and information about what they know about side benders. Some persons who have had Naval submarine duty, may genuinely not know any thing, such as crew members who are never assigned to submarines that travel near side benders, on a regular basis. Some times family members of enlisted persons and of Naval officers, are allowed to travel on submarines, for fun and excitement, as a special reward for their papa's or mama's duty on a submarine. Some of these family members have also had some experience with side benders, such as those who have traveled on submarines along the Marianna's trench, or other trenches, not listed, neccessarily on global maps, but none the less, which are there, and that are near shelfs systems under sunken continental shelfs, or under sunken continents, but that eject streams of water, nonetheless.

Our maps and globes of the world are incorrect, the ones we buy through bookstores, or from map publishers, as nothing that would indicate sunken continents, large sunken islands, and related trenches, or other related features, are not going to be indicated on them. The Lesbianists do not want you to find out information that could provoke you into researching, under water features, that they do not want you to know about, as your fictious understanding they have taught you, of the surface of this planet, and its history, is bogus, and any thing that would conflict with that, is certainly not going to be indicated on a map they would publish, and the map will be wiped clean of all traces of any thing that conflicts with the 'global' history of the earth, as the Lesbianists teach it, in geology courses for high school students, and below, and above. The global geological history they teach must coincide with their fictious propaganda about Adam and Eve, and "Lucy" the ape woman, the supposed mother of all people living on this planet, and about this earth being only 9 billion years old, or thereabouts, which is a bold faced lie, and other such bullshit notions they have fed every one to swallow, and have forced them to accept, and that they force people to use as primal notions to base scientific research on. The geology of our planet is much more complex than the Lesbianists are letting on to, and there is much to learn about planetary geology, as these planets have been around a very long time, and many things have happened, over and over again to them, and many things have happened to our 'solar systems', and star formations, and star systems, that people need to know more about, to get a realisitic understanding of our universe, its history, and its many complexities. In time, we will learn much more about all these things, and you can attend courses that my children have set up for every one, to teach people about our universe. You need a day pass to visit, as I've explained about, before, and then you should swear in, and become a citizen of our country. We have yet to declare this planet ours, but in time, we will, once we have finished and put an end to the problems associated with the Lesbianists, all of their shenanigans, and their malarkying around. One day we will declare this planet ours, and my kids will take charge of everything, and they will appoint people to posts of duty, and to positions of responsibilities.

Making A Large Swimming Pool

People should begin moving off and out of the area, around the Nation's capital, Virginia, Maryland, Pennsylvania, West Virginia, and North Carolina. We'll have a big swimming pool there, with lots of, mostly uninhabited, tiny islets, or hill tops and mountain tops, after all of the current residents die, and pass on and transel over to my Epcot Center, after one of our compatriots, or groups of them, detonate enough of my fracturable rock bombs. People will have to watch out for hungry sharks, after they swim inland, above the sunken landscape, looking for corpses to eat, and to scavenge, as lots of Lesbianists' corpses will come floating up from underground hangouts and cities of the Lesbianists, under those parts of the U.S., and from under the Gulf of Mexico, from under the sea floors of the Atlantic,

from under the Niagra trench systems, and from under other trench systems in the Eastern U.S. This is not a joke, by the way.

Stagnasis

Salts kiddies in stagnasis is when the salts kiddies are in their salts kiddies crystals cages, in a hibernative state, in perfect equilibrium, to keep them alive and well, for as long as possible. Salts kiddies crystals cages sciences help you to understand many things about how things work in nature. Please read over my notes on my bulletin board.

Black Powder 'String' Fuses

Take a spool of sewing thread, and use Elmer's glue to coat the string, and run the string with a thin layer of Elmer's glue coated on it, through a bucket of black powder gun powder, which you can order in the mail, over the internet, or pick up at an antique musket or old style 'cap and ball' musket rifles and pistols retail stores.

Elmer's glue and gunpowder will combine to form a minor plastiques explosive, after the salts kiddies mix it up, eat each other up, pee and poop out lots of stuff that is highly explosive, as they get busy making babies, except when gunpowder is used in large quantities with Elmer's glue, to form a major plastiques explosive. Benzine will help this along, with diesel fuels, as well, and with chlorine, we can see some major plastiques explosives in the making, as mama's and papa's begin making lots of children, as they begin mixing it up, and as they all begin pooping and peeing out body fluids that is food for others, that will contribute to the powerfulness and explosiveness of the mixture.

After you make your string fuse, and let it dry out for a couple of weeks, then coat a rag or muslim cloth in oil, or grease, or a mixture of turpentine, gasoline, diesel fuel, and grease, with benzine, and make a paste, and use that paste to coat a thin cloth, such as a muslim cloth, and then let that set and dry for a few days, and then wrap a few sets of 'string fuses' together in a bundle, and place them inside the cloth. It will become a very powerful explosive, in itself, the more gun powder you use with it.

Test it, to see how fast it burns once it is wrapped in a cloth coated with a mixture of grease and fuels. The thicker the grease, the slower it will burn. The thinner the grease mixture, by adding more turpentine, or benzine, or paint thinner, the more rapidly the fuse will burn. You will have a very powerful explosives cocktail, with this mixture, so be careful. You have to be very careful with what you combine, as you'll be bringing together very explosive elements, when you mix these fuels and liquids together with gun powder on a string.

A few string fuses, wrapped in a well soaked cloth, with a mixture of these liquids and the axel grease, will make a type of plastique explosive, that can be used as a shape charge, or a mouldable, or

shapeable, explosive, that is good for blowing doors off hinges, such as at pharmacies, or banks, and for blowing locks on private homes' fences to pieces, such as can be found at the White House, at 1600 Pennsylvania Ave. Washington, D.C., at the entrances and exits gates of the White House where guards are on constant duty patroling the area for security purposes. An initial explosive, a detonated fracturable rocks bomb, small in size, may cause a concusive force to cause the guards to black out, and pass out, and then sleep for a while. Be very careful with the size of the bomb, as we do not want to level the homes and buildings surrounding the White House, or across from it in Layfayette Park. After you put them to sleep, with your initial blast, you can test the shape charge on the nearby fences, at the White House.

Black Powder 'Cap And Ball' Pistols

Most black powder cap and ball pistols and rifles, muskets, sellers and retail outlets can be found on the internet, and some gun shops carry black powder, as well as the detonating fireing caps, for black powder rifles, and pistols. Many of them do, and you can purchase the black powder and copper detonating, ignition caps, for useing in your cap and ball pistol, or musket, or other, more modern, hunting rifle, that allows you to use black powder, and detonating copper caps that slip on a small round fireing ignition nipple that is made out of steel, and has a hole in it, to allow the percussive explosives in the firing copper igniting cap to ignite on impact with the hammer on the weapon, when it slams down on it, and the flames from the igniting explosives mixture, glued to the inside of the firing copper cap, then ignite the black powder, that was rammed down the barrel, or packed and tamped down in a cylinder of a percusive black powder cap and ball pistol. The caps are fairly useless, unless you wish to add them to a fuel oils, chlorine formula, and let them sit in the fuel oils mixture, and that will help develop plastique, as well.

Higher Temperatures Develop More Useful Energies For Making Babies

The copper in the cap will also allow for a higher temperature in burning, when the fuels mixture ferments after a few weeks. Magnesium in the cap as well, will also help to raise the burning temperature of the fuels mixture, and with some black powder added, and with some chlorine added, your plastiques recipe will become even more useful. These higher temperatures will help to produce energies that will be conducive to baby making among the fracturable, or rupturable, and percussive, rocks radiological salts kiddies. You can then add a handful or more of powderized amethysts, or turquoise, that you can purchase in bulk, on Ebay, for some small bulk quantities, and also emeralds are useful, as they all have fracturable rocks kiddies embedded in them, and fast asleep, in stagnasis.

Zircon Diamonds, And Other "Radio Active" Gem Stones, Etc.

Zirconium is a mineral that they use for the fake diamonds they sell with the trade name, Zircon diamonds, or Zirconium diamonds. You can powderize them, and use them for a good amount of fracturable rocks explosives, large and fast family making, salts kiddies, for a 'nuclear' party, and a send off to the eastern coast of the United States, before it is blown off the coastal ledge it sits upon, and then sinks below the ocean waves, if you strike it hard enough, with one or more of my fracturable rocks babies making, "nuclear" salts kiddies bombs. You'll need a few handfuls of Zicon diamonds, powderized, to make a nice fracturable rocks, babies making bomb. You can mix turquoise, emeralds that are mined and sold in bulk quantities on Ebay, amethyst, and the other rocks that I've mentioned, along with powderized 'sand' from the beach. Argentina, and Venezuela, Baha, and Southern California are good places to collect useful sands, full of fracturable rocks, salts kiddies, that a geiger counter will detect, if it is a sensitive enough geiger counter.

Geiger Counters And Their Usefulness

They are not too hard to build, but you will have to look in your Popular Mechanics magazines, for the details on how to build a "geiger counter". Some mining stores, and mining outfitters stores, may be a useful places to order or purchase a geiger counter, if you are on a family budget. You might find one on the cheap, on Ebay, that is still useable.

There are some kits available, if you look hard enough, to use to build your own geiger counter. A mining outfitters store, in South America, or in Central America, or in Utah, or in Nevada, may be able to help you locate a kit, to put together, if you go in there, and pretend you want to go out and look for interesting rocks, and you need some information on where to look for interesting rocks, so go to a mining outfitters store, or to a rock hounding club, or rock hounding retail store, for looking at beautiful stones that rock collectors, or rock hounds, have found, and made available at the store. Usually the store owner will have his or her suppliers, on name cards, and you can get in touch with them to get more information on where to look for interesting rocks to test with your geiger counter, since you are facinated by radioactive elements in rocks, and you are interested in finding some, for a collection you wish to start.

You might want to pick up some primer books, on minerals and rocks, gems, and gemstones, from Amazon online, or from a local book store, such as Barnes and Nobel book store, which has a few useful books on rocks, mineral rocks, gems, and gemstones, that you can find when you are out rock hounding. Desert Outfitters in Las Vegas, a miner's outfitters store, that also provides useful tools to rock collectors, such as rock hammers, and hand held pick hammers, for chipping away at rocks, to see what is under the surface of the rock, or under the peel of it, the outer layer, as well as terrain maps, and outfitting supplies, tents, and sleeping bags, and so forth, has these types of books, and lots of maps, and maybe they can help you find useful kits

to purchase, to build yourself a geiger counter. They also sell geiger counters for about three hundred and fifty dollars or so. Sears used to sell Geiger Counters, and they still can order them for you, I think, through their catalogs. On Ebay, you can find many reasonably priced Geiger Counters. How well the geiger counters work, the ones people sell on Ebay, I can't say, so you'll have to talk with sellers, and see what they say about the geiger counters they are selling to others on Ebay, or read about them in old copies of popular mechanics, and in trade publications for the mining industry.

Novice And Amateur 'Rock Hounding' Rock Collectors Clubs

On Sahara, east of Las Vegas Boulevard, there is a rock shop, which is about two and one half, or so, blocks down from the intersection, on the north side of the street, and they have information, as well as lots of primer books, on rocks, and on geiger counters, and where you can find them. They are well connected to the local rock and gem, minerals and gems finding, or rock hounding clubs. You can meet their members, and go out with them, on excursions, as they know where to find just about anything.

There are similar clubs in every major city, and in lots of smaller cities. Mining towns of course have lots of mining outfitters stores, and they probably have geiger counters for sale, so you can use it to find some very nice, fracturable rocks, along coastlines, or in ancient dry lakes and seas, sediments filled, rock hounding areas.

Decontaminating Your Self With Ocean Salts

Acidic ocean salts in ocean water will help eat up the radiological kiddies that find their way into your bodies, and that make you feel ill. It might take several weeks for initial recovery, with you taking large amounts, several teaspoons or more, as much as you can handle, in your diet, every day, for up to three to eight years, to thirteen years, for severe contamination, and for full recovery. Other things, such as nutmeg, and oregano, in a salty tea brew, will also help you, and marijuana in the salty tea brew, will further help you. Berries can also be of great benefit for recovery from radiological salts kiddies contamination.

My kids have a recovery kit, that will help you recover from an overdose of radiological salts kiddies, after a major birthing event, and that kit will help you fully recover. You need to join our country, and swear in, and become a citizen, to be given one of these kits to help you for your recovery. They can provide you with information, of various kinds, once you swear in. They have you swear in as full time citizens, now, except in special cases.

Ancient Dry Lakes

There are many ancient dry lakes, up north, in the colder areas, of Manitoba, and around the edges of wet lakes, you'll find areas that dried out, a long time ago, and you'll find interesting things in the

sediments deposits under the surface soils of the earth, that have covered most areas, and that come in to our atmosphere, and then deposit themselves onto the surface of our planet, as they are blown in on the solar winds. A few feet of top soil may cover the dry lake areas, around the edges of these lakes, and the soils depths may reach to twelve feet, to fifty feet, to sixty or to eighty of more feet, in some areas.

Once you hit the sediments layers, around the edges of these lakes, outwards to eight to fifteen miles, to thirty miles or further, out to up to eight hundred miles, as in the case of Lake Erie, and that lakes region, the Great Lakes, that all use to be one large salt water sea, but is now, a fresh water set of lakes, you can begin looking for the radiological bullets of the previous catastrophes in my universe, that shot out radiological salts kiddies, into the sediments rocks of mineral stones, and sand. Gravels might contain some "radioactive" fracturable rocks, and you can tell which are the useful ones, with a geiger counter. There are still salt water lakes up in Manitoba, Lake Huron, and some others, that used to be part of Lake Erie, and all part of the Great Lakes, when they were a large, salt water sea, but which are now, no longer part of that lake region system of lakes, as fresh water now fills up the Great Lakes from under ground water systems of fresh water flows.

Hydrolific Pressures From Water Falls

Hydrolific pressures, from water falls, primarily, help to erode and carve out and build the under continent open areas of water flows, that flow under the continents, and that dump their waters by traveling underground, in culvers, and channels, and in trenches systems, and then flowing out and into the oceans, resulting in side benders currents and flows.

Underground Lakes

Hydraulisis is one type of water pressures. Hydrolific pressures are those pressures created by water beating down, steadily, as water falls from higher to lower places, creating underground holes, and large open underground cavities, and water holding vessels, aquafirs, and underground lakes in the underground rock layers. Lots of cities sit on top of such underground lakes, on the crust of the surface of the earth, or very near to them. The lakes are often ovular and rounded in shape, from top to bottom. Many former water falls, are now low lying, and flat, and there is no water fall on the river, except for minor, cascades, such as found in the Grand Canyon Rift Valley down the Colorado River, and out into the Baha area.

Baha Mexico

Baha is a good place to go looking for interesting, "radio active", or radiological rocks, fracturable rocks with radiological salts kiddies sleeping soundly, embedded into other rocks, after colliding with

them, in a hail of radiological rocks bullets, after a planet or a galaxy, or a large nebular star system, or a cluster of them, were detonated, by some fool with a huge and powerful, home made bomb. This happened, often, in the past, and still, today, it happens, now and then. Bits and pieces of the radiological rocks will come flying in, and then embed themselves into other rocks, as I've explained about, before. We've had so many catastrophes in my universe, that our ancient rocks, are peppered with radiological rocks that are embedded in them. Off the coast of Baha, is a good place to go diving, looking for rocks that were washed off shore, as waters flowed down the Colorado River, trinities of aeons ago, when this planet was still a young planet, maybe about one fifth the way through its infancy, after reforming, again, after its last major impact that shattered it to pieces, for the umpteenth kazillionth, plus more, time. This shattering and reforming, has been going on too long to count, and obviously, there is a large amount of mixturing going on, with debris from other star systems, galaxies, nebulas, and so forth, floating in, and becomeing part of our planets, all around and about, on solar winds. You'll find rocks on the inside of the Baha coast, and on the outside, as well, and along the Baha coasts. You might have to dig down thirty of fifty feet, to a few hundred feet to find them, maybe eight hundred feet, or sixteen hundred feet, or further, but you'll eventually find something useful with lots of radological bullets embedded in the rocks.

Finding Good Rocks With 'Radiological' Salts Kiddies Bullets

You can find interesting rocks, also on high hilltops, such as in the Andes, the Himalaya's, the Swiss Alps, high mountains in Austria, and in Germany, high hill tops and mountains in Iran, maybe in Afganistan, and the very high hill tops, that are generally old hills, in many countries. They will usually have, if they are very old hill tops, lots of rocks scattered about that are very old, and that have lots of fracturable 'radiological' salts kiddies 'bullets', from previous detonations around my universe, and other related kiddies in them, as well. You can also find them along ancient river beds, and along dried up desert gulley washes, in the valleys between the mountains, in areas where tall, old mountains exist. You might have to dig down into the underlying layers of rocks to find really ancient rocks loaded and peppered with ballistic radiological 'bullets', tiny fragments of radiological materials that went shooting out upon detonation of nuclear materials, elsewhere in my universe. Geiger counters will let you know if your sample rock material is pacted full and loaded with the tiny radiological 'bullets', or just partially loaded with them, depending on the response from the geiger counter. Many types of radiological materials, the bullets fragments, may not register on current day geiger counters, as they are not set to the correct radiological energies frequencies and currents settings to be able to detect them in the rocks. There are many types of radiological rocks in my universe, and current day geiger counters are set to pick up the currents and frequencies of the energies from only a few types of

them, and there are thousands of types of radiological materials, so the older the rocks that you find, the more likely that the loads of radiological materials in them will be high in not only the types of radiological materials the geiger counter can detect, but also, in the types of radiological materials the geiger counters are not set to the frequencies and energies currents of. Such samples of rocks materials with large amounts of fracturable rocks, radiological 'bullets' inside of them, will yield massive explosive potentials, if you raise the heats energies of your explosives formula, to near solar temperatures, as I've mentioned about.

Plastiques, Explosives, Radiological 'Bullets', 'Nuclear Detonations', And Decontaminating Yourself Of Radiological Salts Kiddies

Please see my web pages for information on making plastique, along with metals fragments, and high temperature burnoff minerals mixtures explosives to produce the energies needed to produce nuclear detonations. Field chemists and explosives experts should be consulted, as they will probably know more about the temperatures at which different metals and minerals burn at and they will be more helpful in providing you with accurate information on different alloys mixtures, and the temperatures they burn at, such as the new US Mint US dollar coins, that will burn at extremely high temperatures, at about one fifth to one third the temperatures of solar temperatures, when ground into fine dusts fragments, and then after fermenting them, and then mixing the fermented particles in with the petrol fuels, chlorine, and gun powder, etc., plastiques explosives formulas, as I've explained about, to some extent, in my notes on my Gurkian Age Gurkian Way bulletin board. Be very careful when testing, as you may find the results extremely hazardous. See my kids, for more information, as I've explained about, on my bulletin board. Ocean salt will help to decontaminate you of radiological salts kiddies. A two hundred pound man will need about three pounds of ocean salt on a daily basis, to live healthfully. To decontaminate yourself, you will need more than that, to properly get rid of the radiological salts kiddies in your bodies, after you've been working with radiological salts kiddies, and testing the explosives potentials, for some time. See my bulletin board for more information on the 'salts kiddies sciences' to help you to understand what is going on in so called, 'nuclear detonations'.

Sledgehammering Continents And Land Areas Where Lesbianists Live, Hiding Below

Here are a few places to place some other fracturable rocks bombs on, to make them fall in, and collapse down onto the layers of rocks, below, and then puncture the ceilings of the cavernous cities the Lesbianists have made, down below those lower rocks layers. Topango in the South Pacific near the Marianas, the area midway between the Ryukyu Islands and Haha Jima, Chichi Jima, and Iwo Jima, where you will find a sunken continent, Wellington New Zealand, Peking,

Falklands, Urals Mountains, Chile thirty miles north of Concepcion and eighty miles east of it, near the Argentina border, and the Kamchatka pennisula, which will split and collapse in the center of it, midway down the penninsula, if you hit it hard enough. Lesbianists will come floating up, if their bodies can fit between the tons of debris that will fall in on them, as you smash the land sites that sit on top of ocean shelfs, and on open lakes below the land, some miles down from the surface, in some cases, and further down, in other cases.

It may be hard or impossible to deliver a nice bomb below the ocean above or onto the top of the sunken continent below the ocean, between the Ryukyu Islands, or Okinawa, and the islands of Japan, called, Chichi Jima, Haha Jima, and Iwo Jima. If one can be delivered there, you'll crush the continent below the surface of the ocean, and that will cave in on the cities, there are more than one there, that are below the protected shelf layer of rocks, above the cities the Lesbianists have there, below the sunken continent, to live comfortably in. The other places aren't so hard to hit. It is just a matter of local interest, and urging of the people there, to take the correct action to help us to resolve this problem, of Lesbianists living below us, all around the globe, in their honey comb, bee hive like canival of cities.

A canival of cities, is a large collection of cities that is located in such a way as to make it easy to get from one place to another. They are conveneint for them to live in as they are well placed, and spread out evenly, using the full extent of the area, as efficiently as possible. The Lesbianists have a canival of cities under the lower rock shelf layers, that are above them, and that help to keep them protected, warm, dry for the most part, but not always, and that are conveniety located each one in a bee hive like, configuration, well placed, with a well designed, layout, with central cities, and with satelite cities. It is well designed and resembles in part, Melbourne Australia, which was laid out, planned and designed as a modern city. The Lesbianists of course, think Melbourne is puny compared to their accomplishments, and of course, with the technologies they had and have available to them, from time to time, they made good use of every inch of space they have available to them, under the lower hard rock, but leaky rock layers above them.

My kids have places and locations maps of all the best places to locate your home built fracturable rock bombs, and so please pick up the information from them, after you have sworn in, as citizens of our country. Also, please see my earlier notes on the sciences that support a correct understanding of radiological particals based fracturable rocks explosives and other helpful and useful explosives you'll need to set off the fracturable, also called, rupturable rocks bombs, i.e., the so called 'nuclear' detonations.

Topsoils

Did you know that nearly 99.9999+ percent of the earth's crust, or mantle, is formed from space debris that has floated in on the solar winds? It's true. Only about 0.000001 percent of the top soil is from local vegetation, globally speaking. The rest of the top soil comes in from above, blown in on the solar winds, as debris from other planets that have been destroyed, crushed, or blown to pieces by idiots with very large bombs, that demolished whole galaxies, or multiples of galaxies, in a few milliseconds, as the instant they blew up, they were so well made, or constructed, and so powerful, they instantly blew up the whole area of galaxies the planet was located amongst.

If for instance, you fill up one third of the large tourist attraction, the meteor crater in Arizona, with one of these fuels and rocks bombs, and ignite it, you'll disentegrate all of the Milky Way, and some what more than that, in one attempt, by my estimation, if the fracturable rocks bombs were made well enough with the fuels bombs, to burn at near or close to, solar temperatures, and if there were enough materials in the fracturable rocks, to get lots of mama's and papa's making lots of babies, relatives, and others. There are lots of different types of salts kiddies in fracturable rocks, and there are other types of kiddies, the radiological kiddies, which are sometimes, but maybe are not always, grouped with the fracturable rocks kiddies. There are many types of kiddies living in radiological rocks. When we send high heats waves energies, and other types of energies into the fracturable rocks, we can get many types of kiddies to begin making babies. If we get enough of the different types of kiddies to begin making babies, we will have one fine and dandy, explosive shower of baby making events. You can get further information on this topic from my kids, and if you tell your friends to check in with my kids, and to swear in, and become citizens of my and my kids' new country, along with other people who are swearing in, and becomeing citizens of our new country, my kids will make certain that every one is protected, and no one is caught outside, when the bombs go off, as my kids will tractor you and all the other citizens in, with my kids advanced teletransportation technologies, before any one can get hurt by the bomb or bombs blowing up, locally, or in their areas. That means, my worker unionized kids are very quick on getting people into the encapsulated living environment every one is living in, below the ground, that my kids built for every one to live in, until we get this problem straightened out, and until it is safely over with. People can continue to live in the encapsulated living environment, after it is over, as we are going to start a new economic and social system, and we are getting started, down below, where my kids are keeping the encapsulated living environment, well taken care of and well managed.

Later on, we'll worry about who comes out, and when, as we have plans for every one, to begin working inside the encapsulated living environment, which is very well designed, and bomb proof, of course. Once every one gets accustomed to the new way of living, in accordance with my religious principals, and in accordance with our new working and living programs, when people have saved up enough money, they can pool their money, and acquire a lease for land up above, on the

surface, and then with more money, they can have nice places designed for them, and built for them, with your input and with your instructions. You will need to study designing homes, and layouts of homes, for large numbers of people, as you will be required to live in groups of people, as the old systems of living, one husband, one wife, and so forth, is out the window, and now we are going for group living, with many members to your groups. When you have got the maturity together to live in large groups, and to sexal with many people in large groups, then you will qualify, and then with lots of earned income, pooled together, you and the members in your group, can then move up and live on the surface, in your well designed home, which my kids will use their technologies to build for you.

This is how we are going to clean up our planet, and get started with a whole new system for living and working with each other, as GOD's children working and living together, begining here, and spreading, slowly, across and throughout my universe, as we bring others into our program, all across the universe, from end to end, from top to bottom, and from side to side, and in every nook and cranny of my universe. All of my kids, you, who I am speaking to, will learn to live and work together, supporting my worker unionized kids, in our new global, united, and universal society, we will begin to build, on this planet, first, and then later, every where else. I am the mother and father of all of you, and of all of my worker, unionized kids, as well, all of my kids who work for me, of course, and of all of my living beings, and of all of my animals. We are going to get this big family of ours, together, and we, the human beings, will begin to clean up our universe, by sexaling for a living, and with many other living by the points systems programs, and other projects. We will also begin to get our heads on straight with religious activitiating, in other words, by participating in religialing, in groups, or by oneself, in the encapsulated living environment, first.

As we move along, in time, we will develop our working strengths, and character, and some people will qualify, eventually, for working in my religious brigade, once they realize and understand who I am, i.e., GOD. Others, who do not give a darn about what I am doing, may do as they like, as long as they are citizens of our country, and as long as they enjoy what they are doing, and as long as they add to the welfare of all people in our society, universal wide, as we build it, larger and larger, for all of my children, no matter who they are. We will one day have all of my children, working for me, and if they do not like working for me, they still have to pay the fees for the resources they use, just as I have to, and that means, there is a charge for every thing we use, and it is detucted from our pay checks. Every one gets a pay check, if they work, and if they are disabled, they will get earnings to support them, for as long as they need to be supported, until they are regroverated, healthy, fit, mentally prepared, and willing and able to participate. Those who do not wish to participate, will work in jail cells, and prison cells, sexaling for a living, with animals, as I've mentioned before, and at carnival

and entertainment centers and districts, we will eventually set up, first on and also inside of this planet, in 'encapsulated' carnival and entertainment parks, and later on and within, other planets.

We are going to have all my children working for me, eventually, as I've spoken about before, and in time, most people will wish to work, and when they are mentally prepared to work, they will enjoy their working, most likely, as sexaling for a living, is not a unwholesome way to earn a living, and it is a pure and holy way to earn a living, and a pure and holy way to spend our time, as part of our new working ethics environement. For more information on this, please see my worker, unionized kids, who handle the information hot lines, in our, and your, and their, as well, encapsulated, living environement, which they have built, maintain, and manage, for all of you, and which they are continuing to build and expand on, for the rest of you, who have not checked in with them, yet. My worker, unionized kids have their own places to live, inside of the molecules that are used in building your living environment, and in your bodies, and in the molecules outside your living environement, as well. They live in all of the molecules, all over my universe, and they work in them, as well. They have their own universes, that they live in, which are all contained with in the molecules in my universe. It is a little more complicated than that, and so see them for more information on it, if you are interested in learning more.

Disintegrating The Milky Way

The Milky Way is made up of not one galaxy, but of several thousand, of different sizes. We don't have the technologies to see too clearly to distinguish the different galaxies that are within the borders of the Milky Way, nebular star system and nebular star cluster system, another way of saying that the Milky Way is a collection of many nebular star systems. Nebular star systems can be considered similar to galaxies, but maybe not always, as there are exceptions to every thing in most cases, any way. We are of course part of the Milky Way, I suppose you could say that, but we are far out on the outer fringes of it, and we are not any where near the center of it, and we have our own galaxy we are a part of, and it is not part of the Milky Way, so technically, we are not part of the Milky Way, although we might like to think we are, since it is an expansive set of star systems, and star clusters, nebular systems, and other types of solar bodies systems, and it covers over us, and beyond us, sort of over layering us. Be that as it may, we do not want to blow up or disintegrate the Milky Way, as we are in a way, part of it, or at least, we are encovered by it. Encover means to be covered over by something and encased within it, or to be encircled or surrounded by it.

Retraction

Tom Selleck is not a Lesbianist but he was a Lesbianist, until the Lesbianists killed him, after expelling him from their group, and after torturing him with their many heinous torture methods.

Captain Off The Bridge.

John Francis Ayres
GOd
And Children

Lay Order Of People - Donations For The Sake Of My Ministry - Nollicking Foolish People - Nollicking And Nollygaging - Goof Ball Kids, Their Mischievousness, And Maliciousness - More Than Ninety Five (95) Percent Of The Homicides In The World, Some Times As High As Ninety Eight (98) Percent, Or Even Higher, Go Unreported, And Are Therefore, Not Investigated - Labrynthine Cities Below Us Where Lesbianists Live, And Laugh At All Of Us - Why Do Continents Sink? Why Do Land Masses Rise? - The Leases On Their Technologies Have Expired - Our War On The Lesbianists Must Continue - The Valderizing Lesbianists - Who Do We Kill, First? - Hydrolific Pressures And The Labrynthine Cities Below Us - Local Area Prayerful Collection Site - Aerobic Taichi Practice - Campers, Camping, Sexaling And Purifying The Area, And Useing The Parcel Of Land That I Publicly Claimed For My Setting Up Of My Ministry - Straightening And Cleaning Up The Area - Donating Your Sperm, Vaginal Juices, Titty Juices, And All Your Sexaling Juices - Building A Latrine - Glue People Begun 'Cleaning' Agents - Removal Of Latrine Wastes And Disposal Of Latrine Wastes - How To Disperse Your Juices - Clothing - Erotic Attachments - Leveling The Area - The Party Is Over In Las Vegas, And In The World - Who Is Staying And Who Is Leaving, Etc. - Rules For Hospitals And Clinics, Etc. - Erecting A Partition Blind On West Tropicana Ave. - Electricity, Lighting, Etc., To Be Supplied By Nevada Power Free Of Charge, Or Else - Meat Vendors And Hispanics From Central And South America - Erecting A Partition Along South Decature Blud. - Drawings On Demolition, Construction, Etc. - When Will This All Begin? - My Spilling Of My Purifying Sexaling Juices, And My Spilling Of My 'Prayer Time' Purifying Juices - Spilling 'Prayer Time' Spittle Generated While Praying - Monkey Babies, Jimmy Carter, Oliver North, And The Lesbianists' Conspiratorial Bullshit Stories Of Adam And Eve, And "Jesus Saves" - Punishment For People Who Practice Voodoo Religions Is Dismendment, I.E., Death - Local Businesses Will Have No Problems At All With The Collection Site And Will Have No Problems At All With The Activities Of The Faithful At The Collection Site - What To Do If The Police Come? - Lesbianists Enjoy Eating People, Who Are Alive, As Well As Eating The Bodies Of Those Who Are Dead - Every Game Of Chance, Gambling Machine, Or Slot Machine Is Rigged, In Every Casino Around The World, With Only A Few Exceptions - The Lesbianists' Articles Of Participation - Every Lottery In The World Is Rigged - No Fair Play In Nevada, And No Fair Play In The World - Sniper Shooting, And Miscellaneous Information - Your Orders Are To Kill The President Of The United States And His Wife Updated: 15-02-07 Rev.a 09:45 PST

Lay Order Of People

I have no lay order of worshippers, who participate with me, in any thing, or in any way. Why? Because, that's like me, the captain of the

ship, coming into a town of persons who I don't know, and then saying that I'm the authority over them. No one is going to listen to me, and no one should be expected to listen to me. I wouldn't attempt any such thing, and so as the captain of my ship, my religious order, I have no authority over lay persons. I have nothing to do with lay persons, what so ever. I will never have any thing to do with lay persons, unless they realize that I am GOD, and that I am the mother and father of all human beings, and all animals, and all living beings. No one is going to recognize me as GOD, for a long time, as no one has the karma to recognize and understand that I am GOD. Lay persons are free to do as they like, and I have no regulations concerning them, in my religious order. My children may have many regulations, for non religious order people, but I don't have any thing to do with that.

Donations For The Sake Of My Ministry

The only thing is, that, as I said before, if a person recognizes and understands that I am GOD, and that I am the Mother and Father of all human beings, all animals, and all living beings, then they are free to donate cookies to me, or clothes, or wearables, socks, and scarfs, or coats, sweaters, or slacks, neckties, and so forth, cakes, or cupcakes, baked items, or financial contributions, or chairs, and furniture, beds, linens, tables, office furniture, phones, phone lines wiring, electrical wiring, plumbing items, housing items, for building up a house, paved drive ways, mason or rock walls, surrounding the property, or a set of dormitories, or a prayer sexaling room, or a prayer ceremonialing room, or a swimming pool, sauna, bath house, toilet facilities, bathing facilities, laundering facilities, a root cellar, a molds and funguses workshop, a brewery workshop, or any workshop for helping to educate others, the land to build these things on, or money, or whatever. If some one recognizes and understands that I am GOD, then it is perfectly alright, to donate any types of items, or any thing of value, that would assist my ministry to get up and get running. As yet, no one has understands or recognizes me as GOD, and that I am GOD, and the mother and father of all human beings, all animals, and all living beings, so as yet, I have not heard from one person, not a letter, or a phone call, other than an occasional wise cracking person, mischief maker, or a person or persons who are worried, and then complain to me, or rather, to my answering machine, typically, as I don't pick up the phone, now, as I had one person calling who was a bad kid of mine, and he was just looking for trouble, and since that, I just ignore all complaints, or wise crackers, or mischief makers, and so on.

Nollicking Foolish People

Some people do not like me wearing my GOd cap, that is one of those specialty base ball caps, but with 'GOd' written across the front of it, and they might hate me, especially some South American or Central American Hispanic types, who have primitive and backwards religions and filled with local lore and ancient tales of demons, and goblins,

and gooney bears, or ghostly ghouls, or other superstitious ideas and notions of things that go 'boo!' in the night, and try to scare or hurt people, as there are plenty of folklorish tales of such things, in primitive cultures, that thrive, even at the current time, nowadays, in large cities, even, and these types of people might want to kill me, and when they knock on my door, with their gun in their pocket, or in their hand, machete or knife behind their back, I just ignore them, and I don't even bother to get up from my work bench, i.e., my bed, to see who is knocking at the door, as I know already, they have nothing to do with my monastic order, and because they have nothing to do with my religious ministry, or with my setting up my religious ministry.

Just last night, some group of people droped by, and banged on my door, with the tip or barrel of a weapon, and it was rather hard sounding, and I just ignored them, and after a few minutes, or so, they went away, and they haven't come back, yet. I don't think they will, and even if they do, I don't think it will amount to any thing, as I may have occaisonal visitors or harrasment calls, now and then, but that's all they are, and I just won't allow my self to be bothered by them as they are unimportant, and my goof ball kids, are just too nutty to figure out that I am GOD, and that they are my kids. Nevertheless, these goof ball kids are here or there, and I get lots of compliments about my hat, and usually, if not always, the person giving me the compliment wishes to steal the hat from me, and then rob me, in any other way, he or she can, and then beat me up, if he or she can. Well, I can't let these types of things get to me, and I just ignore them, as I walk by them, and I don't reply or return any statements to them, except a polite, 'thank you' if they gave me a compliment about my hat, but that's about all, and I might mutter something, like, and well, so that's just another one of my goof ball kids, or something to that effect.

Nollicking And Nollygaging

Nollicking means idiotic and foolish people who are wasting their time, for accomplishing nothing. It's like, nolly gaging, but nollygaging, is just wasting time, foolishly, and while you are nollygaging, you are looking for some way to make a profit, from your use of your time. Scanderously, you try to extort money from others, or force others to give you money, you do not have any right to. That's nollygaging, as I can recall, at the moment.

Goof Ball Kids, Their Mischievousness, And Maliciousness

Well, I have all kinds of kids, and many of them are malicious, if you give them a chance, so I just stay away from all of them, as I know most every one of my children, is malicious, from time to time, if given the chance, and I think that applies to all of them, regardless of their age, at some point in their life, they will commit crimes of one kind of another, against others, and not think much about it, except that, they just had to take care of that, as they wouldn't be

happy, if they hadn't. Okay, so every one of my kids, at one time or another, will do goofey or goof ball things, and not think much about it. That's the way it is. There is nothing to be surprised about, as every one, and I don't care who they are, every one, does things they shouldn't do.

Me, personally, I get angry, and say nasty things, and make myself sound gruff, now and then, and maybe I shouldn't, but I just feel compelled to do that, when I have a righteous conviction that some one deserves my speaking up and telling them off. Well, you feel sorry about it, afterwards, if you hurt some one's feelings, but then that's the way it goes, and no one is perfect, so it's just. Let's try to live and let live, and live together in peace, and cut out the naughtyness, and stop the mischiefness, if we at all possibly can, and apologise if the opportunity presents itself. That's always the best way to handle things. Most people, after they kill someone, can't appologise, and young girls and boys, and older girls and boys, think nothing of killing people, or having some one killed, for them, and then of course, there is no way for any one to appologise to the dead person, since that person is in my Epcot Center. Well, we can't do too much about that, can we, but we can try to be kinder, and not kill as much as we feel we must to be happy.

More Than Ninety Five (95) Percent Of The Homicides In The World, Some Times As High As Ninety Eight (98) Percent, Or Even Higher, Go Unreported, And Are Therefore, Not Investigated

It's too bad that we kill others, and torture others, but that's the way my goof ball kids live in my universe, and despite what people might wish to think, to the contrary, it happens every day, in every city, town, hamlet, county, district, or where ever. My goof ball kids are killing people, right and left, and there are just so many deaths, the police don't hear the ninety five (95) percent of them, or so, as they never learn about it. The percentage of homicides the police do not hear about, is perhaps just a little higher, but in any case, no one should be surprised, as that is how my goof ball kids get along with one and each other, and they have been getting along with one and each other, that way, for a very long time, already, so it will not stop, any time soon, and that's just the way things are, for now. The Lesbianists are responisible for just about eighty five percent of those homicides.

Labrynthine Cities Below Us Where Lesbianists Live, And Laugh At All Of Us

The Lesbianists living below us, in their cavernous, labryinthine cities, that are below the hard rock layers, well below the oceans, and other bodies of water, far below the continents, go around, and mess with every one, and they play with people, and they think they have the right to amuse themselves by useing the citizens of this planet, any old way they like. They go around, and set up phoney wars, and they watch the citizens of each country, kill each other, on their

commands. The Lesbianists enjoy playing these kinds of games, and they set up civilization after civilization, and they bring it along, and help to develop it, and when they get it to a high enough level, they feel a sense of accomplishment, and then they watch and amuse themselves as they destroy what they built up, and the people who are living, unawares of them. The Lesbianists think it is funny, that the Lesbianists feed the lies about our universe, and the lies about science, to every one, and the Lesbianists think they have the right to bafoonerize every person who comes into our world, as a tummy baby, who is on his or her way in, and in fifty to eighty or so years, is on his or her way out.

Why Do Continents Sink? Why Do Land Masses Rise?

Load transference technologies redistribute the loads on the internal network of underground cities when ever there is a major uplifting, or down plunging, of continental mass, rocks, and earth, that would cause continents to sink and continents or land masses to rise. Movements of 'earthen matter' or rocks and dirt is accomplished with load transference technologies, and other technologies, such as partical dismissive technologies, and partical remissive technologies. This way, a planet can move, inwardsly, as a continent sinks, after the underlying rock layers are washed away due to hydrolific pressures.

The sinking of the continent pushes downwardsly, and as it falls, it exerts high intensity pressures on the underlying layers of rocks, stones, pebbles, sands, sediments, clays, metals, minerals, and so forth. The pressures will normally push downwardsly, and outwardsly, and shifting of materials, occurs, and land masses rise, as a result. When you have an underground city, or collection of them ringing the planet, when the pressures occur, and when the materials begin to shift, you redistribute the materials, using advanced sophisticated technologies, that will shift the particals in the directions they need to move, and distribute them so that they will not interfere with the structural integrity of the undergound labrynthine, and perfectly, geometricly laid out city dwellings and living habitats. It's high tech stuff, and so if you don't understand how partical dismissive technologies work, or if you do not understand how partical remissive technologies work, you will have a hard time understanding how this is accomplished. There are other technologies, that also must be employed, to work in an integrated manner with the partical dismissive and partical remissive technologies. All of these technologies, working in an integrated manner, will perfectly redistribute all the particals of rocks, and so forth, that need to be redistributed. The technologies keep the ring of cities perfectly centered within the earth. If there is a need for downsizing of the interconnected labrinthine layout of cities, that is also accomplished with these technologies. Downsizing may occur for any number of reasons. I've briefly explained what can happen as comets and asteroids pass by our planet, at amazing speeds, and that we can lose some or part of our planet, mountains, terrain, and lakes full of water, with a pass by,

by a solartoid, or planetary sun, as it wizzes by at a phenomenal speed. Once the planet restabilizes, the downsizeing process begins. Even though there may be continental shifts, of uprising and down plunging events, and large, cometary passbys, with the technologies that are available to the Lesbianists to use, on a 'for lease' option, the integrity of the underground labrynthine layout of cities, is kept in tact, as best as possible.

The Leases On Their Technologies Have Expired

The lease on the technologies that they have been using, was assigned to them, after they swore in, and pledged to live on this planet, and sexal for a living. Because this was a newly formed planet, before they arrived, but after it recongealed, after it was shattered to pieces by a passing cometoid that ran smack into it, as I've explained about, or touched on, a couple of times, before, see my notes on the web, they needed to live underground, where they could live, and slowly over time, adjust to the types of solar radiations, and other factors - shielded by the rock layers and bodies of water above - that they would need to adjust to, to be able to come out from down underneath the surface of the planet, and then begin to live above ground. After they adjusted to the conditions of the planet, they could come out, and as they continued to sexal for a living, other technologies would allow them to build large cities, for them to habitate in, as they sexaled for a living. The cities that were built for them, are now down under the rock layers, all crumpled up, as they did not hold to their pledge, and they broke the law, and the maintenance of their above ground cities, was terminated. With continental uplifitings, and downplungings occuring, over the long period of time, they lost their cities, and now they have only the underground, initial landing zone area, dwellings and habitats, that have down sized, some what, since their initial landing for occupation of this planet, in the sexaling for a living program. They broke all the rules, and they developed their own sham governments on this planet, and they went about, causing mayhem and destruction, every opportunity they got.

The lease that they signed on to, and that was assigned to them, that they had on the initial landing zone technologies, as well as all their other leases, that were assigned to them are now cancelled, as of Feb. 14, 2007, PST. That means, that, their underground cities are now going to be shut down, slowly over time, and they will have to move out, and move to the surface, as the underground systems, begin to falter, shut down, and fail, one after another.

This happens to them, repeatedly, and the end result is they destroy them selves. The hideous animals they illicitly brought from other planets will get lose, and then they will help to hurry the demise of their world civilization, which means, every one of the Lesbianists will die on this planet. After they destroy themselves, they will end up in my Epcot Center, and they will come back out as tummy babies, to

tummy mommies and to tummy daddies, who have karma that matches up with theirs, and then they will repeat their old mistakes, again, and again.

As the Lesbianists decline, as leases are begining to expire on some of their technologies, and as other leases, will also be expireing, over the next few years, to ten or twelve to fifteen years, to thirty eight years, to fifty nine to sixty to eight five years, and then finally, when the last of their leases expire, some time, not too long after that, up to two hundred to eight hundred years, or so, and then there are still a few that will remain active, until every one is expected to move out, within a few thousand years, eight to eleven thousand years, as they must be given time to build up their own new civilization on the surface of the planet, where they can all live, together, now that the facilities below will be totally closed off, and shut down, and no longer useable to them, as they will be locked out, and prohibited from entering them. Once they are completely out, my kids will then remove all traces of the underground cities and underground facilities, so that there is no chance of any one ever useing them again. The Lesbianists will then begin living on the surface, full time.

Currently, as a regular sport or preoccupation, the Lesbianists go out regularly, at night on hunting parties, and capture people, to torture them, and then cannibalize them, for food, in their underground lairs. The Lesbianists enjoy tortureing people, and eating them, and this goes on, regularly, all around the world.

There are over thirteen billion of them, and the number is even higher, still, as I did not have that number correct, either. It is higher than that, and that means there are a lot of hungry mouths to feed, in the future, after they lose their leases, unless they get a new civilization built, which they never do, as they do not like to work.

They will come out, at night, regularly, and abduct people, and then carry them into their underground lairs, and then cannibalize them. This will grow more and more busy, as they strive to remove every one they can from the surface of the planet. After they have removed enough people, they will begin to live on the surface in the homes, and cities that are there, already. There are too many Lesbianists to live comfortably on the surface of the planet, and they are too lazy to build their own civilization with homes, an economy, and so forth, so they will inevitably begin warring against each other, until there are only a few left, and then they will meet their end, when their animals strike at them, and kill them, for food.

The only way one can find a way out of this predicament, is for each one of you to join my country, swear in, and become a citizen. The Lesbianists in turn, must surrender. If they do not, at a certain point in the future, we will begin to dismend them, and sent them to my Epcot Center. When that will occur, I don't know, but it could be

as far off as a few thousands of years from now, as we have to give them the time, and a chance to build a new civilization, with homes, and parks, etc., working together with the people who already live on the surface of the planet. We cannot cut short their efforts to mix with the people on the surface, and to come clean, and to tell it all, and to appologize, and then to work in peace and harmony with the people who currently live on the surface of the planet. They will have to share their knowledge of the sciences, and they will have to help to educate every one, and they will have to teach the people who are living on the surface, the sciences that will allow people to regroverate their amoebes, and other cells in their bodies, and to rejuvenate their bodies.

There is not much chance of that happening, so we will have to be on our guard, and we will have to look out for ourselves, and make sure none of us are abducted by them as they attempt to diminish the population living on the surface of the planet by reducing their numbers, as they begin to get busier, abducting people, and eating them, one after another, to make room for them selves, on the surface of the planet.

Never the less, my kids are not allowed to act prematurely, and my kids are not allowed to begin dismending them, just to stop them from doing what they typically do, after they lose their leases. So, it will be several thousands of years, before this topic comes up for discussion, and then gets put into action. These are not normal circumstances, and so the dismending of these people, may begin some time after their final leases expire, if they present them selfs as a problem to the rest of us, living on the planet.

Our War On The Lesbianists Must Continue

This means, we have a few options, here, and the best option is to just get rid of them, and destroy their underground cities, and destroy them, before the Lesbianists get much more of a chance to abduct, torture, and cannabalize the citizens living on the surface of the planet. Thus, our war is now only begining, and we must continue to eliminate them, as they will only cause mayhem, and destruction, for those living on the surface of the planet, in coordination with their Lesbianists friends, who run this planet. The Lesbianists' activities aimed at destroying the populations of the planet, is guaranteed to increase, as the years pass. That means, we must continue with our campaign to destroy the Lesbianists, and we must continue to work to bring an end to the control that they have, over every one on this planet. We can also concentrate on destroying the Lesbianists, underground, by dropping the home made 'radiological' explosives weapons down into the ocean depths, and down into the depths of the deeper lakes, onto the leaky ceilings below, where the Lesbianists are living to crush them, and to drown them all. In the meantime, every one must join my country, and swear in, and become citizens of our new country, as I've explained about, before.

The Valderizing Lesbianists

The Lesbianists do not teach real science, or real geography, or real history, or real mathmatics, or real chemistry, or real anything, and they fool every one with their bogus religions that they either made up or corrupted, and valderized. Valderized means, they vandalized it, and sprayed grafitti all over it.

Well, that's the way the Lesbiansts get their kicks, and they are just a bunch of grown up children, valderizing every thing they can, and disrupting every thing, and every bodies' lives, just for their own amusement, and cruelish fun and games, such as feeding former Lesbianists to my abominant kids, who are need to be fed, and who are smart, and devious, and who destroy humans, and eat them up, and spit them out, and treat them terribly, while the Lesbianists watch on, in amusement, as they see people like Bill Gates, or Steve Irwin, and others, eaten up and then tortured, as I've mentioned about before. Valderize all they may, and be cruel all they may, we are all now finally finding out about their treacherous and horrid behavior, and now we are going to put a stop to it, permanently, and that means we will kill every one of them, and send them all to my Epcot Center, as I've explained about before.

Now we know we can cave in their cities, below the leaky hard rock layers, way down below, if we hit certain areas, hard enough, with a nice big hammer, such as one or more of my 'nuclear' bombs, the fracturable rocks kids bombs, with fuels oils, burning at extreme high temperatures, and with percussive shock forces, these, mixed together, will get my fracturable rocks kiddies, making lots of babies, and with a large enough fracturable rocks fuels chlorine, and metals that burn at high temperatures, nearing solar temperatures, we will see some very explosive 'family making' adventures, among my fracturable rocks kiddies, and their radiological relatives and friends.

We know where to hit some of their locations, to drop a few miles of more of continental shelf down onto the tops of their ceilings that will then fracture their ceilings, and cause massive damage, as oceans of water fill up their labrynthine and very well laid out cities, below us.

Who Do We Kill, First?

Mr. George Bush, Jr., Mrs. Barbara Bush, Jr., Mr. George Bush, Sr., Mrs. Barbara Bush, Sr., Mr. Ronald Reagan, Mrs. Nancy Reagan, and lots of their friends, and nearly the whole crew of politicians in Washington DC, are all Lesbianists, and I want you to kill every one of them, and send them to my Epcot Center, and I want you to place the fracturable rocks bombs, in the right locations, and then drop a thick layer of continental shelf, down onto their ceilings, their ceiling that are below the water that is between us and them, and that is below our continental shelfs that we live on.

We can hear the water down below, if we have the right types of listening devices, and if you find the right places to place your fracturable rocks bombs over, then it may be easier to drop your continental shelf, down through the water, below you, and down further onto their ceilings, the hard rock layers below the water, that is below your continent, swirling about.

Now I want you all to study this, and find the right places to drop your continental shelfs, down through the water layers below you, and onto their ceilings, so as to smash their ceilings. I've given you some hints, already, as to where you can place the fracturable rocks bombs, and my kids also have given some people more information on that, and so we have lots of people, who are interested in solving this problem of the Lesbianists toying with you, one life of yours, after the next life of yours. It is time we brought their mischief, and non sense, and cruelty to a halt, and it is time we put on the brakes, and slammed down on the brakes real hard, and at the same time, slam down on the ceilings of the Lesbianists labrynthine cavities, below you, their cities that they have laid out in perfect symetrical, geometric shapes, like perfectly shaped, honey combed behives, with central cities, placed symetrically around the globe, in a perfect geometric layout, and with spokes or corridors reaching out symetrically, to other central cities, and to satelite cities, that they have well planned out, and have well laid out, perfectly, below you.

Hydrolific Pressures And The Labrynthine Cities Below Us

Because of the hydrolific pressures, they can never keep the ceilings, perfectly dry, and they are always in trouble, trying to fix leaks, here, there, and every where. Now it won't take too much to bring the whole place down on them, flooding them like rats in a cage, below the water line, as a boat slowly sinks with a rats' cage on a table, with rats in it, slowly into and below the ocean waters.

The ones above, such as George Bush, Jr. the current president of the United States of America, and his wife, and his supposed family and relatives, and all his close Lesbianists' friends, should now all be killed, point blank, with your fracturable rocks bombs. I hope that is perfectly clear, and I hope you all understand what the situation is, and that it is an intolerable situation, and we are not going to allow them to toy with us, any longer, and we are not going to let them amuse themselves, any longer, and we are putting an end to their games, now.

DO YOU UNDERSTAND ME? I HOPE SO! AS A 'NO SIR!' WOULD BE UNACCEPTABLE.

Now that we know where we stand, we have nothing further to argue about, and so let's get to our tasks, as soon as we are ready, and prepared. Okay? Good.

Local Area Prayerful Collection Site

A collection site is where people gather to pray, and to sexal and to purify each other. It is not a site where people ask for offerings, or where people as for any thing else, involving money. It is a sexaling park, and a prayerful sexaling park. That is the meaning of collection site. A collection site is where people collect together, to sexal and purify themselves, and while they are at it, they make sexaling efforts to help to purify others, by shattering and showering out megawatts and tons of radiating, purifying energies.

We have a local area park, at the corner of West Tropicana Ave. and South Decature Blud., a local BLM piece of land, that some people like to camp out in, that I go out to, to bless, and to purify with my religious ceremonies, now and then. I claimed that area, and all other BLM lands that I could claim under Gurkian Law, and all other land on this planet, that I could also claim under Gurkian Law, such as other parks and forests managed by other government agencies, or private lands, supposedly owned by rich people, and lands around the world, that I have a right to claim, under Gurkian Law, and all that land, is now mine, under Gurkian Law, and I can use it in any way that I need to use it, regardless of what other people, think.

Aerobic Taichi Practice

I am busy, now and then, purifying that parcel of land, at the corner of West Tropicana Ave. and South Decature Blvd., with my religious ceremonies, that I conduct with my religious prayer hand signaling statements and with my use of my ability of arerobic Taichi, for religious ceremonies, as I seem to have recalled a lot of areobic Taichi, as well as some other forms of Taichi, that I knew, before, in previous lifetimes, but I am only interested in using it for practical purposes of religious hand prayer signaling.

I'm very clumsy when it comes to aerobic Taichi, but any way, I enjoy it, and it is good excercise for me, and the more I practice, the better I get, but it will be zillions of years, before I get any where near good at it. I practice the arerobic Taichi while I make my religious hand prayer signaling statements.

I don't teach Aerobic Taichi. I only use it for my prayer ceremonies, when I am on my feet, and not on my back, mostly, even though, I do use a short version form of it, while lying on my back, or, while I am on my side, I use a very short form of it. Anyway, it is fun to do Aerobic Taichi, and that makes my prayer ceremonies, for me, more fun. When other people learn to prayer signal, they will naturally pick it up, as well, as every one has studied to some extent, Aerobic Taichi, and other forms of the martial arts, and my kids will release the knowledge that is stored in your memory banks, as you need it, once you begin practicing, for women, as a priestess, or for men, as a priest. It is not like the Taichi you see people doing in China, or Taiwan. It is a specialized form of aerrobic Taichi for use while performing hand prayer signaling. It is not used for fighting, but it is the basis for Taichi, and you can train in martial arts, while employed as either a priestess, or as a priest, and it will be useful

to you to know, before hand, as it will make practicing your martial arts, that much more interesting.

I'm not hiring any one, now, or just yet, or any time, soon, as far as I know, as my kids do all the interviewing, and I have nothing to say, about who comes knocking at my door, to be interviewed.

Campers, Camping, Sexaling And Purifying The Area, And Useing The Parcel Of Land That I Publicly Claimed For My Setting Up Of My Ministry

Now, on that parcel of land, there may be campers, now and then, who want to camp there, because they want to find out more about my religion, and so they come out to Las Vegas, now and then, and they camp out there, on that parcel of land, at the corner of West Tropicana Ave. and South Decature Blvd. Since that land is where I am going to set up my initial ministry, when the time for that comes, I am preparing it, with my religious purification ceremonies, and there doesn't seem to be any troubles, with any one telling me not to go up to my property, that parcel of land, and there is no one trying to tell me that I can not bless my property, that parcel of land.

Now, if other people wish to come to that parcel of land, and wish to sexal on it, and thereby purify that parcel of land, they are more than welcome to come to it, with their camper trailer, or caravan bus, and they can maneuver into the area, and set up a tent, and campsite, but there is no water, or any thing else, so you have to come prepared to rough it, if you wish to come in your camper van, or caravan bus, or in a camper trailer, or with a tent, or with other types of sleeping and living gear.

Straightening And Cleaning Up The Area

You can straigten up the area, and clean it up, and make it nice, for many people to pull into, to join together, and to sexal together, and with your purifying energies from your sexaling together, you are more than welcome to stay there, as long as you like, and as long as time permits, and as long as finances permit.

I have nothing there, except for my now and again, Aerobic Taichi practice and the energies that are imbued into the area, there, from my religious hand prayer signaling ceremonies. There are no structures of any kind, and I am sometimes there, busy purifying the area, with my religious ceremonies, so if you and your friends would wish to come to that area, and also help to purify it with your sexaling energies, than you are more than welcome to come and visit there.

Donating Your Sperm, Sexaling Spittle, Perspiration, Vaginal Juices, Titty Juices, And All Your Sexaling Juices

You men and boys may by all means, donate your sperm juices, sexaling spittle, and other sexaling juices, your perspiration you generate while you are sexaling, to the site, and you women and girls may by

all means, donate your vaginal juices, your titty juices, your sexaling spittle, your perspiration you generate while you are sexaling, and all of your sexaling juices to the site, as they all will help to purify the property that I intend to set up my ministry on, as they all contain many, holy, pure, sacred, powerful cleansing energies, and GODLY energies in them, and they will help purify the land, and the environment for ages and aeons to come. All of your eroteming and orgasming energies will go shooting throughout your bodies, and they will find their way throughout your bodies, and out of your bodies and brains, and into the environment, and into your bodies' sacred and holy spillages, as I've discussed about before. Your bodies' spillages, as well as your perspiration, your pee, and your poop, not to mention all of your other juices that are produced as you sexal, erotem, orgasm, and phlumett, become pure, sacred, holy, powerfully cleansing, and GODLY, while you are sexaling, eroteming, orgasming, and phlumetting. Your pure, sacred, holy, powerfully cleansing, and GODLY energies find their way into all of your bodies' spillages, and so please donate them to the site, in appropriate manners.

Building A Latrine

Please employ some one to dig a latrine, and to fashion benches to sit on so as to be able to dump your poop, and pee your urine, into the latrine trenches. Manage the latrine, with care, and employ healthful, tactical, and sanitary techniques to use it safely. Provide hand rails, to grasp, so that no one will slip off and fall into the latrine. Provide barriers so that no one can accidentally fall into the latrine. Use your common sense when providing 'tactical' safety measures.

You need not fashion an over hang, as there is no rain to speak of, in Nevada. You do not need a supported roof, or enclosure, as they will only become stench ridden, and no one will enjoy useing them. There are to be no enclosure walls, or sides, or backs, so as to enclose the odors of the latrine, and confine them to an air tight area, where they can accumulate, and cause explosions, accidentally. They need only be deposited into a safely dug, latrine, and then allowed to filter down into the soil, and then allowed to vapor up into the atmosphere, freely.

No doors should be used, and no barrier walls should be employed, when fashioning the outside framing of the latrine facility, itself. That means, there are no hiding places in the latrine, where people can hide, and be prevented from entering, or exiting from the latrine. Only hand rails need be supplied, and only barriers that are suitable for keeping people from falling into the latrine, need by provided.

Steps may also be provided, to a raised platform latrine, which is more sanitary to use, than a level to the ground, latrine. There should be no walls, and no blind spots when either ascending up the stairs or when descending down the stairs. Women, girls, men and boys,

should all use the same facility, and there is to be no fraternizing. Fraternizing is playfully tearing up at the opposition, or at people who you do not like.

Tearing up at the opposition means, you are trying to over throw the person, and dispose of that person, into the latrine. Over throwing the person means to be using reckless abandonment when dealing with another. Reckless abandonment means to be recklessly risking the life and limb of another.

There will be no frolicking at the latrine site. Frolicking is when little boys, and big boys, and little girls and big girls, play around and provide possible hazzards to others. You will not behave in a hazzardous manner towards any one, at any time, or you will be asked to leave, and to not come back.

There will be no play time allowed for children, as this is a collection site, and that means it is a holy site for holy activities, so leave brats at home, and do not bring any one who drinks alchoholic beverages, or who acts unwholesomely, to the collection site. This is a private site, and a prayerful collection site, and that means, you are coming there, to pray, and to make love, and to sexal, as GOD's children, so as to purify the site. You are not allowed to act randomly and with reckless abandoment. Randomly means, without proper self control and restraint. This is not a gay fashion, show or parade, and we will not tolerate reclusive, or unwillingly unwholesome behavior.

Reclusive means, unwilling to participate for the stated purpose of purifying the area. Reclusive means, caution and carelessness is thrown out the window, and you are acting in an irresponsible manner.

Unwillingly unwholesome means, first, unwillingly means, non cooperative, private, or sordid. Sordid means you are acting in a selfish manner, and you are not acting in a responsible manner for self and for others.

Unwillingly unwholesome means, thusly, that you are acting in a selfish manner, irresponsible manner, uncaring towards others, and unwholesomely.

Unwholesome means, you do not care about the life and limb of others, and you would just as soon shoot a person you argue with, as talk to them for a friendly chat. Many of my kids, are very unwholesome, and will just as soon, talk to a person, as shoot the person. You will not act in any such manner.

Any unsafe or prohibited latrine construction will be ticketed on detection, by me, and you will be asked to rework the facility. That will be on the ticket, and please comply, if you and your friends who built it, will be so kind. If you do not rebuild it, you will be asked, with your friends, to leave the site, as you are acting in an irresponsible manner. You will not be allowed back to the site,

without your showing proper repensive behavior. Proper prepensive behavior is an attitude of appology, as well as the acts of appology which means, you will take appropriate steps to see that the work is or has been redone, in the manner as required by safety laws, as stated by my children, under Gurkian Law. Either me, or my children, will leave the ticket, and you will be required to fix what ever it is you need to fix, or you will be asked to not stay and conspiriate at the collection site.

Conspiriate means, to participate freely with caution and care for the sake of others. Conspire is also the same, as conspiriate.

You will be asked to not stay and conspire at the collection site, means, the same thing. It means, you will not be permitted to participate freely with caution and care for the sake of others. That means, you will be asked to leave, and you will not be allowed to come back, if we, my children and I, and other attendents, as well, can at all help it.

Attendents are people who participate in the collection site activities, and they are people who take responsibility to make sure every thing is done, properly, and safely, with the sake and safety of others, in mind.

The Home Depot has many nice and useful janitorial equipments, and so it will not be difficult to build a safe and luxuriously clean, and handy, latrine, that is safe to use, for all people, of all ages.

Luxuriously clean, means, it is kept sanitary.

How do you keep a latrine, sanitary? You keep it clean and sanitary by venting the air out, freely, with no blind spots, either underneath or above, where pockets of air, and vapors can accumulate.

No partitions will be installed that will create a blind spot. A blind spot is an area where light can not penetrate. Therefore, your construction materials, must be perforated wood, or grated steel. You can weld together, if you know how to weld, a very nice, grated steel, latrine, that will be safe to use, by every one, of every age. You will need the correct strength of supportive steel poles, to handle the weights of the persons accessing the latrine, and of the latrine, as well. You will make certain to build it well, and to support it well, with firm foundations, of concrete or steel plates.

Any deviation from safe practices for building latrines, will be torn down, disassembled, and the persons or person responsible will ethier be asked to leave, or will be asked to appologise to the memebers of the collection, sincerely. If the person acts in a responsible manner, and appologizes, sincerely, and appropriately, then the person will be excused, with out further, charges being leveled. Further charges will be leveled by my children, if my children detect further, reckless abandonment on the part of any person, participating and acting in a reclusive or recklessly abandoned manner.

Glue People Begun 'Cleaning' Agents

Cleaning the toilet seats of the latrine, will also help to keep the latrine luxuriously clean, and sanitary. You should clean the toilet seats and parts of the latrine, with common household detergent agents, as at this time, we have no choice but to use the unwholesome, Lesbianists' manufactured, ajax, spic and span, lysol, and other such 'glue people begun' agents. Glue people begun agents means, aerosols, and other unwholesome petrol fueled compacted or pressurized sprays, or detergents, that help the Lesbianists to begin the process of turning human beings into glue people. Glue people, in this instance, does not refer to glue, but it refers to tar. Tar is an adhesive substance, and their intent was and is to turn every human they can find into tar people.

We have no choice but to use the local distributors selection of cleaning agents, but in time, we will one day, have all that straightened out, after we demolish the Lesbianists' hideouts, under ground, and after we kill them all, or welcome them in, as 'surrenders', with appropriate, remorseful, penentant attitudes.

Removal Of Latrine Wastes And Disposal Of Latrine Wastes

Latrine wastes materials shall be removed, and supplied to local pig farmers, who can then use the materials, for feeding the animals. Pigs and hogs love to eat away at latrine wastages, and no one knows that. Chicken also enjoy eating human wastages, as well as ducks, geese, and other fowl. Horses and burroughs also enjoy human wastages, if it is healthy enough, with large amounts of vegetable mass in the diets of the human beings, whose wastages are carried to the farms for spreading about in the hogs and pigs, barrels. A barrel is a place where wastages are loaded, up into trucks for delivery to a sewage farm, or a place where farmers can use the wastages, that the hogs are finished with, as fertilizers.

Hogs and pigs use a roped off area, for eating wastages, and employees keep track of the unloaded wastages, and the spilled wastages from the hogs, and then the spilled wastages from the hogs, are then moved to a separate area, for pickup by carriers of farmers. Foods grown at farms using hogs and pigs wastages are useful and nourishing to humans, and other animals.

No fees of any kind for loading and for carrying away wastes to hog and or also pig farmers, should be levied by truck drivers, as drivers will earn a tokenous gratitude tip from the hog and or also, pig farmer. An appropriate payment to the driver and deliverer of the human wastes to the hog and or also pig farmer, should be paid by the hog or also pig farmer, unless the farmer is cash strapped. Cash strapped hog and pig farmers may be given money compliments by the people at the collection site.

Money compliments are small awards, or minor payments, out of gratitude to the hog and pig farmer, for his or her useage of the

human wastes from the latrines. Money should be collected, regularly, if hog and pig farmers are cash strapped, and then given to the hog and pig farmer, out of gratitude to him or to her, and presented, tokenously, or as a gift payment. How much should be paid, depends on the expenditures of the driver, for his or her services, and for the use of his or her, vehicle, and for its whollyfied maintenance.

Whollyfied means, the regular maintenance that will allow the truck or vehicle to run at tip top conditon or shape, for the life of the vehicle, figuring it proratively.

Proratively means, spaced out, and paid proratively, or over the period, at regularly spaced points in time, over the given span or the useful life of the truck.

Discussions regarding this, and discussions for compensations, should be held at the collection site, and at the delivery site(s) for delivery of human wastes, by all parties, concerned, regarding all of this, and the primary collection site attendants, the persons elected by the attending or participating persons, at the collection site, who show the greatest interest and sense of responsibilities, at the collection site and with regards to the collection site, and with regards to the collection sites' safe, healthy, and wholesome management, must attend the discussions, and must deliver their sound judgements as to who is to be compensated payments for their participation in the removal and distribution of the wastes from the collection site, to the hogs and pig farmers, and as to how much should be dispensed, per each removal and delivery of human wastes.

Participating persons at the collection site, should elect attendants, and the attendants should regularly check on all points for the safe management of the collection site. Participating persons means, persons who are there for sexaling, and for depositing their holy, pure, sacred, powerfully cleansing, and GODLY sexaling juices at the collection site.

Nevada Power, and all other vendors, are not participating persons, and should not be construed as participating persons, regardless of what they might wish to think, and if they have any complaints, I authorise the killing of all persons who disagree, and persist in arguing that they are valid participants, despite their not participating in your holy sexaling, activities, as individuals, and not as company employees. No company employee, or personel of any kind, may participate, except as an individual, lone, and wholeseome, participating, sexaling agent.

A sexaling agent, is a person who is participating at the collection site to assist in the purifying of the parcel of land, on which I will build my ministry, with the assistance of my children, by their participating in sexaling activities, and by their depositing of their sexaling juices upon the grounds of the parcel of land.

How To Disperse Your Juices

Sexaling outdoors will normally require that persons are naked, and juices will naturally find their way to and into the ground. Men, boys, women, and girls, all must be naked, while sexaling outdoors, except for those persons who need to be on the move, such as male attendants, who will need to go around, periodically, checking on the points of interest, to maintain the soundness and integrity of the collection site, and of all things related to its operation and management.

Clothing

Clothes may be worn, at times while not sexaling, as particapating persons, decide.

Scarves, hats, and minor shawl like garments, Roman, Turkish, or Russian togas, or other comfortable sexaling apparel, for women and girls, to protect the dermal surfaces of the wearer of the scarve, hat, minor shawl, or other apparel, are allowed to be worn, while sexaling. We need every inch of dermal surface, bare and naked, if possible, or at least, accessible, to allow for maximum eroteming sensitivity, touching, massaging, tickling, and so forth, to heighten the erotic levels of excitement, and thrills, eroteming, orgasming, and phlumetting.

Men and boys may wear light weight garments, such as Roman, Turkish, or Russian togas, or other garments that do not interfere with access to sexaling buttholes, dicks, and so forth, for men and boys to be able to maximize their sexaling enjoyments, erotic attachments, their purposeful eroteming enjoyments, orgasming thrills, and pleasures.

Erotic Attachments

Erotic attachments refers to their titties, dicks, buttholes, mouthal holes, tounges, and other touch sensitive, eroticable and orgasmicable body parts.

Purposeful eroteming enjoyments means, their steady minded, determined, and sustained sense of attaining to the highest levels of eroteming enjoyments possible.

Leveling The Area

Some minor leveling of the area, for maximum use of the area, as an automobile and camper trailer, caravan bus, travel trailer, campsite park, will need to be done.

There are many tiny hills, and a few large ones. There is much dirt that can be removed, from the middle of the site, all the way back to the rear edge of the site.

There is a hilltop trailor park, past the edge of the rear of the parcel, and there will need to be built a very durable, and strong retaining wall, to keep that hillside, shored up, and to keep the

trailor park from crashing down the hill side, after slide begins, and creep causes the trailor park to fall into the open area, that will be needed to be excavated, all the way to the rear of the park.

The grade or slope of the hill, need not be steep, but can be at a relatively low angle of ascent. An angle of between ten to twenty five, to thirty degrees, in graduations, from front to back, can be accomplished, with little difficulty, and with no disturbment to the trailor park, or disturbment to the integrity of the trailor park.

We need not seek any permits for construction, as I do not recognize the Lesbianists' governments, on this planet, and if any person shows up who says he or she is a county or city planner, inspector, or whatever, you are to immediately kill the person, and deliver three fivers to the persons' head, as that person is a Lesbianist attempting to interfere in my religious activities.

All activities at the site are to be done, without any interference from any public or other authority, and all costs for all changes and alterations to the site are to be financed by the local construction companies, who are working on the hotels industry, and they will cease immediately their work on all construction, private housing construction, casino construction, and all other towers construction, or work construction, other than the basic infrastructure needed to support the present population of Las Vegas, Nevada.

We are taking over this town and you all will begin to prepare to vacate this town and hand over all of your construction equipment, now, or face your companies and your private persons destruction with my fracturable rocks bombs, begining with the New Orleans Hotel, and all related hotels, and casions, bars, and restaraunts. That means, every gambling establishment is to shut down, stop construction, and vacate this town, now, immediately, post haste, if you wish to live.

You will be destroyed if you refuse to follow orders. We are putting a stop to the non sense of the Lesbianists begining with Las Vegas, Nevada, Henderson, Pahrump, and all parts of Nevada and the Southwest.

You will disband your operations and hand over your companies, such as the water bureau, the power company, the gas utility company, and every other company, including all supermarkets, grocery stores, malls, and so forth, every last business in Nevada, and the south west, to the participants at the collecting site, to take over and then properly manage, until all residents of Las Vegas, remove themselves, to my kids facilities.

Is that understood? You are all resigning and moving into my kids place, underground, surrendering, and moving on for those who are not Lesbianists, but who wish to vacate this area, as this area is in whole, now, a religious grounds.

That means, that I will require the participants at the collection site to take over every thing, and to bring the news reporting

stations to their knees, and force them to report the news, that every one is to retire to my kids underground, fortress, and they are all to remove them selves from Las Vegas, now, post haste, immediately, other wise, we will have a fractuable rock bombs throwing contest, to see who we destroy, first.

You must surrender all your holdings, owned property, equipments, and every thing else you call your own, and hand them over to the participants at the collection site.

Is that understood? "YES SIR!" had better be your answer, or you will find yourself on a one way ticket to my Epcot Center, with no return ticket, guaranteed, for however long it takes, to find you tummy mommies and tummy daddies.

I don't think there will be many volunteers, in the near future, as you are all abominant kids of mine, and the only kids people will ever bare, for some time to come, are abominant kids, and animals, and animal humans abominant kids, so I do not think you'll be leaveing my Epcot Center any time soon, if you resist and if you force us to kill you.

Is that understood every body? Good.

The penalty for not complying is death. Do you understand what I am saying? I hope so.

The Party Is Over In Las Vegas, And In The World

The party is now over, in Las Vegas, and at all casinos and gambling establishments, as we know you are all cheating, and we will kill every single last one of you to close you all down.

Who Is Staying And Who Is Leaving, Etc.

You will close down all of your establishments, world wide, and lock the doors on them, and then demolish them, post haste. Is that understood? I hope so. Either you do it, or we will do it. Do you understand that, now? I hope you do, because we are going to demolish every one of your establishments in this town, if you do not demolish them, yourselves. Every last one of them, all houseing, except for those noted in my children's compliance statements, which you are all to recieve, all trailor parks, with some exceptions, all every thing is to be removed, with only the basic infrastrastructure for heating, lighting, water, sewage, medical, hospitals, medical clinics, pharmacies, and so forth, food markets, services industry, HUD, Welfare, SSI, and other operations for the welfare of persons who are here, who can not leave, or who will be staying for some time, and who will be needing the services of those agences, construction companies, lighting companies, electric infrastructure installation and maintenance companies, as well as gasoline supply and distribution vendors, diesel fuels supply and distribution vendors, restaraunts, and telephone. That means, all humans are leaving, except for those

person who are to stay on, as indicated in my childrens' compliance statements, and except for those who wish to stay on and participate in spilling their pure, holy, sacred, purifying juices, and those wishing to participate in purifying my area, all of Las Vegas, Nevada, the valley and beyond, in time.

Rules For Hospitals And Clinics, Etc.

There will be new rules for hospitals, and clinics, and my kids will see to it, that the new rules, are followed. There will be other rules, as well, and my kids will see to it, that they are followed, as well, or persons who wantonly disregard them, will end up in prison, underground. My kids have not only a living environment, they have prisons, as well, jail facilities, and many other things. Check with them for a fuller list, of what all they have in the way of facilities, as many are very nice, and there are great possibilities for improving your health, and rejuvenating your bodies, etc.

My kids have a full list of who is to be leaving, who is to be staying, and by when people are to be leaving, and where persons staying, are to be moving to, as we clean up this area.

All of you had better check with my kids, especially, you Lesbianists, but not only them, you religious fanatics, as well, and every one else, of course, or you, especially the Lesbianists and religious fanatics are at risk here, but not too much, the others who are to check in with my kids, risk dying, perhaps, prematurely, and then ending up in my Epcot Center.

My kids also have lists of who the people are who will be recieving all the properties for taking them over, which properties need to be demolished, who will be demolishing things, and how to remove those things that you must remove, and to where you will remove them, and dispose of them, and in what manner you will dispose of them.

You will hand over every thing, and you will all comply, and those who are required to hand over their properties, after complying with removal demands, will hand them over, and then will move out and into my kids place, in accordance with the time schedule that my children have for you to follow. You are required now to check in with my kids, get every thing sorted out, and learn all the details, and then comply.

Those who do not follow these orders risk an early and, fortunate for us, timely meeting with death, and entrance to my Epcot Center for a long stay.

Erecting A Partition Blind On West Tropicana Ave.

The roadway, West Tropicana Ave. runs east to west, and west to east, and it is advisable to erect a pertition blind, so as to not disturb traffic, that comes down the side of the road, the parcel of land sits on, at very fast speeds, with people rubbernecking to see what is

going on, as many people will possibly end up flying into the area, with their automobile, truck, gravel carrier, or eighteen wheeler spinnning and turning over, out of control, and then sliding off the roadway and into the collection site.

The traffic is very fact on West Tropicana Ave., and with the interest of the local area residents, who will learn about the collection site, and the activities at the collection site, there will be many hazzards arrising as a result. Some persons may decide to stroll through the area, to steal purses, or wallets, or cameras, and so forth, as there are many poor, indigent, or hopelessly poor, persons, in the area, who do not have any work, and who can not feed themselves, and they need to steal things, to sell, to earn a living.

Such people should be spoken to, and fed, and then warned not to act in an unrighteous manner, which means, please do not steal things, or damage the property, or any thing on it, and please do not get into fist fights, over insults, and disagreements with participants, about who is GOD, and so forth. There are many impoverished persons from South America, and Central America, who only know their local area witch doctor's teachings on voodoo men and voodoo women, and who know nothing but folklorish stories about gouls and ghosts, and people, or ghostly gouls, i.e., people immitating 'gouls', or mean and rotten people, who go 'boo!', or try to scare and rob people, in the night.

Electricity, Lighting, Etc., To Be Supplied By Nevada Power Free Of Charge, Or Else

The partition blind should be sturdy, tall, and break proof, so that vandals can not break it down, or climb over it. Lights for use at night, with the proper permissions for an electrical hookup from the Power Company, Nevada Power Company, will be granted, and provided by Nevada Power, along with all other neccessary, needed, safety lighting hookups, to illuminate the area, fully, at night, so that it looks just like, or nearly like, daylight, or a well lit soccer areana at night, or a well lit professional baseball field, or football field, at night, and it will be given for free, lest we burn down Nevada Power, and kill all of their Lesbianists employees, and meter men, and all of their tawdry workers, who we do not wish to deal with. That means, we will blow up their buildings, and kill them all, unless they give us the electricity that we require. If we need to kill them all, we will then acquire all of their holdings, and we will operate all of them, ourselves. Fair Warning has been given, and consider that as a done deal, unless you wish to visit my Epcot Center.

Meat Vendors And Hispanics From Central And South America

An air of friendlyness, but caution, should be used. Men and boys are there to protect the women and girls. So, please work in teams, and do not let individuals, who might get kidnapped, and sold off to meat vendors, for a few dollars, or pesos, as it is, in Las Vegas, as the majority of such kidnappings and sales of human beings to meat

vendors, the Lesbianists chain stores, such as Colonol Sander's Kentucky Fried Chicken, Burger King, MacDonalds, Jack 'n the Box, Wendy's, In-'n-Out, Fat Burger, Taco Bell, Dell Taco, and all the other, fast foods vendors, is by the locally landed hispanics from Central and South America, who need money, to stay alive.

Erecting A Partition Along South Decature Blud.

South Decature Blvd. also has much traffic on it, and there will be lots of people, rubber necking, to see what is going on, so a high, partition wall, made of lumber, should be erected down the side of South Decature Blvd. to prevent all such incidents of rubber necking, and reckess abandonment, from occuring.

The partition should be about ten to thirty feet high, and should be well constructed. Why so high? We do not want people climbing over it, to sneak into the area, to steal things, and to fight with people, and to cause trouble, and to come looking for young girls, and young boys, and helpless, elderly folks, and uneducated to the whims and ways of the downtrodden, brutal, abominant kids of mine, walking the streets of Las Vegas.

Yes. They are abominant kids of mine, and the proof of that is that their children come out as monkey people, and orangutan people, and chimpanzee people, and if possible, the hospital whisks the baby away from its mother, and disposes of it, in the prep rooms, used for killing incoming, abominant kids of mine.

Drawings On Demolition, Construction, Etc.

My kids have construction drawings for constructing all the facilities needed at the collection site for all the facilities that will be needed. They have electrical drawings for lighting, etc., health, fitness, and wellness facilities drawings, latrine facilities drawings, showers facilities drawings, food and beverage eating and drinking areas drawings, and all other drawings related to all things that will be needed to be constructed, or altered in any way, for our project to proceed, including but not limited to, demolition of the cliffs, leveling of the entire area out to Harmon Ave. and up to Flamingo, and back to Tropicana, as well as what is to be removed and leveled between Jones and Decature. There are a few minor exceptions, such as the building that I am living in. Who will move where, to consolidate staff at this project, and who will be moving out, at this project, and what will be leveled at this project, are all detailed in the program specifications, my children have. My present quarters, will be my place of residence, as things move along, and in time, in accordance with the schedule for construction, a temporary facility for me will be constructed near the area but between Flamingo and Tropicana, and somewhere between Jones and Decature. Please see them for details. After the area is purified sufficiently, and after all the areas to be purified, are purified, and my children will decide on when that is accomplished, my children will then activate the

technologies, and acquire the resources they need, and then they will build a more permanent settlement arrangement for all people concerned, who are staying on, if they decide to stay on.

The partical dismissive technologies and remissive technologies, for foods, and medicines, and other items that are needed, for continued survival, and for all other required purposes according to the specifications for the sexaling for a living programs, will all be provided to the participants who wish to stay on, and houseing for them, as well, will also be included. Parks will go up, and so will many other locally needed facilities. Many things will disappear, as my kids will partical dismiss the things and structures they need to remove, as they construct the new area, for all persons staying on in Las Vegas. My kids have a list of all the names of all the persons who may, if they decide to, stay on in Las Vegas, and not all of them, are local people, so you should all check to find out whether you name is on the list or not. All other persons, who are to be moving on, and all persons who do not wish to stay on, here, will be required to move into my childrens' present facilities, which they will continue to expand as we continue our program on this planet. We will eventually clear every one out of the area, inside and outside of Las Vegas and the Valley, and surrounding areas, and the world over, except for the persons whose names appear on the list, as houseing can be provided above ground, for participants in the juices spilling and areas purifying operations, by my children, if those persons wish to stay on and participate.

All other people will be required to move into the facilities my children have, and are continuing to upgrade, and expand, in their encapuslated living environement, in which, many people currently live. Persons in the encapsulated living environment, may also attend the collection site area activities, and future clearing activities, for purifying the areas with their pure, holy, powerfully cleansing, purifying, cleericating [cle-er-i-cating], and GODLY energies filled, sexaling juices. Cleericating means, the same thing as clearifying. It is just a slightly different but related word from another a variant language of English, and to cleericate basically means the same thing as to clearify. When we get the areas, cleared enough, and purified enough, my kids will then start building things for the participants. All others will move below ground, and live in the encapsualted living environement, until they have earned enough money, with their friends, as talked about earlier, to purchase a lease on land, and acuire the lease on resources needed, to build a home, etc., for a large group of people, who will be living together, and working together in the sexaling for a living programs, and so forth.

When Will This All Begin?

As soon as people begin to comply, we will begin our efforts to clean up Las Vegas, to begin with, and then, the rest of the world, and then, the rest of our universe. It will take a long time, as we need

to spill our juices, the lay persons, anyway, for some time, to come, as our universe is quite large, and so is the rest of it, that we are going to be recovering.

My Spilling Of My Purifying Sexaling Juices, And My Spilling Of My 'Prayer Time' Purifying Juices

I spill my juices, only for religious ceremonialing activities, during certain relgious ceremonies, and I don't spill my juices, on the properties, as I'm not set up to spill my juices, on the property, now, and will not be set up to spill juices, until I find an excuse for that, and an excuse for performing a religious hand prayer signaling ceremony that will require my spilling of my juices. It's pretty hard to spill juices, when there are no other persons working with me, and I do not work with lay persons, unless they are confirmed by me, and so there will be maybe, some confirmations, but not neccessarily so, as I do not know who is going to wish to be confirmed, and by the way, who ever it is I confirm, must realize that I am the Mother and Father of all human beings, animals, and living beings, and the Creator of my universe. There are not that many people who understand that, except for my kids, my working, unionized kids, and so it will be some time, yet, maybe a few hundred or more years, before some one realizes, 'Hey, he IS the Mother and Father of all human beings, etc., etc., etc.,"

Spilling 'Prayer Time' Spittle Generated While Praying

Until then, I'll use my spittle juices if I need to drop or drizzel any juices, that I generate while I am religious hand prayer signaling, as I don't like or care for the idea of jerking off in public, to spill purifying juices, in public, regardless of the fact, that I am GOD, so it ain't going to happen, any time soon. When I find a authentic 'believer' who realizes and understand that I am GOD, and so forth, I'll begin my public spilling of sexaling juices. I don't mind it in private, but it is not going to happen in public.

Monkey Babies, Jimmy Carter, Oliver North, And The Lesbianists' Conspiratorial Bullshit Stories Of Adam And Eve, And "Jesus Saves"

Most people do not know this, but many births end in tragic loss of the child, because Jerry Falwell, Oliver North, Jimmy Carter, Ronald Reagan, George Bush, Jr. George Bush, Sr., and the rest of them, order and expect all the Lesbianists doctors to kill all babies born to people which do not look human. Doctors at birthing hospitals also comply, quietly, as it is hospital policy they can not break. If they go against it, they risk losing their job, and possibly losing their life. This is not a joke, and it is the Lesbianistgs policy of having all birthings in hospitals exactly for this reason, for disposing of non human looking babies, at birth, so that their bullshit creation by God, of a 'pair' of people, Adam and Eve, and that "Jesus Saves all good Christians", can not be contested, by logical proof of non human births to human being couples, or single parent women or girls.

Abominant kids are born every day to my kids, on this planet, and they are all executed, or killed off by the local citizens, by their fright and fear of 'ghouls and ghosts' and 'goblins' in the night that go, 'Boo!'. These idiots, both the abominant South Americans, Central Americana, and all my other abominant kids, North American, Europeans, Russians, Chinese, Japanese, Thai, Philipine, and so on, must ask them selves why they are blessed with babies which are either not human or are abominant humans, or part animal humans. If they ask them selves these questions, they will find out the only answers are that these people born to them, are my children, and my children are born to them for reasons that have not been disclosed to them, before, by the clergical societies, i.e, the religions of the world, and by the other societies, set up by the Lesbianists, or by societies nurtured along as part of the Lesbianists' 'tragic comedy' of their toying with your lives for their humoring themselves, and for their amusing themselves. Once we get rid of the Lesbianists, and their ways of doing things, we will begin to see babies that are either not human, or are only part human, in animal bodies, and they will be born to all of you who are tummy mommies, and tummy daddies, if you birth enough children, to find out. How many is enough? About one in forty or fifty by my estimation, but depending on the person, it may be between thirty to eighty, from one person to the next. Take that to your pastor, and tell him or her, to stick it up his or her ass. It is the truth that animals are born to humans, all the time. Not only that, but abominant kids of mine, usually of the apey kind, but not always, are born to the 'normal' looking humans on our planet, and in our universe. We need not be afraid of these children, as animals, can be collected and put into zoos, and animal humans can be raised by the parents, or parent, in the case of a single parent. In time, we will adjust to this reality, and we will raise fine children, abominant animal humans, or human appearing abominant children. That means you are all abominants, and the Lesbianists are laughing at you, and at themselves as well, as they go around and kill and cravenly torture every possible person they can. We will put an end to their craven ways, and we will make a wonderful universe for all of us to live in, in peace, and serenity, once we get started practicing my religion, and once we begin erasing, sufficiently, our karma and our karmic markups, with your purifying sexaling energies, prayers, and other activities, such as syncopated dance, syncopated excercise, syncopated sexaling, and so forth. You time it to the metronome at one thirty seventh, for now, and that will be fine. In time, we will get accurate metronomes, and then we will chance the pace, just ever so slightly, to push my kids along, as I explained about, for our wholesome and healthy universe, for all of us to live in, together with each other.

Punishment For People Who Practice Voodoo Religions Is Dismendment, I.E., Death

We will not be killing or executing children any more, at hospitals, or at homes, or in primitive, backwards towns and villages, or rural hideaway villages, where voodoo religions muster the people into

peculiar states of mind, where they become entranced, and then begin mindlessly, acting like chickens, and birds, or fowls, or hippos, and so forth. There are too many of these types of so-called 'religions' in this world, and we are out lawing all of them, and punishment for adhering to them, will be a trip to my Epcot Center, as I have my children particle dismiss their bodies, and then dismend them, bit by bit, into their base components, and then have my children whisk them into my Epcot Center. We will bring every one up to the level of education every one needs to be at, to better understand my universe, and those who persist in abandoning their obligations, will be dismended with out further notice, after they are sent their last warning ticket, from my kids, in accordance with Gurkian Law. That also applies to the Lesbianists, and to every one else, who is unable to get the picture here, and get with the program. There will be no exceptions. And, this is not a joke. My kids have courses for you to educate your self in, to pull yourself out of the past Lesbianists' way of life and thinking, and into the new and current, reality, that we will be living in, for ever, from now on.

Local Businesses Will Have No Problems At All With The Collection Site And Will Have No Problems At All With The Activities Of The Faithful At The Collection Site

Walgreen's is across the street, on one corner, and Home Depot is on another corner. I don't think Walgreen's will have any problem with you using the site for your camping, for your meeting with others, for your sexaling with others, and for you and your friends' purifying sexaling activities in that park, i.e., the collection site. Home Depot, I don't think will have any problem with your use of the parcel of land, either, for those purposes.

What To Do If The Police Come?

Now, if the police come, and I'm there or not, I don't know what they'll say, but they have not got any right to say any thing to any one. Is that clear, Mr. Mayor of Las Vegas, and every one else in the area. I hope it is, as I am not going to stand for your interference or any one else's interference in my religion and in the relgious activities of people who wish to participate in my religion, sexaling to purify my universe. IS THAT UNDERSTOOD, MR. MAYOR AND EVERY BODY ELSE? I HOPE IT IS! AS A 'NO SIR' WOULD BE UNACCEPTABLE!

Now that we have an understanding, I think there will be no problems, and if there are, I will see what I can do about it, by calling my kids up, with my religious hand prayer signaling ceremonies, to see what they can do for you, to help you out, and to break the backs on law enforcement officers, and the Mayor of Las Vegas, and every other person, Lesbianist or not, who tries to interfere with me, or who tries to interfere with the people practicing my religion. I will not stand for any interference from any one, including Mr. George Bush, Jr., the current president of the United States, or any one else, such as the Mayor of Las Vegas, or the Governor of Nevada, or the Nevada

Highway Patrol, or the Nevada Sherrifs Dept. or the Las Vegas Metro Dept. or with any other persons or parties, such as the Las Vegas Gaming Commission, or any other Lesbianists' or Lesbianistic organization set up by the Lesbianists, and that means all you church goers, parochial school teachers, and students, and others, and if any one interferes with any one who comes to my ministry's claimed parcel of land that I am purifying for setting up my ministry, and if any one hassels any one there, than who ever is visiting the collection site, to help to purify it, you have my permission to kill the persons attempting to interfere in any way at all, on sight, with what ever you have to kill them with. Please dispose of their bodies in the nearest trash dumpster.

DO YOU HEAR ME? MR. MAYOR. YOU ARE A DEAD MAN IF YOU EVEN TRY TO SEE WHAT MY RELIGIOUS FAITHFUL ARE DOING, AND SO IS EVERY OTHER PERSON ON EVERY SCHOOL BOARD AND CHURCH OR OTHER LESBIANISTS' COMMITTEE. IS THAT CLEAR, EVERY BODY? GOOD!

You will not interfere with my religion, and with my religious faithful, and they will come to Nevada, and they will come to Las Vegas, and they will start sexaling on that property as they see fit. Does every body understand that? I hope so. Now. Non responsive persons, who ignore my statements, will find themselves in trash cans, and trash dumpsters, every where in Las Vegas, and any where else, where there is a convenient trash can or trash dumpster. There are lots of them around, and people are throwing dead people into them, every day, across the country and around the world, and they all end up in landfill sites, and so there will be no added charges for our using the statewide Nevada Silver State trash retainers and containers, for however many others who need to be killed, and for my religious faithful to then place them into the trash cans and trash dumpsters. No charges should be levied by any other Lesbianists' trash collection company, around the world, as they are all owned and operated by the Lesbianists, and we will not support them, in any way, what so ever.

If Mr. Mayor would like to be the first guest inside of one of the Nevada Silver State trash dumpsters, then he will try to interfere, in person, and he will be shot, point blank, in the center of his head. You will then kill him with three fivers, to make certain he is on his way to my Epcot Center, for his next trip out as a tummy baby. If the Governor of Nevada wishes to interfere, then he does so at the risk of being shot, killed, and made certain he is dead, with three fivers, and then after that, he will be deposited into a local or state trash dumpster, either here, in Nevada, or in California, or Arizona, or where ever it is convenient to dump him into a trash can, trash container, or trash dumpster.

Lesbianists Enjoy Eating People, Who Are Alive, As Well As Eating The Bodies Of Those Who Are Dead

You should let the state's vice mayor of Las Vegas's office know, who was shot, killed, and confirmed dead, after depositing three fivers into his or her head, and then where the body is, and generally when the body was dumped, so that they can get an idea of how decomposed the body is, and whether or not the body is in a land fill site. They can then check on it, and verify that the body will make it to the land fill site, if it isn't already, there, where all the other bodies, are ending up, unless they have already happened to have beeb eaten up by the Mayor, or by the friggen Governor, or by the Sherrif, or by another Lesbianist.

All persons are free to travel to Las Vegas, and they are invited to stay at the parcel of land that I described, and they are invited to make it into a nice camper trailer area for recreational vehicles, or for what ever other types of outdoors camping vehicles, travel trailers, caravan buses, or any other types of camp site temporary stay, housing and living arrangements you would like to use the area for.

Every Game Of Chance, Gambling Machine, Or Slot Machine Is Rigged, In Every Casino Around The World, With Only A Few Exceptions

If you will all sexal, regularly, to the best of your abilities, and help me to purify the area with your sexaling, undisturbed by any one, and clean it up with your purifying energies, you are more than welcomed to come and enjoy the area, and see what fine attractions, will be leaving Las Vegas, in the not so distant future, including the gaming commission, with all their phoney, rigged gaming systems, that the Lesbianists control.

The Lesbianists' Articles Of Participation

The Lesbianists have every game that you can possibly rig, controlled by electronics devices, or by slight of hand, mechanics, who control the gaming rooms, and gaming halls, so that only Lesbianists win any money, that is worth mentioning about, and so that the Gaming Authorities, and the Mayor's office, and every other Lesbianist organization in Nevada, who has any one in their office, can then go and get the money the Lesbianist won, and get a percentage of it, given back to them, as they have arranged to do that, as that is part of their oath, and part of their sworn promises to do, as that is written out in their articles of participation, their rules for living upsite, not down below, in the labrynthine cities, and every Lesbianist must follow those rules, and when they win the Megabucks, and every Lottery in the world, they must give back money to the Lesbianists, as every game of chance that is run in this world, except for bingo, is rigged. However, even Bingo is rigged, in some ways, by people switching cards that look like winning cards, while players are not looking, and by other naughty tricks.

Every Lottery In The World Is Rigged

Every lottery in the world, performs the drawing out of the balls before a live audience, in most cases, before they actually air the show, and they have illusionary tricks they play, with the technologies they have, and they sucker people out of their money, daily, around the world. Las Vegas is no different, and they sucker every one out of their money, except for the Lesbianists, and they let some people, win now and then, small jackpots, on the gaming machines, and then after a winning streak, they set the machines the person uses, so that the person can not win a dime. They have the technologies for rigging every machine in Nevada, and across the country and around the world, so next time you visit one of their casinos, be sure and detonate one of our bombs, you can make, and destroy that casino. Is that understood? I hope so, as every day, millions of people are being suckered out of their hard earned money, they pay taxes on, through the nose, till they are practically choking, and the Lesbianists take it, and support their folley and games. They also support their folley and games with your revenues, that they make sure you lose, at every casion, and at every gas station, with a convience store, that has gambling machines in it, for you to deposit you money into. Every lottery in the world is rigged, and so if you spend money on it, if you are not a Lesbianist, you are just throwing your money away.

No Fair Play In Nevada, And No Fair Play In The World

There is no fair play, here in Nevada, or any where else, in the world, and I would like you all to know that, and become aware of that, and then I hope you will tell your friends about it, and then I hope you will destroy every single last one of their casinos, and gaming machines. We are not going to allow them to continue their frolicking at your expense, and we are going to destroy every last one of the Lesbianists, as soon as we can. If they prefer to surrender themselves to my kids, than we can allow them to live. However, if they do not surrender themselves to my kids, then we will kill them all. And there are no 'maybe's' about that.

Sniper Shooting, And Miscellaneous Information

You have my permission to sniper shoot any police officer, park ranger, sherrif, or other person, plain clothesed police officer or detective, with or without a gun, on sight with your scoped rifles, and targeting assistant who will determine range, from your bunkered in the hillside, shooting site. Any hotel in the area, which might harbor shooters from local police, sherrif, or SWAT team operations groups, you have my permissions, and blessing, or go ahead, and my 'okay, and 'approved for action' sight of appeal. Sight of appeal means, my blessings, based on your determination as per your good judgement.

One hotel that is clearly the most convenient, and the closest with in shooting range, at close range, is the New Orleans Hotel. Hotels within shooting range, at a distance, are the Palm's Hotel, The Rio Hotel and Casino and its seperate tower wing, and a few others, off in

the distance. You'll have to come and look at them from the approximate location of the site after you determine where every thing is, to locate and determine for your self which hotels and towers need to come down, and what you will need to bring them down. There is a tower off in the distance, a new hotel, that is going up, that I do not know the name of, but is clearly within shooting range, and needs to come down, and people are on it, daily, welding, and you can't miss it, if you look in the north easterly direction from the site. There is the Stratosphere Hotel and Casino, which also needs to come down, which is further over to the west from the new hotel wing that is going up. There are many scaffoldings in the area, that also need to come down with explosives, fracturables rocks, fuels, chlorine, and high temperature minerals particles ignition, and particles burnings bombs. There are probably a number of other landmarks, hotels, casinos, bars, restaraunts, trailor parks, trailors, houses, apartments, condominiums, near or off in the distance, that also need to come down, and need to be demolished with my light weight explosives fuels, gunpowders, metals particles, and chlorine plastique explosives bombs.

You will destroy them all, and you will come prepared, or be prepared to acquire all the demolitions needed to destroy them all, as well as to destroy all the local police and sheriff's many Metro offices, SWAT Teams offices and units, Fire and Rescue Ambulance units, Lesbianists' Hospitals, and other Lesbianists facilities, throughout the Las Vegas Valley, Henderson Nevada, North Las Vegas, Pahrump, Mesquite and the whole Southern Nevada, westward to San Diego, California, northward to Los Angeles, northward to San Francisco, California, northward to Berkely, California to Oregon, and Washington State, and back down to Reno Nevada, Arizona, New Mexico, Albequerque, Houston Texas, Dallas Fort Worth Texas, and all areas where there are tactical SWAT team units, military units, militia units, as all militias are organized and operated by Lesbianists, despite popular beliefs that they are independent of the government, and anti government, as we often see on the "TV for the Brainless", as they are often refered to, i.e., the general public.

You will destroy all law enforcement offices, and personel, and all military and militias. All governments, their offices, and employees, are to be destroyed, and all personel are to be executed, except for those who take it upon themselves to execute the Lesbianists among them. My kids have a full list of all the places and structures that need to be destroyed, and demolished, and so please see them for that information.

Your Orders Are To Kill The President Of The United States And His Wife

And to repeat, your orders are to kill the president of the United States, George Walker Bush, Jr., his wife, Mrs. Barbara Bush, Jr., and all of his and his wifes' Lesbianists' associates, pretend relatives,

and friends.

We are not going to let this stand, another moment, and if they do not surrender to my kids, you are to execute them all. My kids have a list of names, of those, who have not surrendered, as yet. Please see them for and ask them for that list of names of persons who have not as yet, surrendered, and who need to be executed, post haste, immediately, or, ASAP.

United States President George Walker Bush, Jr., is no exception to this, as he has not surrendered, as of yet, and that is confirmed. Neither has any of his colleages, or congressional office holders and diet or congress members, except for Ted Kennedy, and one or so others, and maybe a cabinet member, one or there abouts, but I haven't confirmed that, yet. There are some members of the congress who are not Lesbianists, and you can get their names, on a list from my kids, as well.

Captain Off The Bridge.

John Francis Ayres
GOd
And Children

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1446. Ship's Tour Of My Universe To Begin - Call To Arms! Duty Stations! Fire When Ready! Cease Fire Procola! Pt III/III

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Texas's Lesbianists' Latest 'Vaccine' And Texas's Attempts To Destroy Women's And Girls' Vaginal Lining And To Destroy Women's And Girls' Cervical Lining, Causeing Stillbirths To Increase, So As To Prevent The Successful Birthing Of Children - Latest Lesbianists' Vaccine Will Cause Numerous Problems - Execute United States Of America, State Of Texas, Governor Perry And Family - Underground Books Distributor's For Militia Types Folks - Information On Bombs Making And Detonators On The Web - Solar Flares And Flare Igniters - The Lesbianists' Balooney On Minus Charges As Opposed To Positive Charges - The Lesbianists' Maps Of The Brains - Execute The Current President Of The United States Of America, George Walker Bush, Jr. - Lesbianists Who Decide To Sexal In My Religion With Lesbianists And Non-Lesbianists' Persons - Citizens By Proxy - Temporary Full Time Citizens - What To Do About Untimely Pregnancies, Health Issues, Medicines, And Regroverative Formulas - Medical And Housing Benefits, And Other Health And Work Related Benefits - When Can People Begin To Come So As To Be Able To Participate? - Sniper Points, Places Where Snipers Shoot From - Pocket Knives, Construction Tools, And Miscellaneous Daily Life Management Tools And Equipment - Hookups For Travel Camping Vans And Similar Vehicles - Cleaning Up The Area And Throwing Away The Garbage - Schedule For Leveling Of The Ground And Hills In The Area, Removal Of Unsightly And Smelly Garbage - Setting Up New Facilities - Fountains And Showering Lamponeers - Restaraunts, Clubs, Lounges, Eateries, Cafeterias, Bars, Pubs, Bicyle Paths, And So Forth - Dealing With Criminally Minded Persons - Alterations, Modifications, Changes, Clearing Up And Removal Of Garbage In The Areas, And Additions Time Schedules Updated: 12-02-07 Rev.a.00.a 02:30 PST

Texas's Lesbianists' Latest 'Vaccine' And Texas's Attempts To Destroy Women's And Girls Vaginal Lining And To Destroy Cervical Lining, Causeing Stillbirths To Increase, And To Prevent The Successful Birthing Of Children

The latest attempt by the Lesbianists' governments of the world, near by my computer window, on the internet news services, to destroy and toy with the human population of this planet, has been launched in Texas, and is targeted at women and girls, and their ability to have children.

See the article at the end of this post.

The new vaccine, which is mandated by Governor Rick Perry, who signed it into law, and is now obligatory, unless you protest it, and go to

court, and spend years fighting it, as an individual or small group of claimants, will destroy the vaginal cervical collar and the lining that holds every thing in place, and supports the interior of the vagina, thus making it impossible to carry a fetus to term. The vaccine is also targeting the brains fibers throughout the human body, and the fibers of the brains in a woman's or girls' body will slowly rot, and decay as they are eaten up by tiny animals that eat these energies conducing fibers, synapses, relay switches, and other related energical brainal related things and dings thoughout the body.

Latest Lesbianists' Vaccine Will Cause Numerous Problems

It will also speed up the eating away of the enamel of the teeth, and of the bones in the woman's and girl's body, her fingernails, and her skin membranes NS membraneous tissues throughout the body, and on the exterior of a woman's and girls' body, making the women and girls grow older looking at ever more younger ages, and making women and girls susceptable to skin cancer, melanoma, herpes, genital warts, other infestations of animals in the skin, and other skin related membrane destructing colonies of animals, that they use from out of their Bio Chem War encyclopedia of how to destroy human beings, with poisonous and health problems causeing crystals cages animals of all kinds. Especially numerous are the Bio Chem Warfare crystals cages animals of the petroleum industry's based kind.

The vaccine is no different from any other of the Lesbianists vaccines aimed at destroying the health of the people who live on this planet. It is compared to the 'polio' vaccine, in the news article, and that was similarly an attempt at destroying the health of the human being, by making the human being incapable of haveing any sexual orgasming capabilities, by killing off all the sex related animals and bugies in the body, which make sexaling juices, that make eroteming and orgasming possible.

Thus, this latest attempt at destroying the health of the people who live on this planet, locally, in Texas, and that I know of, anyway, is nothing more than the Lesbianists toying with the people who they are here to amuse them selves with by destroying them, little by little, over a long period of time.

Execute United States Of America, State Of Texas, Governor Perry And Family

This will not stand, and you will all destroy the capital of Texas, and Governor Perry's mansion, and the Governor and his wife, and their family, pretend or otherwise with my fracturable rocks and fuels chlorine and explosives, etc., bombs, that you will make in your home's garage, or workshop, safely.

Underground Books Distributor's For Militia Types Folks

Use the delayed timer invention, that is a workable time delay detonator, that I've explained about, especially if you use black

powder gun powder, mixed with axel grease, turpentine, benzine, chlorine, using also some Elmer's glue, prior to mixing with chlorine, and then set it in a warm cupboard, to ferment for a few days, to then turn into a nice plastic explosives mixture for detonating with the string of flash bulbs wired to the alarm clock trick, as described by Ragnar or by one of the other bombs making specialists, in their sub culture literature for militia types folks, who wish to destroy the government.

They find the list of names of all the people who request the literature, by mail, and then they go and watch them, with their surveilance technologies they have, and then they either capture and torture them, and then kill them, or they just make sure they are die, in a fatal car accident, or whatever.

Paladium Press is one of the Lesbianists' book publishers, and there are others, and this one is affiliated with the National Rifle Association, a Lesbianists organization.

This publisher has titles sold to underground books distributors, and you can find a number of underground book distributors on the internet, which carry more titles than Palladium press.

Delta Press, who publishes their books and paraphenalia distribution listings magazine, 'Delta Force' is one of these distributors of interesting underground literature.

http://www.deltaforce.com/catalog/page30dp.html

'Home Made Fireworks', is one web page to look at, if you have the time.

http://www.deltaforce.com/catalog/page28dp.html

'Booby Traps, Explosives and Black Medicine', is another useful page to look at, as well.

http://www.deltaforce.com/catalog/page30dp.html

There are a number of other distributors of underground literature, and some have better selections than does Delta Press.

In any case, with a little research, there are plenty of 'timed detonation devices' drawings, and explanations, for you to view, and learn from, that will help you to construct a timed detonator, that will allow you to safely set off one of your plastiques bombs made with my explosives formulas.

Paladin Press, you can find their books at Amazon Books on the web, another Lesbianists owned corporation, is another publisher of interesting underground literature, that can be useful for you to study and learn from.

Paladin Press can be found at, http://www.paladin-press.com/

Books for supposed 'Professionals' who are anti terrorists professionals, that allow them to detect the different types of bombs people can make, and then use to destroy others, is sort of a tounge in cheek joke of the Lesbianists, for luring in people who wish to find information on bombs and explosives.

There are many useful books published to help beginners understand the basics of bomb making. The idea is to use the information for professionals who wish to understand the craft of making bombs, and detonating devices, and then use that information to build your bombs and your detonating devices.

The flash bulbs wired to an alarm clock with matches and ignitable phosphates glued to a string of flashbulbs, wired properly together, then crushed, so as to expose their flash and heat ignition coils filaments, for your detonating heat energies ignition needs, is one of the basics and you can find it in one or another of the underground books on bombs making and detonation devices making for 'professional' anti terrorist's private investigator or bombs detection professionals types.

This is one of the ways the Lesbianists lure in persons who know nothing about weapons, and then they find out who they are, and then they make friends with them, and toy with them, and introduce them to their Lesbianists' friends, and hang out with them, and pretend they are all friends, then one day, they all attack the person, and torture the individual, and get their kicks, amusing them selves, by ripping the person up, or by hanging, and nailing the person to a wall, with a nail gun using, approximately, three inch nails, and then hammering in longer, seven inch to twelve inch nails, or larger ones, or other similar nonsensical, childish, but fiendish behavior.

The "BRUTAL ART OF RIPPING, POKING & PRESSING VITAL TARGETS"
"by Loren W. Christensen"
http://www.paladin-press.com/detail.aspx?ID=1441

Is a beginners guide to ripping people apart, one arm, or leg, at a time, or with team work, one half of a person can be ripped from the other half, if you hold the right bones in place, and then, using teamwork, rip the person into two or more pieces. This book gives a person a preliminary sense of what he or she can muster, as an individual who attempts to rip at a person, and tear the person apart, one limb at a time, or with friends, how to rip a person up, one piece or more, at a time. Ripping people up is accomplished best, if they are unconcious. If they can not fight back, or resist, it is easy to rip a person apart, if you have the needed strength. Since many people have ancestors who were monkeys, chimps, orangutangs, guerillas, and so forth, with tremendous muscles strength, there are lots of very tiny persons, with phenomenal strength, and they can easily rip a person in two, by them self, if they try.

Books on booby traps for law enforcement personel, are simple descriptions of bombs that they may or may not encounter, and there

may be some useful information in some of them such as,

"BOOBY TRAP IDENTIFICATION AND RESPONSE GUIDE FOR LAW ENFORCEMENT PERSONNEL"
"by Tony L. Jones"
"This manual teaches cops and other law enforcement personnel all they need to know to recognize a booby trap and respond properly. Find out where booby traps are most commonly employed; the 11 physical signs that most often signal a trap; what to do (andnot do) if a trap is suspected or found; how to safely search a building, outdoor site or vehicle; and the one indicator that practically guarantees that a building has been booby-trapped. Shows more than 90 different booby traps in place. For academic study only. 5 1/2 x 8 1/2, softcover, photos, 80 pp."

There are others, which you can also find, that will provide schematics, and drawings of useable ambush related devices, and detonators for them.

"Contingency Cannibalism", sold through Paladin Press, and other 'underground' book distributors, is one of the Lesbianists' favorite books, that help them to track persons who they would like to later, cannibalize, themselves, as a joke on the person.

"CONTINGENCY CANNIBALISM"
"Superhardcore Survivalisms Dirty Little Secret"
"by Shiguro Takada"
"This twisted, tongue-in-cheek look at cannibalism as a last-resort survival option analyzes real-life case studies and historical episodes of cannibalism. Then it examines the hard-core decisions and gruesome details one must know in order to partake in this grisly practice. Recipes included. For entertainment purposes only. 5 1/2 x 8 1/2, softcover, 160 pp."

The Rusksack, "Survival Information Clearinghouse", is just one club of members of mainly Lesbianists, who have fun toying with the people who live on this planet.

http://therucksack.tripod.com/survival.htm

Information On Bombs Making And Detonators On The Web

For information on making detonators, and other bomb related stuff, please see this web page as it costs nothing.

http://www.bombshock.com/archive/Homemade_Bombs/

Solar Flares And Flare Igniters

A solar igniter as talked about in the article on page,

http://www.bombshock.com/file9/crtrmkr.txt-Crater_Makers-932.htm

'Crater Makers', is a solar flare igniter, a device that is used in solar flares, or night time distress signal flares, that ignite the flare, by sending an electric battery current into the flare phosphates holding tube, down a wire, on an ignition circuit, and then igniting the distress signal flare.

You can find solar igniters inside of distress signal flares that are used on boats, for shooting up into the air, with a flare gun for maritime use, that will send the distress signal flare up into the sky, if you have the flare gun pointing in that direction, and then at a certain altitude, a trip switch circuit is activated, due to air pressure, or due to timing from time of departure of the distress signal flare from the flare gun barrel.

You have to exhibit extreme caution, when taking a flare apart, as it can detonate, accidentally, and they are not made in a way so that people can safely take them apart, and people who try to take them apart, are accidentally injured, on a regular basis. Do not use this, if you do not know any thing about demining, as a professional mine deactivating specialist in the military, or with military training. This is best left up to the professionals, and is not meant as something the average house wife, business man or business woman, or chemistry or other studies, school student, should attempt.

You can use a flash bulb, and get the same results, if you glue some gun powder and phosphates to the flash bulb housing, and then crush the glass, and then wire it properly to a common house morning wake me up, alarm clock with a striker bell and a striker that moves back and forth. The circuit is simple, and you can figure it out with little difficulty.

The Lesbianists' Balooney On Minus Charges As Opposed To Positive Charges

Remember the minus sign on a battery is where all the activity of the little energies kids is going on, and the Lesbianists purposefully teach that the positive side is where the current is moving out of, and around towards the negative side of the battery. The Lesbianists teach that the active side of the battery is the plus or positive side, or the side with the plus sign on it, when you look at a common house hold nine volt battery, and that the non-active side is the negative side, or the side of the battery with a minus sign. This is false. The side with the minus sign on it, is the active side, and that is where you do not want to wire any thing to, unless you know what you are doing. The positive side has no activity going on, and is safe to touch, but the other side is not safe to touch, and the testing meters are wired to show you that the reverse is true. They have tampered with the design of testing meters, so as to support their allegation and falseity, that the minus side is where there is no activity, contrary to the truth.

That means, that, the flash bulb igniter system and the flash bulb itself should indicate that one side is the positive side, for the

positive wire to be attached to. You had better check carefully, and make sure there is no mischief here, as you do not want to detonate your igniter, accidentally. Ask a qualified electronics specialist to do all your wiring of your detonators, as he or she is the only person qualified to wire these types of detonators.

The Lesbianists' Maps Of The Brains

It's rather confusing, the way the Lesbianists have reversed things, and have messed around, so as to thwart your attempts to make nice detonators that work every time, unless you have a normal set of brains, which unfortunately, I have not got a pair of, or triple set, or more of. That's sort of a joke. On a magazine, yesterday, I saw how the Lesbianists teach that one part of the brain is for speech, and one area of the brain is for speaking, and one area of the brain is for sight, and one area of the brain is for logical thinking, and one area of the brain is for signing, or one area of the brain is for artistic inventioning, and so forth, but that's a lot of hog wash.

The brain is not partitioned in that way, and they know it, and they are misleading every one, and laughing at all of you while they are doing it, with their 15th to 17th century style drawings, that they have plastered on all the Time magazines, or what ever magazine cover it was on, that I saw in the check out lane, at the super market, yesterday. You have kazillions, and more of parts to your brains, and there are so many, it is unlimited, nearly, and your brains are so complex, and you have got brains in lots of other places in your bodies, other than in your head, and I'm not going to go into that one, now, but the Lesbianists are lying through their teeth, when it comes to this type of pseudo historically backwards, archaic, or cave dwelling human's notions on science, that should insult a first grader, or kindergarden school student, or preschool student.

In any case, ask your local electronics' specialist or house hold electricians' specialist, or handy man repair persons, who work for house hold water heating devices installation companies, or other electrical home appliances sales and installation companies, who also get confused, from time to time, as I've witnessed them, personally, blow up breaker circuits.

Get a qualified, and that's hard to find in so far as I've witnessed them at work, electronics' specialist to wire your detonators, or go take a course with my kids, as they have courses available on wireing such devices.

There is no minus charge, and there is no positive charge, and that is what you should understand. There is a side to the battery where there is lots of activities going on, and that is the minus sign side on the battery. The positive sign side on the battery is where there is little to very little or nearly no activity, but no activity is not the truth, either, as there is activity, you just can not measure it with todays' electronics measuring devices, as they are not

technologically sophisticated enough to be able to detect the activity, though I'm sure there have been intrepid scientists who discovered that both sides of the battery have activity, and then they were shot and killed, after that discovery, by a Lesbianist assasin, or by a hired assasin, assigned or paid to kill the scientist who discovered that there is activity at the 'minus' side of the battery as well as at the 'positive' side.

That means, that you need only concern your self with the 'minus' side, since you will not be able to detect any thing at the positive side, unless you use the reverse wired electronics and electrical energies detection devices that the Lesbianists market through Tandy, or Radio Shack, and at Sears, and so forth.

It gets confusing, a little bit, doesn't it. Anyway, go and take a course at one of my kids classes, after you sign in, and swear in as a jr. member to our new country, which I haven't sworn on to, as yet, or joined - but though I am the boss of, regardless - since my kids do not speak to me, on a daily, or weekly, or other basis, and I just happen to be able to know what they are doing as they tell me what they are doing, through some secret port hole in one of my brains some where, in my toes, or nose, or who knows where, as they telegraph or some how signal in, using semiphore signaling, or probably hand signaling, that my brain then catches, and then passes on to me, their messages that they signal in to me, and the news, as well, about what they are doing, and about what is going on with them, and about what is going on with some other things, as well.

Since I am GOD, I happen to have a right to know this stuff, what they and every body else is doing, on a daily basis, but they haven't told me how my brains catch their information, yet, or the other information that gets there, some where into my one or more of my brains, and I haven't figured it out, yet, myself, either, though I think I know something, a very little something, about how it works.

This does not mean, that my brains are unreliable - except for my memories areas of my brains, in particular - but that I am just waking up to what is going on, here, and I have a few kazillions of years to work out every thing, or some of the basics, any way.

In any case, you have all been snookered by them, with regards to their non sense sciences, and you are being laughed at, and toyed with, daily by them. That happens to be the truth, whether we find it pleasant or not.

Execute The Current President Of The United States Of America, George Walker Bush, Jr.

In any case, the Lesbianists are a twisted group of individuals, who toy with the people who live on this planet. Mrs. Hillary Clinton, Bill Clinton, George Walker Bush, Jr. President of the United States, his wife, Barbara Bush Jr., George Bush, Sr., former president, and

his wife, Barbara Bush, Sr, are all gagsters, or jokesters, who wish to only toy with you, and eat you, or deprive you of your life, and of your rights, in fiendish and horribalistic ways and manners.

They are all to be executed, especially George Walker Bush, Jr., President of the United States of America, currently residing at 1600 Pennsylvania Ave. Washington DC, in what they call the White House. You are to kill them all, and send every last one of them to my Epcot Center, as soon as is convenient for you.

Lesbianists Who Decide To Sexal In My Religion With Lesbianists And Non-Lesbianists' Persons

If any Lesbianists decide to sexal in my religion, with their friends, and their friends may include other Lesbianists who decide to sexal, as well, as well as, other people they know, then they may begin sexaling with their friends in my religion, however, they must have a pentative attitude, and they must say they are sorry, and they must now and then, when they feel they wish to, and feel emotionally and mentally capable of speaking about it, they can talk with their friends who they are sexaling with, and with others who wish to listen as well, and they can denounce the Lesbianists by telling people about the things the Lesbianists do, and did.

If they decide to do this, this is the same as surrendering, and my kids will protect them from other Lesbianists who might want to harm them. They have not sworn in, as a citizen of my and my kids' country, and as citizens of our country that every one is swearing in to as citizens, but it is sort of a promise to swear in, informal gesture that they are committed to, once they begin sexaling with their friends, and with other Lesbianists, who also wish to sexal and in time, denounce the Lesbianists with them.

Citizens By Proxy

By denouncing the Lesbianists organization, and by telling people about what the Lesbianists do and did, they are essentially stating they are sorry for what has happened, and that is a pentative attitude, and with that pentative attitude, they are accepted as citizens, by proxy.

Temporary Full Time Citizens

Citizens by proxy means they are accepted by my kids as pentative persons, who wish to join our country, and who there with, qualify as citizens of our country, in an informal manner. Citizen by proxy means, they give up their old citizen ship, to whatever government they used to belong to, and they are taken in, as temporary full time citizens.

Temporary full time citizen is a term that means they are full time citizens, but on a temporary committal agreement, and that will be made permanent when they have the chance to meet with my children, and

then can swear in, as a permanent full time citizen.

They can then participate at the collection site, in the activities that will be going on, with others, who wish to participate, as they spill their juices, and purify the area with their sexaling juices.

What To Do About Untimely Pregnancies, Health Issues, Medicines, And Regroverative Formulas

My kids will deliver to them, to the men and to the women who surrender and become citizens by proxy, and temporary full time citizens, the needed medications that will help to make their bodies, wholesome and well, and regroverated, as well as the medications that are needed to prevent untimely pregnancies.

Medical And Housing Benefits, And Other Health And Work Related Benefits

My kids will make certain that they will be given the right medications, and my kids will also provide all the same medications for each individual who participates in the collection site activities to purify the area where we will one day set up my ministry with my kids assistance. My kids will also set up other facilities, as well as the ministry facilities. The other facilities will be scattered through out the valley, and they will be the houseing units and other facilities for people to use to become physically fit, well, and well nourished, and healthy, such as gyms, aerobic studios for practicing aerobic dance, and aerobic excercises, as well as sauna and health spa, and swimming, tennis, badminton, cricket, and other sports facilities for baseball, rugby, foot ball, for those who wish to play a friendly game of foot ball, now and then, with the needed bleachers, lighting, and other supportive facilities for allowing persons to attend and watch the games that are going on, not only for foot ball, or for base ball, but also for tennis, soccer, rugby, and all out door sports facilities that will be needed.

When will my kids set up these facilities? They will set them up at the same time or shortly there after, as my kids begin to set up my ministry facilities, and the needed facilities for living and working in the valley area, sexaling for a living.

At that time, the citizens by proxy, and all other persons who have not yet sworn in, but wish to, will have the opportunity to swear in, and then they can enter and use the facilities full time, twenty four hours a day, without any further discussion about it.

All people who participate in the collection site activities, are also citizens by proxy, and as such, will automatically qualify for all medicines, all health supportive medical formulas, and all youthfulness prolonging, or regroverative formulas, that will feed all the amoebes, and other cells, or living beings in your bodies, and that will feed all the living beings in your bodies, that will then allow you to enjoy full regroveration of your body and rejuvenation of

your youthfulness, youthful energies, and of all the other health benefits that accompany a youthful body, such as more energy, a stronger libido, a more healthful body, and so on.

When do people begin this participation in the collection site activities? As soon as they come out here, to Las Vegas, and arrive in their camper trailers, or caravan buses, or other vehicles, or with their camping gear such as tents, and cooking grills, and so forth.

When Can People Begin To Come So As To Be Able To Participate?

How soon can people begin coming to participate at the collection site in the activities that will be on going at the collection site for some time to come?

They can begin coming to participate any time. My kids will watch out for the safety of all the people who come to participate in the collection site activities. My kids will prevent accidents such as current Lesbianists shooting at people at the collection site, from high rise towers, scaffolding, tall cranes, or from hotel and casino properties owned by the Lesbianists, and from other tall condominium and also from tall apartments buildings and also from normal sized, two or three storey, to eight or so stories, apartment buildings, in the area. Of course, my kids will prevent accidents from happening such as shootings, from all possible locations, and not just from those named structures and locations.

Sniper Points, Places Where Snipers Shoot From

There is no need to blow or destroy them with explosives, in Las Vegas, as there will be no way any one can use those hotels, and other structures, as shooting or sniper points, places where snipers shoot from, to harm any one who is participating at the collection site, in the collection site activities.

In time, every thing will be worked out, and all the people who must hand over their companies, or disolve their companies, and sell or get rid of the assets of their companies, all of that will be in compliance with my childrens' instructions with regards to it, as I've stated about it, already, in brief.

Once the facilities are set up by my kids, and people swear in formally, then my kids can begin to pay people their earned income, for the work they did as they sexal for a living, and for their work, as they spill their fluids, to purify the collection site, the collection site area, and the general vicinity.

Pocket Knives, Construction Tools, And Miscellaneous Daily Life Management Tools And Equipment

No one needs to bring weapons to the collection site area, or to Las Vegas, as they will not be needed, and pocket knifes are okay, and construction tools are okay, but they will be for daily use

activities, only. Daily life management tools are forks, knives, spoons, chopsticks, plates, dishes, glasses, coffee cups, can openers, bottle openers, cork pullers, and these types of things, as well as all the other types of kitchen use tools for cooking food, for eating food, for drinking beverages, and for the collection of garbage, and food wastes, and for cleaning up their eating and cooking utensils, such as portable wash basins, and portable gas stoves, or fixed stoves, fixed wash basins, fixed showers in camper trailors, and in caravan buses, and so forth.

Hookups For Travel Camping Vans And Similar Vehicles

We have no hookups at the site, for water supply, electricity, or sewage, as yet, but the instructions that my kids will make available to persons who come in to my kids' underground facilities - the protected and encapsulated living environment - those persons who go in to recieve the instructions, and other information they must recieve on companies and assets, and persons moving on, and on persons staying, and other information needed to successfully carry out the removal of hotels, and the demolition of buildings, etc. which my kids will handle with the technologies they have available to them for their use for these purposes, and for other purposes.

Cleaning Up The Area And Throwing Away The Garbage

My kids will also handle the required steps for clearing up of the litter and garbage in the area, all of Las Vegas, Pahrump, Henderson, Laughlin, Mesquite, North Las Vegas, Arizona, New Mexico, California, Utah, and beyond, above ground and below ground, and for cleaning up the areas, and for removing the underground and above ground garbage, or city buildings and Lesbianists' structures, and all structures that are no longer needed, train tracks, airports, roadways, bridges, parks, hospitals, medical clinics, and so on, all of which will no longer be needed.

Schedule For Leveling Of The Ground And Hills In The Area, Removal Of Unsightly And Smelly Garbage

Initial leveling of the grounds' areas, leveling of the uneven surface areas, and leveling of the sloping areas, and of the tiny hills, and other uneven and unuseful features to the area, such as hills, low cliffs, and removal of unsightly, smelly garbage, will be done by my kids, with the technologies they have available to them, according to the schedule for making these types of changes, and cleaning up of the area, so as to make the area, one hundred percent, useable for collection site activities, for people to then come in and use the area as a collection site.

Setting Up New Facilities

My kids will take care of all of that, and they will take care of all of the work and tasks for setting up a private collection site area - for spilling purifying sexaling juices, to purify the area - in

accordance with my kids' schedule for these works and tasks for setting up a private collection site area, with tall side walls, and barricade walls, to prevent people from rubber necking as they drive by, so as to prevent car, truck, automobile, motorbike, and bicyle accidents. My kids will also set up the latrines, and other needed hygenics facilities, sleeping accomodations, eating facilities, rehydration facilities, co-opted bathing facilities, sports and excercises facilities, and other facilities.

Co-opted facilities means facilities used co-optively by men, boys, women and girls. Co-optively means, in cooperating measures with each other. Cooperating measures means, each of the four groups of people, men, boys, women, and girls, will work together, to keep the facilities sanitary, clean and healthful, neat and tidy, and safe for use, keeping young children from playing on the stairs for the elevated latrines, and keeping young children from getting in the way of asscending and descending users of the co-optively, or cooptively managed facilities.

Fountains And Showering Lamponeers

My kids will also use their high tech teletransportation technologies for removing toddlers from the stairs, and for placing them in a much safer location, such as in a near by sand garden, or play area, with sandy areas, and with toys to play with, and with cold showers, or showering fountains, people can refresh themselves under, and with fresh water to drink.

Lamponeers are showers that shoot up from sprinkler systems embedded in the paved surfaces, or concrete like surfaces, that shower water up and over the area, up and above and over persons who are there, to cool every one off.

Restaraunts, Clubs, Lounges, Eateries, Cafeterias, Bars, Pubs, Bicyle Paths, And So Forth

Bicycle paths, mini bike paths, walking paths, with rest stations, for refreshments and food, will be set up, and restaraunts and other facilities will be set up, nearby and they will be accessable by following these foot paths, bicyle paths, waling paths, and so forth.

All needed facilities for all parties, such as accomodations, living quarters, health clinics, excerize facilties, swimming pools, saunas, spas, and clubs for eating and mingling with persons, either in light weight evening wear and garments, or partially naked, or in the buff, will also be set up by my children for the use by all legitimate collection site participants. Gurkian Laws apply, and no other laws, such as local area laws, will be enforcable. Police and others will be turned away, and the rights of participants at the collection site area, will be protected one hundred percent, as we begin to change over to the new Gurkian Laws we will all be living by, from now on.

Dealing With Criminally Minded Persons

Any violators of the Gurkian Laws, codes, statutes, and so forth, my kids will arrest, and detain, and then place into prison cells, and then sentence them, in accordance with the sentencing requirements under Gurkian Laws, etc., and they may end up doing humiliatory punishments, or community clean up activities. In any case, they will be arrested by my children, who will use their high tech, biometrics and teletransportation technologies, and their other integrated technologies that they have, to swiftly remove the violators of Gurkian Laws, from the collection site and from the collection site area, and vicinity, and that will effectively cancel out their participation, until sentencing has been given, and until penalties have been leaned.

Penalties have been leaned, means, they have undergone sentencing, and the penalties have been enforced upon the violators, i.e., the guilty parties.

Alterations, Modifications, Changes, Clearing Up And Removal Of Garbage In The Areas, And Additions Time Schedules

These modifications, alterations, changes, and additions, etc., will occur over a period of time, as my kids have a schedule for all of these changes, modifications, alterations, clean up, and additions, etc., and they must stick to the schedule, so after you arrive, if you do not see some thing you feel should be there, by then, it is not there because it is not on the priorities facilities and priorities changes, etc., schedules lists.

Captain Off The Bridge.

John Francis Ayres
GOd
And Children

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http://news.yahoo.com/s/ap/20070202/ap_on_he_me/cervical_cancer_2

Begining of article.

Texas requires cancer vaccine for girls

By LIZ AUSTIN PETERSON, Associated Press Writer

AUSTIN, Texas - Bypassing the Legislature, Republican Gov. Rick Perry signed an order Friday making Texas the first state to require that schoolgirls get vaccinated against the sexually transmitted virus that causes cervical cancer.
ADVERTISEMENT

By issuing an executive order, Perry apparently sidesteps opposition in the Legislature from conservatives and parents' rights groups who fear such a requirement would condone premarital sex and interfere with the way parents raise their children.

Beginning in September 2008, girls entering the sixth grade - meaning, generally, girls ages 11 and 12 - will have to get Gardasil, Merck & Co.'s new vaccine against strains of the human papillomavirus, or HPV.

Perry, a conservative Christian who opposes abortion and stem-cell research using embryonic cells, counts on the religious right for his political base. But he has said the cervical cancer vaccine is no different from the one that protects children against polio.

"The HPV vaccine provides us with an incredible opportunity to effectively target and prevent cervical cancer," Perry said in announcing the order.

"If there are diseases in our society that are going to cost us large amounts of money, it just makes good economic sense, not to mention the health and well-being of these individuals to have those vaccines available," he said.

Merck is bankrolling efforts to pass state laws across the country mandating Gardasil for girls as young as 11 or 12. It doubled its lobbying budget in Texas and has funneled money through Women in Government, an advocacy group made up of female state legislators around the country.

Perry has several ties to Merck and Women in Government. One of the drug company's three lobbyists in Texas is Mike Toomey, Perry's former chief of staff. His current chief of staff's mother-in-law, Texas Republican state Rep. Dianne White Delisi, is a state director for Women in Government.

Perry also received $6,000 from Merck's political action committee during his re-election campaign.

Texas allows parents to opt out of inoculations by filing an affidavit objecting to the vaccine on religious or philosophical reasons. Even with such provisions, however, conservative groups say such requirements interfere with parents' rights to make medical decisions for their children.

The federal government approved Gardasil in June, and a government advisory panel has recommended that all girls get the shots at 11 and 12, before they are likely to be sexually active.

The New Jersey-based drug company could generate billions in sales if Gardasil - at $360 for the three-shot regimen - were made mandatory across the country. Most insurance companies now cover the vaccine, which has been shown to have no serious side effects.

Merck spokeswoman Janet Skidmore would not say how much the company is spending on lobbyists or how much it has donated to Women in Government. Susan Crosby, the group's president, also declined to specify how much the drug company gave.

A top official from Merck's vaccine division sits on Women in Government's business council, and many of the bills around the

country have been introduced by members of Women in Government.

End of article.

"Updated:2007-02-03 11:05:53"
"Texas Requires Anti-Cancer Vaccine for Girls"
"By LIZ AUSTIN PETERSON"
"AP"

Photos Title: "Mandatory Vaccine"

"AUSTIN, Texas (Feb. 2) - Bypassing the Legislature altogether, Republican Gov. Rick Perry issued an order Friday making Texas the first state to require that schoolgirls get vaccinated against the sexually transmitted virus that causes cervical cancer."

http://news.aol.com/topnews/articles/_a/texas-requires-anti-cancer-vaccine-for/20070202172109990001?ncid=NWS00010000000001

Morals For A Sane Society - It Is Now Time To Destroy The Lesbianists - Destroying The White House, Balitimore, Maryland, And Virginia, Killing The President Of The United States, Mr. George Walker Bush, Jr., And Sinking The Eastern Coastline Of The United States Into The Atlantic Ocean - Chaos Every Where In My Universe - Bringing An End To The Chaos In My Universe - Surrendering And Repentance - Lesbianists With Non Repenentant Attitudes Who Will Not Surrender - Orders To Kill All Presdential Candidates, Etc. - New Coins Ready And Are The Ever Useful To Us! - Public Nudity And Public Sexaling - What Does The New Moralicity Mean, In Plain Language? Sexaling Is An Absolute 'Good' And An Aboslute 'Right' - Free Action Sexaling Updated: 13-02-07 Rev.a. 00.a PST 23:25

Morals For A Sane Society

To not fuck a person when you can fuck a person is a wicked act.

Not to fuck a man or a woman in the mouthal hole, or in the buttal hole, or to not fuck a woman in the vaginal hole, when you can, and when you are healthy, and when you have the time for it, by refusing, for what ever reason, other than mental illness, or 'gayist' reasons, you are committing a cheap and wicked act, when you refuse to fuck the other person, and use your dick, or your tounge to felate or kiss and tickle, and lick at the ladies' groinal area, and her vaginal cleavage, and vaginal flaps, or labial flaps, or labial tissue, and also her labial throes.

To not suckal a dick or a scrotum or tickle the males' groinal area, with your tounge, or with your fingers, and so forth, when you are able, and ready, and capable, is a cheap and wicked act, whether you are a woman or a man, girl or a boy.

You are given demerit points for not sexaling when you can and are able to sexal, and your time permits it.

To not participate in sexaling when you can participate in sexaling, is a wicked act. To prevent others from sexaling with you, or prevent a person from sexaling with you and your friends, these are both wicked acts.

A kindly and goodly person is a person who sexals all he or she can and who participates in sexaling with people, all he or she can, when ever he or she can to help those people, and one self, to erase the negative karmic markups each person has, and to help to create the wonderful energies that you can create by sexaling, and to change our universe into the nice place we need to change it into for us to live in, prospering with each other, in kindly loving embraces with each other.

If you stand or sit, talking, drinking, eating, with your clothes on, arguing, and discussing football, or baseball, or the local news on TV, or whatever, and you if you are not sexaling, as a result of your actions, when in fact, you could be sexaling, and helping to purify all the people around you, and yourself, as well, you are commiting an evil act, and an immoral act. It is immoral to behave in an uninterested manner, towards sexaling, and towards helping others by sexaling to purify their karmic markups. You are engaging in wicked, unkindly, and evil behavior, by non chalantly staring out the window, at a restaraunt, or in your car, with others around you, thinking about your miscellaneous thoughts, and by your not attempting to purify others, with every ounce of energy you have got, by sexaling with them, in a safe manner.

We do not want you to drive down the road, sexaling, and not paying attention to the traffic, and thereby causing accidents, and there be causeing harm and injury to self and to others, thereby preventing one self and others from their being able to freely mobilate, or move around freely, or ambulate, as they say in modern English, and then freely participate in sexalating activities of fucking, sucking, tounging, massaging the bodies, and the titties, and buttholes of women and girls, and massaging their kissing lips, and their vaginal lips, their facial cheeks, and their butt cheeks, and so forth. You must drive safely, and make it home, to a safe place, where you and your friends can freely sexalate with each other, without others interefereing with you.

A wicked or evil person is one who prevents a person from sexaling, and who destroys or ruins another person, physically, mentally, morally, emotionally, psychologically, or psychically, so that the other person can not participate freely and fully in holy and pure, GODLY sexaling activities.

This type of person who prevents others is a ruinous person, who will invite ruin and disaster to his or her doorsteps, and into his or her life.

There are many ruinous people, who execute others, and who torture, and cause pain, and suffering to others, and who disfigures others. These people who execute others, and who terminate their ability to sexal, prospering with others, making our universe into the kind of nice place we all want to be living in, together with each other, are wicked and evil people.

It Is Now Time To Destroy The Lesbianists

However, when we have a problem of the size and the magnitude of the Lesbianists, that we have, today, in this period of chaos, across my universe, and the Lesbianists' who are toying with humanity, and with all human beings who are not Lesbianists, it is time for us to take action, to prevent them from toying with us, and put a stop to their amusing themselves with their toying with us, any further, and it is now time to destroy them.

"I am Arjuna, a wickedly angry man, and I come to protect those who can not protect themselves. I will kill and thrust my sword and lance through the hearts of men and women who evilly try to prevent people from being prosperously good and bekindly to others."

This is a stanza or sentence from one of my writings, of old. 'Wickedly angry' in this sentence means, outraged, and furious, so much so, every one is scared and afraid of me.

I am 'wickedly angry' and I am here 'to destroy' those who would fuck us up, and ruin our lives, and make our lives miserable, as they toy with us.

My name is GOd, but in my Buddhist scriptures, I am referred to by many names. One of my many names, as I appear to people, in many and various personas, is Arjuna.

I have many sides to my character, as I am GOD, and I am here to protect my children, no matter what the name is people use to refer to me by, and that I am known by, and no matter how it is and no matter who it is among my many children, who I will protect from wicked and ruinous people.

Destroying The White House, Balitimore, Maryland, And Virginia, Killing The President Of The United States, Mr. George Walker Bush, Jr., And Sinking The Eastern Coastline Of The United States Into The Atlantic Ocean

There will not be any further Lesbianists living in Washington DC, or in Baltimore Maryland, or in Northern Virginia, and that vicinity, above ground, and below ground, if some one will be so kind as to place a very large explosives, fuels, chlorine, high heat burning metals fragments, and fracturable rocks bomb, outside the gates to the Washington DC White House, where the number one enemy, Mr. George Walker Bush, Jr., President of the United States, lives, and works, and then detonates that bomb, out side the gates of the White House, where the president lives, currently, and then destroys him, and his

White House, a lair for Lesbianists, with multitudes of torture rooms, i.e, lots of them, below and inside of the White House.

You will destroy and kill the President of the United States, Mr. George Walker Bush, Jr., and Mrs. Barbara Bush, Jr. and every one else who lives at 1600 Pennsylvania Ave. Washington DC.

Why are we going to throw all these people into my Epcot Center. Once in my Epcot Center, they can freely sexal with each other and they can earn merit points.

That will help them straighten out their karma, and it will help them to have a nicer life, when they are born as tummy babies. There are many tummy mommies who will match up with these people, and when they come out as tummy babies, they can start their life, with us, out here in my universe with us, again.

Am I a wicked wrongful person for terminating so many people's lifes? No. Why not? Because that is the only way we can over throw the vastly wicked and evil Lesbianists who practically rule my universe, with their perverse friends, and there are many groups of perverse friends, who we are going to get rid of, and send into my Epcot Center, one after another, as we move ahead, in our efforts to clean up our universe, and in our efforts to stop this nonsense of senseless killings and torturings of people, for amusement, and for game playing.

The Washington White House is one of the homes for these perverse people who game play and toy with all human beings who are not Lesbianists, who live on this planet.

We have many Lesbianists to trash, and to say good bye to, before we can begin to get our world, straightened out, and started up again, with a new culture, with new morals.

We will throw out their old cultures, their Lesbianistic cultures, and we will replace them with our new culture, and our new civilization, that is based on my religion, and on the sanctity of sexaling as a common sense value.

Sexaling is a sacred and holy act. Even if you sexal with a kangaroo, or a chimp, it is still a sacred and holy act.

Why is that? It is because every body is made of something, and that something comes from me, GOD. That something from me, is pure and holy, as I am pure and holy. I designed every person, and every animal, and every living being, with sexaling capabilities that allow that pure and holy GODLYNESS to come out once they begin sexaling.

That GODLYNESS begins to radiate out, as each person begins sexaing, and as each animal begins sexaling, and as each living being begins sexaling, eroteming, orgasming, and phlumetting, and it purifies each and every living being, and washes away the karmic markups every

person, and every animal, and every living being, has in them, and has stored in the molecules that are stacked up in my universe, out side the boundarary walls that hold this universe up, and that keep us in side of the area we are in, and that keep the rest of my universe standing up, stable, making this a safe place to live, at least, safe in so far as nothing comes crashing down on us.

My kids are expert builders, and it is thanks to them, that we have such a nice and safe, and well built universe to live in. It is also thanks to them, that we have these bodies to live in, and to sexal with, since my kids put us together, one molecule at a time, as we need to have our parts put together, along with all the anmials, and living beings, who are inside of us, that my children also assemble for me, and for us.

What is this GODLYNESS? It is a purifying force, that is of me, and is me. It is inside of every one, and inside of every creature, animal, and living being, in my creation.

This is woven into the fabric of your being, and it is of me, and is always a part of me, and is always connected to me. Since I am always pure, and GODLY, you have a possibility of becomeing pure, and holy, like me.

Right now, we are filthy, and grimey, and all gunked up, with sludge, and residues of our karmic heritage. We have done many things that contribute to who we are, and to what we experience, day to day, and if we are not happy with our life, that is because we have the karmic records and markups that dictate that we must be in this miserable and suffering condition, that we are in, today.

There is always sufferring, and unwholesomeness, in our lives, and around us, every day. There are many wicked things that go on, every day. People perpetrate wicked acts, daily, and they go on, unpunished, for a long time, until their karmic markups begin to add up to sufferings coming out, in that person's life.

Sufferings are your payback for your wicked acts, and they help to keep our universe in balance, as I've spoken about, a little, before.

It may seem unwholesome that I ask you to kill my kids, and put them into my Epcot Center, where they can sexal, and where they can get retrained, and where they can be taught to be nice people, after they are retrained, but my asking you to kill my kids, this is merely an expedient, or a means to an end, and it is permissable, given the circumstances, and given the situation, and given that we are at the begining of our new Age of Gurkian Englightenment.

The result we wish to see by killing them, is an end to the activities of the Lesbianists, and and end to the activities of other people like them, in my universe. The Lesbianists are ruining my universe, and ruining the lives of every body in my universe, and though this was the way things were balanced out, prior to now, we are starting out,

with a new method of 'payback' and a new means to balance out the karmic balance book. This is all to be governed by my rules and regulations, that my kids will enforce, in our new, Gurkian Age of Enlightenment, begining about now.

Our killing the Lesbianists, will help to control their ruinous and heinous behavior and activities, and it will help us to get them out of the picture for a while, until we are able to set up our new government, globally, or universal wide, across our universe, in a one universe government, over seeing the activities of all of my kids. It is the only way we have to begin to get our selves straightened out, and onto our new path, that we will follow, for the rest of eternity.

This marks the begining of the Gurkian Age of Engligtenment, and it marks the end of the previous period, or random, or just about nearly random, chaos.

We went through a very long period of decline, untill we got to the period of chaos that we are in, now. This period of chaos, we call, the 'melt down' period.

The 'melt down' period, came after the 'run amuck' period, when my kids began their severely ruinous activities that led to the period of chaos that we are now in.

Chaos Every Where In My Universe

We are going to begin to pull ourselves out of this period of chaos, with the help of my religion, and with our religious activities, and it is going to take us a very long time to pull ourselves out of it, as this 'chaos' is going on every where in my universe.

It will take us a long time to begin to be able to erase our karma enough, based on my religious principals, and the ethics of the Gurkian Age of Englightenment, and our religious activities of sexaling, dancing and excercising, and sexaling in syncopation with the metronome, at one thirty seventh and one fifth, or so, to then some day be able to have erased enough karma, to be rid of, completely, all these horribalistic people, my horribalistic kids, in my universe. When I say, be rid of them, I'm not saying, to trash them, completely. I am saying, we will put a stop to their activities, by changing our karma, and by purifying ourselves with my religion and our religious activities of sexaling, keeping time, in synch with my children, as we sexal, and as we activiate, playing basketball, tennis, or as we swim, or as we pray Nam Myeo Ho Ren Ge Kyeo, and so forth.

Bringing An End To The Chaos In My Universe

We are going to bring an end to the chaos, and to the chaotic behavior, and abberant, ruinous behavior in our universe, as we bring this period of chaos to a close. We will, as we steadily move forward, open the way for the budding and flowering of the Gurkian Age of

Enlightenment, and to the budding and flowering of the new age of friendship and loving care, among all of my children, who participate in my religious, social, economic, and karmic revolution, as we sexal with each other, lovingly, and strive to clearify and erase our karmic markups, sexaling, and synching our activities to one thirty seventh and one fifth on the metronome. Later we will fix our metronomes to keep exact pace in synch with my children, and after we fix and reset the timing scale of the metronome, the timing will be one thirty seventh, exactly, on the metronome.

Our sexaling will produce all types of wonderful, purifying energies, that will revive our universe, and that will revive us, and that will help us to reclaim our universe, and that will help us to live, prosperously, and prosperingly in our universe, together, with each other, and with every one of my children, as we reform the bad and naughty ones, who are wicked and unkind to others, and who prevent people from sexaling, together, with each other.

That means, we are going to kill all the bible thumpers, Pat Robertson, Orwell Roberts, Billy Grahm, Tammy Faye, Jim Faye, and all the other Lesbianists of every religious faction, or group, whether they are Lesbianists who are christians, islamists, judaists, shiites, hindus, buddhists, black moslems i.e., afro american black muslims, or whatever.

We are going to destroy them all, all who would try to prevent us from what we are attempting to accomplish, a global, universal wide, government, run by me, GOD/GOd, as I am the Captain of this ship, and then we are going to begin our new age of Enlightenment, hand in hand with each other, and when they come out of my Epcot Center, again, next time, to be born as tummy babies, to tummy mommies, and to tummy daddies, we will teach them the new rules, ethics, and morals of our new universal wide society, and then we will begin again with them, and raise them in accordance with the new rules, laws, regulations, ethics, and morals of our Gurkian Age of Enlightenment, led by me, GOD/GOd.

Surrendering And Repentance

Those who will surrender, will be allowed to be repentantent, and they will be forgiven for their misgiven, misbegotten, and ill minded ways, once they begin sexaling with the rest of us, and participating in our religious, economic, and social revolution, and once they begin following Gurkian laws, rules, ethics, the codes and norms of behavior, and our righteous, and correct morals, acting and exerting one's efforts for the sake of others, never sparing a moment of energies, wastefully on trivial and trite activities of gossipping, mischiefing, or other harmful, and potentially ruinous, wicked, and evil behavior.

Lesbianists With Non Repenentant Attitudes Who Will Not Surrender

Those who will not surrender, we will send to my Epcot Center, as that is the only way we can get them out of the picture, temporairily, so that we can then get things in order, before they return, once again, as tummy babies, into the lives of tummy mommies, and tummy daddies.

Orders To Kill All Presdential Candidates, Etc.

You are hereby authorized by me, GOD, John Francis Ayres, to kill all United States Presdential candidates, including but not limited to, Barack Obama, Hillary Clinton, and Mitt Romney. They are to be executed on sight. Also, you are ordered to kill all non repentent Lesbianists, such as, Vice President Dick Cheney, Tony Blair, Butros Gauley, Oliver North, Colin Powell, Oliver Poindexter, Casper Willard Weinberger, United States Supreme Court Chief Justice John Roberts, Associate Justices, John Paul Stevens, Anthony Kennedy, David Souter, Clarence Thomas, Ruth Bader Ginsburg, Stephen Breyer, Samuel Alito, Antonin Gregory Scalia, Arnold Swarzneggar, Sylvestor Stallone, Robert Deniro, Gary Busey, Kevin Sorbo, Timothy Dalton, Michael Jackson, Matt Damon, Bruce Willis, Mila Jovovich, Peter Jennings, all members of the United States Congress who are Lesbianists, and all other Lesbianists, whether in politics or not, and in whatever government you find them, around the world. There are many Lesbianists in local and metropolitan police departments, and in SWAT Team units, and in fire departments, and in the National Guard units throughout the United States, and Lesbianists own every news media organization, television corporation, cable television corporation, satelite television corporation, major radio station, transportation corporation, chemicals corporation, petroleum corporation, coal mining corporation, as well as every other major corporation around the world. You are to kill every last one of them, and spare no one. We will then destroy every underground city they are hiding in, and force them to surrender. If not, we will kill them all, and I authorize you to do exactly that, kill every last one of them, all thirteen billion plus Lesbianists, hiding under the surface of our planet, or out walking about, pretending to be an ordinary citizen on this planet. Nothing is further from the truth, and you are authorized to kill each and every one of them, and send them all to my Epcot Center, using what ever means available, including my tactical, powerful, home made radiological explosives bombs, i.e., nuclear explosives. Please study my notes on my web site for further details regarding radiological fracturable rocks, and my notes on how to make an explosive weapon to detonate nuclear materials, you can find along beach shorelines, in sediments deposits, and on old mountains, every where on our planet, if you have a geiger counter.

New Coins Ready And Are The Ever Useful To Us!

http://money.aol.com/news/articles/_a/new-dollar-coins-enter-circulation-this/20070211095409990001?ncid=NWS00010000000001

"Updated:2007-02-11 15:20:31"
"New Dollar Coins Enter Circulation This Week"
"By WILL LESTER"

"AP"
"WASHINGTON (Feb. 11) - Maybe Susan B. Anthony and Sacagawea should not take public rejection personally. It's not easy overcoming people's indifference to dollar coins, even those honoring such historic figures."

See also,

http://news.yahoo.com/s/ap/20070211/ap_on_bi_ge/money_ap_poll

The new coins reportedly have many fracturable rocks in them, as the metals used, were mined from deposits of minerals that contain large amounts of fracturable rocks.

They also have high heats and high temperatures burning minerals in them, that will level up your thermal temperatures to near solar temperatures, if grinded up and mixed in, and allowed to ferment, in sour berry juices, slowly, with tiny amounts of salt, and large amounts of raw sugar.

The high heat temperatures, and the energies produced at these higher heat levels, will reach near solar heats energies temperatures, and that is very important for developing the energies needed to wake up every body, in the fracturable rocks - or 'fissile' materials, in Lesbianists' speak, or Lesbianists' mumbo jumbo language - to get them to begin making children and families.

Please see my notes on 'Radiological' crystals cages salts kiddies, and other related energical animals kiddies, of various, and hard to imagine, types, unless you're a kid and unless you have the mental flexibilities and typical mental gymnastics capabilities of a normal child, unhindered by brainwashed thinking and brainwashed patterns of thought the Lesbianists have caged, and closeted in the dark, our brains with.

Public Nudity And Public Sexaling

Public nudity and public sexaling is now a way of life for all, in our, now, Gurkian Age of Enlightenment. We will begin broadcasting live sexaling events, and other entertaining and informational, educational programming,, as soon as I get my new quarters, a unit to live in, where I can eat more properly, sleep more properly, recieve the medical health aides and regroverative formulas, that I need, and where I can practice my religious ceremonies, with others, daily.

The public broadcasting of various informational programing, educational programing, sexaling entertainment programing, sexical, hygenical i.e., sexaling hygene, and sexical educational programing as well as sexical training programing, as well as my religious ceremonial sexaling activities, and my general, more typical day to day, religious ceremonialing, for now, until I get my health up to a level of youthful vigor, and robust wellness, as I religiously interact with my students, and train them, the disciple priestesses,

and disciple priests, will all help to set the basis of normative, and expected, social behavior, for all people in our universe, to learn about, now in our Gurkian Age of Enlightenment, so that we can all get along, with one primary set of customs and standard of behavior, and with one primary language for communication, as we will all be sexaling with each other - all of my children who are now just begining to get with the program, at least, anyway, will be sexaling with each other - from now on, and for all eternity.

We need this exposure, as well as alternative programing, for laundering up to, and for begining to expose ourselves to, and learn about, the reality of the universe, my universe, that we live in.

Laundering up to, means, exposing ourselves to the mischievous antics of the Lesbianists, to launder their filthy, garbagical, and tormentuous ways, so that all may learn about them.

This will be coming up, in the near future, possibly, as far as I can determine, any way, after we have the spilling of the sexaling fluids campaign under way for purifying the area where I will be setting up my religious ministry, on the parcel of land, on the north west corner of the intersection at West Tropicana Ave. and South Decature Blud., Las Vegas, Nevada, and possibly on confiscated properties to the north, as well as to the west, for now. This is a public service, informational bulletin, on what you are to expect, in the near future. Prepare yourselves, accordingly.

What Does The New Moralicity Mean, In Plain Language?

Our new moralicity means we are going to learn we can and should sexal with every person, and even with animals, when we have a chance or opportunity to sexal with people and animals, and that we can and should sexal with every person we see, so long as we have a mutual reciprocical understanding of the truth to sexaling, that it is a pure, blessed, and holy act, GOD, me, made possible, to purify you of your blemishes. It is the most significant and powerful way to purify you of your blemishes and karma

You can also clearify your blemishes, your karmic markups, by praying Nam Myeo Ho Ren Ge Kyeo, and by your keeping syncopated and in rythm with my children, helping my children to work smoothly, syncopated and in rythm with each other, perfectly fluxed, meshed perfectly with all my other children, working at different life spins, as I've mentioned about, as my kids will reward you by sprinkling faerie dusts, purifying energies, and other types of related, purifying things and dings, all over you, as a reward for your cooperation in keeping my universe, humming, and running, smoothly.

With your syncopated rythms, your syncopated pace of movement, and actions, as you time your motions, and stay in synch with one thirty seventh on the metronome, plus one fith of a mark on the metronome we currently have available to us, here, on our planet, during your

activitiating, sexaling, playing sports, dancing, excercising, and so forth, you will purify your life, and you will purify the lives of those around you, with your actions, as you get rewarded by my children.

Our new moralicity means we can and should sexal with each and every person possible, in free association with each other, no matter what the age of the person, and no matter what the gender of the person, no matter what the tribal background is, no matter what the tribal heritage is, any place no matter where we are, any time no matter what the time of day or the time of night it is, in public spaces or in private living spaces any and all places, no matter who else is around us, as sexaling is a blessed act that my kids reward you for, any time, every time, no matter where you are sexaling, and no matter with who you are sexaling with, or even no matter what type of animal you are sexaling with.

It means there are no bullshit, propagandists' Lesbianists dreamed up taboos, any longer, regarding sexaling, and that sexaling is a blessed act, and not a 'forbidden' act, as the bullshit Lesbianistic Christians, Muslims, and other religious 'pious' bullshit assholes, who would want us to believe that sexaling is forbidden by 'God', which is complete and total bullshit, and a lie, as they base them selfs on their 'holier than thou' pious 'ignorance' of the truth.

So long as you and the person or persons you are with are equally, mutually, and reciprocally interested in purifying your lifes, and interested in clearifying your karmic markups, and interested in helping my children work in synch with each other, and interested in helping to push my children along, with your energies, and efforts, and so long as you can sexal together with one and each other, without damaging either or any of the participants, it is morally correct behavior, and any person or actions to prevent that morally correct behavior must be condemned, and punished.

Some people, especially young participants, do not have butt holes, mouthal holes, or vaginal holes that are large enough to swallow a dick, or mouthal holes that are large enough to swallow a tittie and suckle it fully, without straining.

You need to spend several hours phlooching out the butt hole, or phlooching out the mouthal hole and throat, and phlooching out the vaginal hole, with generous massage over several hours to the muscles and tendons in the neck, mouth, nose, eye ridges, ears, throat, face, chest, tummy, back, arms, hands, fingers, shoulders, titties, thighs, hips, waist, groinal area, labial folds, vaginal lips, facial lips, male genitals, and the entire torso, back and front, the legs and feet, ankles, and toes, as well, and all parts and areas from head to toes and in between, with continued efforts to massage all these places, until the body begins to respond, and until the body responds fully.

The butthole will loosen up, and the throat hole will loosen, and the mouthal hole will widen, and the vaginal cavity and vaginal mouth will widen and expand in size, and the groin in girls will spread apart, allowing for more room for access to the vagina, and for smoother access to the butthole, as the hips loosen up, and begin to spread apart in response to your efforts at massaging the body, to prepare it for sexaling.

No matter how old a girl is, and in the case of a boy, no matter how old the boy is, baby, child, adolescent, or adult, phlooching out the sexaling orifices, is easy, if you spend the needed time on preparatory and thorough massage, sufficiently enough.

That's how I designed your bodies to respond to massage efforts to loosen up the muscles, ligaments, sinews, cartiladges, so as to allow the bones of the body to move and spread apart, freely, and loosenly. Your body is like a rubber band, and if you massage it, well enough, it will begin to respond like a rubber band, and it will loosen up, and spread apart, where it needs to spread apart, so as to allow you to sexal, thoroughly, and continually, for as long as you continue your sexaling activities.

After you finish your sexaling activities, your body will begin to stiffen up, as all the ligaments, sinews, cartiladges, muscles, and fiberous threads throughout your body, begin to tighten up, for returning to daily life, working activities, where you need a hard, and tough body, to survive, as you work in the field, or work in the rice paddies, or work on the farms, to labor for producing crops for feeding you, your families, your children, relatives, tribal village friends and tribal villages neigbors, who are, or who used to be, traditionally, as life used to evolve for us, all related to all of those concerned in the area, or on the planet, for that matter, or in the entire galaxy, or spread out over many galaxies, and even spread out over even larger, and wider areas of my universe in the large, familiies that used to be the norm.

You may need to spend several hours, or even several days, or maybe even longer, a number of weeks, or even a number of months, before the body will begin to respond, and begin to flex, and bend, to help all the ligaments, sinews, cartiladges, tendons, muscles, and all the body parts, and supporting, interwoven parts of your bodies, as I've briefly talked about, before, as well as all the lubing stations, that will eject fluids to assist in the loosening up of your bodies' ligaments, sinews, cartiladges, tendons, muscles, and even the bones, to allow them to be more flexible, including the jaw bones, facial bones, neck bones, spinal bones, leg bones, thigh bones, hips bones, pelvic bones, buttal bones, groinal bones, back bones, and all the bones of the body. Every bone in your body will loosen up, and become more flexible, and pliant, durile, durable and tensilely strong, as you massage all the parts of your body, and the bodies of the people you are sexaling with, very young, young, adolescent, adult, middle aged, elderly, and even the ancient, or the extremely very old.

This is the truth to this matter, and you can find out for your selves, if you try and see how your bodies respond, to daily, rigorous, continued massage, over various lengths or periods of time.

This is part of the ancient and old art of sexaling, as I taught in my religious teachings, in every religion that I taught, and I have taught a lot of religions in my time, to lots of different peoples in my universe, from the begining of our time, here, together, in our universe, after we arrived, which I've talked a little about, before.

Sexaling Is An Absolute 'Good' And An Aboslute 'Right'

Even the veryest oldest and the veryest youngest have a right, duty, and obligation to sexal and produce holy, sacred, sanctifying, i.e., to make sacred, holy, and pure, harmonious, purifying energies.

It is an 'A B S O L U T E' RIGHT as in, a 'right' to free speech.

It is also an 'A B S O L U T E' RIGHT as in, 'this is right, correct, upstanding, laudable, commendable, proven to be always right, correct, true, holy, graceful or GODlYNESS and GOODLYNESS gracefilled, morally right, morally correct, morally absolutely right, and morally absolutely correct', as opposed to, right and wrong, i.e., as in the opposite of wrong, as in, that is wrong, that is incorrect, evil, hateful, sinful, morally inaccurate, morally wrong, morally defunct, undoable as it will not stand, and useless,'.

It is also an 'A B S O L U T E' GOOD and an 'A B S O L U T E' GOODNESS.

Free Action Sexaling

Anything that counters, or runs contrary to this, is an 'A B S O L U T E' WRONG, and an 'A B S O L U T E' EVIL. It is absolutely wrongful to deny or to prohibit or to interfere with, in any way, with any one who wishes to sexal, as THAT PERSON IS CLEANING UP MY UNIVERSE WITH HIS DICK, OR WITH HER VAGINA, BUTT, AND TITTIES, AND WITH HIS PURIFYING ENERGIES, OR WITH HER PURIFYING ENERGIES! DO YOU UNDERSTAND THAT?

Any body who even attempts to impede, to deny, to prevent, or to interfere with, in any way at all, with a person's absolute right to sexal runs counter to Gurkian laws, regulations, codes, ethics, morals, standards, and you will serve jail or prison time, for prohibiting, or interfering, or impeding, or violating in any way, a person's absolute right to free action sexaling, which is, the act of freely chooseing who one wishes to sexal with. DO YOU UNDERSTAND THAT, SOLDIER? GOOD! BECAUSE A "NO SIR!" WOULD BE INAPPROPRITATE AND UNACCEPTABLE!

To learn more on these subjects, swear in, and become a citizen of our country, and begin studying, and working in the many programs my children have for you to study and work in, to score earning points, and to earn a living in our new, Gurkian Age of Enligtenment, where

and now that we work, and we pay as we go.

Those who refuse to work, in time, will be required to work, to pay off their debts and to pay off the fees that are owed for the use of my resources, all the molecules in my universe, and all the resources, energical, or otherwise.

Even though I am GOD, in our new system of working in my Gurkian Age of Enlightenment, even I have to pay for the resources that I use, as I work as chief priest of my religion, spiritual director of my universe, and boss of my universe.

I'm the mother and father, the creator of all humans, animals, and living beings, as I've explained, every thing in my creation, and people will begin to understand that, that I am GOD, as they practice my religion, over the years, and over the aeons, and over the millenias.

The people who refuse to work, will be required to work in prisons, sexaling with animals, to produce sexaling energies that will restore the supplies of energies in our universe, as I've mentioned about, before, as they work and learn their new trade of animal husbandry, and animal wifery, in the animal habitry industry, as I've also mentioned about, in earlier notes.

No matter what the age of the person, every person can participate in our Gurkian Age Of Enlightenment, sexaling, dancing, excercising, and syncopating their movements, in rythm, to assist my kids as my kids, work to keep my universe, strong, durile, flexible, safe, and a nice place for every one to live in.

DO YOU UNDERSTAND THAT? YOU HAD BETTER, AS A "NO SIR!" WOULD BE UNACCEPTABLE, SOLDIER! DO YOU HEAR ME? I HOPE YOU DO! NOW, GET TO WORK AND SEXAL TILL YOU DROP, SOLDIER, AND I'M NOT JOKING!

We will build a nice and comfortable, safe place for every one to live, now, in my universe, and we will follow the Gurkian Age of Enlightenment Rules and Regulations, Codes, Morals, Ethics, and behavioral norms, that you are required to live by, now that we are going to become, one, very big, happy, harmonious, in synch, prospering family.

You will not forget to wash out your butty butt holes, and to flush out your vaginas, and your mouths, and to practice proper and health promoting sexaling and love making hygene, with the medical formulas that my children will be providing to you, and that you will pay for, out of your earnings, and they are very reasonably priced, now that I am making every thing available to every one, at a set, yet, flexible, and low cost for the use of my resources, once you citizenize your selfs, and swear in, as a citizen of our new, global, i.e., universal wide, one universe, family of GOD's, that's me, children.

The costs are flexible, in the sense that you do not have to pay, yet, as you will be learning about the ways to work, and you will be learing and preparing your selfs for a new working life, in my universe, for some time, and so we have no hurry to have you pay for the resources you use. We can collect the fees, and costs for resources, in the future, when you are a big money earner, once you learn your new work requirements, for sexaling for a living, as that is the only job opportunity open to every one, and the only job opportunity, that you have a choice about.

My working children, though they do have many different jobs, they have basically the same set up, or arrangements as you now will have, and so you will be joining my children, and you will be working, i.e., sexaling, excercising, aerobically dancing, and so forth, in synch, and in rythm, for me, just as all of my children are doing, at least, those of my children who are able to work, and who are bright and intelligent enough to work for me, to keep my universe, healthy, safe, solid, durile, strong, wholesome, and a nice place to live in.

That means, I have a lot of burnouts kids, and rampant, vagarous, dangerous children, who are not really very bright, and they do not work for me, yet, but they will, in time, regardless of the fact that they may at the present, be abominants kids, or not.

As I've mentioned, all my up until now, non working children, are abominants. What does that mean? It means, they do not give a darn about killing another person. They kill for selfish reasons, and for fun and games, and so forth, and you are all guilty of that, though you may not remember that you killed for fun and games, and for selfish reasons, in previous lifes, in my universe, but you all have, and you are all abominants, of varying degrees.

So, welcome to the Gurkian Age of Enlightenment, and welcome to my workforce.

Captain Off The Bridge.

John Francis Ayres
GOd
And Children

The Gurkian Way Foundation Ministry Institute
johnfrancisayres @ yahoo.com
Google Groups NewsGroup: http://groups.google.com/group/gurkianagegurkianway
Yahoo Groops NewsGroup: http://groups.yahoo.com/group/gurkianway/

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Chief Priest and Head Abbot
Gurkian Way Foundation Ministry Institute
Cloistered Conservatory And Cloistered Monastery
West Tropicana Ave. and South Decature Blud.
Las Vegas, Nv. 89103

1447. Re: Are you related to Gandalf Grey?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 18:01:29 UTC
From: Billary/2008 <F#%K_Liberals@vastrightwingconspiracy.gov>
Message-ID: <Zd1Bh.2600$Il6.1034@trnddc07>
Source record: 45858
Cross-posted to: rec.arts.startrek.tech,rec.radio.amateur.antenna,alt.society,alt.usenet,alt.politics.liberalism

You must be. You're a fucking loon.

1448. Re: Are you related to Gandalf Grey?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 18:01:59 UTC
From: Billary/2008 <F#%K_Liberals@vastrightwingconspiracy.gov>
Message-ID: <re1Bh.2601$II6.1335@trnddc07>
Source record: 45859
Cross-posted to: rec.arts.startrek.tech,rec.radio.amateur.antenna,alt.society,alt.usenet,alt.politics.liberalism

you must be. You're a fucking loon

1449. Re: Are you related to Gandalf Grey?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 18:02:28 UTC
From: Billary/2008 <F#%K_Liberals@vastrightwingconspiracy.gov>
Message-ID: <Ue1Bh.2602$II6.727@trnddc07>
Source record: 45860
Cross-posted to: rec.arts.startrek.tech,rec.radio.amateur.antenna,alt.society,alt.usenet,alt.politics.liberalism

you must be. You're a fucking loon.

1450. Re: 2nd RFD: rec.radio.amateur.moderated moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 19:24:39 UTC
From: "Martin X. Moleski, SJ" <moleski@canisius.edu>
Message-ID: <12t992b8mi26p81@news.supernews.com>
Source record: 45861
Cross-posted to: news.groups.proposals,rec.radio.amateur.antenna

On Thu, 15 Feb 2007 11:42:53 CST, "Bill Ogden" <wogden@attglobal.net> wrote in
<CX%Ah.10$rI2.7@newsfe12.lga>:

>Is there a way to have a newsgroup server reject all cross-posted messages?

Many servers limit crossposts to five or fewer.

>The cross posting to multiple news groups seems to be the source of much of
>the garbage. I suspect the whole newsgroup concept would be improved if
>cross posting were automatically eliminated.

Moderation software can be written to set a limit for crossposting.

Individual users can write their own filters to killfile
crossposts automatically.

>(I notice this message is
>being cross posted !)

Yes. Crossposting has been a standard tool in discussions of
RFDs for a long time. The idea is to let folks in affected
or interested groups find out what is going on as well as
collecting the discussion in a central thread where it is
easily accessible.

It may be a source of annoyance to some in the crossposted
groups. If the subject line is preserved, folks who do not
want to see the discussion can killfile the thread by its
subject line.

Another tool is to use the "followup" header to redirect
replies to a single newsgroup. That can cause troubles, too,
especially for unwary respondents who do not know that their
replies may be going to an entirely different newsgroup.

Marty
--
Member of the Big-8 Management Board (B8MB) -- http://www.big-8.org
Unless otherwise indicated, I speak for myself, not for the Board.

1451. Re: Need Ideas for HF Antenna at Fire Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 19:57:37 UTC
From: george.jefferson000@yahoo.com
Message-ID: <1171569457.167792.327570@k78g2000cwa.googlegroups.com>
Source record: 45862
Cross-posted to: rec.radio.amateur.antenna,alt.usenet.kooks,rec.radio.cb,alt.drugs.hard,rec.radio.amateur.misc

On Feb 14, 5:46 pm, ml <m...@di.net> wrote:
> 2 ideas poped into my my head
>
> you could get a verticle antenna , burry the ground radials or hid them
> and use some sort of tilt mount like dx engineering has, perhaps if the
> building has say in the back a long side to it it can be mounted
> horizontal when not in use then fliped up when needed
>
> a variation of this might be a collapseable tower or mast if the
> roof is flat and the antenna lowered is near the roof it should be
> hard to see
>
> another idea might be to use a tuner like a sgc237 at the center or near
> center of a dipole
>
> a properly sized dipole would be somwhat visible thou i think the most
> hard to see off all antennas, you could mount the sgc on the lower part
> of a center supporting mast run ladder line to the dipole center up
> along a plastic/fiberglass support of course it would certainly tune
> more efficiently than a at the rig tuner
>
> but it's just my crazy ideas
>
> In article
> <dixon.8-A2645F.15594609022...@charm.magnus.acs.ohio-state.edu>,
> Bob Dixon <dixo...@osu.edu> wrote:
>
> > Our local fire station would like us to provide an HF station to be
> > operated by hams during an emergencies. They have offered to pay the
> > cost of this. We already have an VHF station there. The problem is the
> > antenna. It cannot be visible (or at least not be at all obvious; they
> > are allowing the VHF antenna on the roof now.). The most likely needed
> > band is 75/80 meters, for in-state communications. So we need high-angle
> > radiation, and a vertical does not seem to be a good choice.
>
> > The roof is metal, so putting an antenna in the attic will not work.
> > The building is a fairly large 2 or 3 story structure, and in the
> > country with no other buildings nearby.
>
> > Here are some ideas I have:
>
> > 1, A horizontal loop, running all around the building up near the top,
> > but somewhat below the metal roof. Would likely be non-resonant,

> > although perhaps we could choose the length. Mount it on stand-off
> > insulators just off the wooden siding. Use white insulated wire and
> > paint all hardware white, to blend in with the white siding. Feed it at
> > some convenient point, perhaps with a 4:1 balun and then coax into the
> > building. Open wire feed would be better, but we cannot get that into
> > the building and down to the station. Use a coax antenna tuner in the
> > station. The SWR would not be good, but the losses of RG/8 at 75M are
> > not that high. Maybe we could use some kind of outdoor automatic tuner
> > directly connected to the antenna, but I don't know of any offhand.
>
> > 2. Use the rain gutters as an antenna. I did this long ago in a house
> > and it worked fairly well on 40M. Bridge all the joints with copper
> > braid, painted white, to endure reliable connections. At one of the
> > corner downspouts near the ground, connect the center conductor of a
> > coax cable to the downspout. Bury radials extending out from the
> > building an appropriate length, in a 270 degree sector, and connect to
> > the shield.
> > I don't know if the gutters are connected to the metal roof, but if so
> > that might or might not rule out this approach. Use a coax antenna
> > tuner in the station. I know this is basically a top-loaded vertical
> > antenna, but the choices are limited.
>
> > Comments on both these ideas, and other alternative suggestions, would
> > be greatly appreciated.
>
> > 73,
>
> > Bob W8ERD

go slide down the fireman's pole you cum slurper

1452. your plea for attention is granted

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 20:10:20 UTC
From: an_old_friend <konstans@hotmail.com>
Message-ID: <1171570220.164927.181780@l53g2000cwa.googlegroups.com>
Source record: 45863
Cross-posted to: rec.radio.amateur.antenna,alt.usenet.kooks,rec.radio.cb,alt.drugs.hard,rec.radio.amateur.misc

```
On Feb 15, 2:57 pm, george.jefferson...@yahoo.com wrote:
> On Feb 14, 5:46 pm, ml <m...@di.net> wrote:
>

your plea for attention is granted
```

1453. Re: Marcus Morgan King Me

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 22:03:06 UTC
From: u_r_a_morse_loser@yahoo.com
Message-ID: <1171576985.959052.18280@s48g2000cws.googlegroups.com>
Source record: 45864
Cross-posted to:
rec.radio.amateur.policy,rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.boatanchors

On Feb 15, 3:00ï¿½pm, "Dean M" <d...@google.com> wrote:
> One day, Marcus of MI, lamenting about the fact that no one recognized his
> "right" to respect decided he was going to take horns of the bull and do
> something. So, at the next meeting of the Copper Country Radio Club, Marcus
> came out of the coat closet and announced to all that he, Marcus of MI, in
> order to force all to respect his poor communication skills, to respect his
> dubious military career, his multiple sexual proclivities,etc etc., the he,
> Marcus of MI, was going to declare himself Emperor of the United States. A
> club member made note to Marcus that the United States was not an empire,
> therefore Marcus could not be Emperor. Realizing that, once again he made a
> fool of himself, Marcus of MI then declared, "Well then, I shall be King of
> the United States". Again, a club member made Marcus aware that since the
> US was not a kingdom, he could not be king. Stamping his Prada shod foot,
> Marcus wailed, then what can I be?", upon which a club member reminded
> Marcus that the US is a country.
>
> The space below is for comments by Marcus of MI, trained chimp and friends
>
> Remember Marcus, respect is earned and not a right. And boy are you
> bankrupt in the respect department.
> If you think it is a right, please show everyone where in any document that
> you are guaranteed the right of life liberty and the pursuit of respect
>
> Dean M

Callsign: KH6HZ Class: Extra Codes: HAI USA
Name: MICHAEL P DEIGNAN
Addr1: 706 S. Rodney French Blvd
Addr2: New Bedford, MA 02744
Country: USA
Effective: 16 Nov 2005 Expires: 14 Oct 2007
FRN: 0003639002 What's this?
FCC: ULS Listing
Lookups: 529
Update / Renew this License...
Apply for new Vanity callsign...

Previously: KD1HZ
Coordinates: 41.612432 -70.914928 about
State: Massachusetts
County: Bristol
Grid: FN41gu
Area Code: 508

GMT Offset: -5
Time Zone: Eastern
Has DST?: Y
Email: Show email address
QRZ Updated: 2006-03-21 12:55:49
Changes needed? Click here to update this listing...
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questions.

Biography Info:

Add/Update biography for KH6HZ

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page]
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1454. your plea for attentiuon is granted woger

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 22:17:33 UTC
From: an_old_friend <konstans@hotmail.com>
Message-ID: <1171577853.060284.47690@h3g2000cwc.googlegroups.com>
Source record: 45865
Cross-posted to:
rec.radio.amateur.policy,rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.boatanchors

On Feb 15, 5:03 pm, u_r_a_morse_lo...@yahoo.com wrote:
> On Feb 15, 3:00?pm, "Dean M" <d...@google.com> wrote:
>

> > Dean M
>
> Callsign: KH6HZ Class: Extra Codes: HAI USA
> Name: MICHAEL P DEIGNAN

indeed you could be right but refeering by wisemens nick is more
effective and also be correct

1455. Looking for good antenna design software

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 22:42:58 UTC
From: Lex-Lutor <lex-makni-ovo.lutor@post.htnet.hr>
Message-ID: <er2nq9jto1@ss408.t-com.hr>
Source record: 45866

Any idea or suggestion about good antenna design software not only for HAM use ?

Tnx.

1456. Re: Looking for good antenna design software

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-15 23:24:12 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <wY5Bh.5115$E71.3325@trnddc04>
Source record: 45867

"Lex-Lutor" <lex-makni-ovo.lutor@post.htnet.hr> wrote in message
news:er2nq9jto1@ss408.t-com.hr...
> Any idea or suggestion about good antenna design software not only for HAM
> use ?
>
> Tnx.

EZNEC sure made me a believer in the effectiveness of easy to use antenna
design software.

Jerry

1457. Re: Looking for good antenna design software

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-16 00:18:44 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <EL6Bh.19248$ji1.15411@newssvr12.news.prodigy.net>
Source record: 45868

Jerry Martes wrote:
> EZNEC sure made me a believer in the effectiveness of easy to use antenna
> design software.

It was ELNEC for me and EZNEC continues the trend
of very powerful but inexpensive modeling software.
I have probably learned more from ELNEC/EZNEC than
from any antenna book.
--
73, Cecil http://www.w5dxp.com

1458. Re: delay line? velocity factor???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-16 05:18:42 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <S8bBh.28962$KW3.6318@newsfe17.phx>
Source record: 45869

"David G. Nagel" <nagel@core.com> wrote in message
news:12t7rcfffbug29f@corp.supernews.com...

> >
> In the early days of computers they used to use a length of wire as
> temporary memory. At the start of a store cycle a piece of data would be
> input to the wire, after a period of time the data would come out and be
> placed into the computation.
> Admiral Grace Hopper used to give an example of time and delay in her
> speeches. She would say that one day she called down to the computer
> department and asked for a micro second. They sent her 1000 feet of
> wire. She then called down and asked for a nanosecond, they sent her one
> foot of wire. No point to this just a good story.

Early color TV sets used a coaxial cable delay line for the luminance (B&W signal) component, since the chromanance (color signal) is delayed in the circuits that process it but they both need to arrive at the picture tube simultaneously. Newer sets use various means besides a length of coax.

1459. Your whines for sucking cock is not, faggot!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-16 16:08:41 UTC
From: peewee_lloyd_davies@yahoo.com
Message-ID: <1171642121.924258.105990@v33g2000cwv.googlegroups.com>
Source record: 45870
Cross-posted to:
rec.radio.amateur.policy,rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.boatanchors

On Feb 15, 5:17 pm, "an_old_friend" <konst...@hotmail.com> wrote:
> On Feb 15, 5:03 pm, u_r_a_morse_lo...@yahoo.com wrote:
>
> > On Feb 15, 3:00?pm, "Dean M" <d...@google.com> wrote:
>
> > > Dean M
>
> > > Callsign: KH6HZ Class: Extra Codes: HAI USA
> > > Name: MICHAEL P DEIGNAN
>
> > indeed you could be right but refeering by wisemens nick is more
> > effective and also be correct

How about refering to your real address:

17366 River Rd.
Chassell, MI 49916

1460. Your whines are noted

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-16 16:33:08 UTC
From: Andy the Perv Timberlake <andy_theperv_timberlake@yahoo.com>
Message-ID: <1171643588.090123.128110@h3g2000cwc.googlegroups.com>
Source record: 45871
Cross-posted to: rec.radio.amateur.antenna,alt.usenet.kooks,rec.radio.cb,alt.drugs.hard,rec.radio.amateur.misc

```
On Feb 15, 3:10 pm, "an_old_friend" <konst...@hotmail.com> wrote:
> On Feb 15, 2:57 pm, george.jefferson...@yahoo.com wrote:
>
> > On Feb 14, 5:46 pm, ml <m...@di.net> wrote:
>
> your plea for attention is granted

Yes, dance, monkey, dance!
```

1461. Aprspoint 4.2 released!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-16 16:46:21 UTC
From: "hxc98@yahoo.com" <hxc98@yahoo.com>
Message-ID: <1171644381.004509.116900@p10g2000cwp.googlegroups.com>
Source record: 45872

APRSPoint 4.2 is uploaded,

1. This new version has improved tracking support by adding separate track lists for stations to be tracked over either RF or TCP link.

2.It also added a new reject field in the filter dialog, where you can specify a list of stations to filter out using multiple strings that can contain wild card characters.

3. It allows you to selectively remove stations from the tree view list. This combined with improved filter operation, enables you to dynamically adjust what gets displayed on the map.

Please visit http://www.aprspoint.com for details and download.

Thanks, Michael KF6ZDM

1462. your plea for attention is granted

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-16 17:10:15 UTC
From: an old friend <kb9rqz@yahoo.com>
Message-ID: <1171645813.789455.259760@v33g2000cwv.googlegroups.com>
Source record: 45776
Cross-posted to:
rec.radio.amateur.policy,rec.radio.cb,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.boatanchors

```
On Feb 16, 11:08 am, peewee_lloyd_dav...@yahoo.com wrote:
> On Feb 15, 5:17 pm, "an_old_friend" <konst...@hotmail.com> wrote:
>
>
your plea for attention is granted
```

1463. Re: Ranger AR3500 100 watt Ebay

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-16 17:12:10 UTC
From: john Wiener <jawod@fuse.net>
Message-ID: <45D5E5EA.8040505@fuse.net>
Source record: 45777

> Plus I got plentity of relitives.
I BET YOU DO. Keep up the good work your family's cumulative IQ might
just reach 100 afterall

1464. your plea for attention is granted

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-16 17:16:09 UTC
From: kb9rqz-1@hotmail.com
Message-ID: <1171646168.023400.316810@q2g2000cwa.googlegroups.com>
Source record: 45778
Cross-posted to: rec.radio.amateur.antenna,alt.usenet.kooks,rec.radio.cb,alt.drugs.hard,rec.radio.amateur.misc

```
On Feb 16, 11:33 am, "Andy the Perv Timberlake"
<andy_theperv_timberl...@yahoo.com> wrote:
>
your plea for attention is granted
```

1465. Re: Antenna Modeling Software

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-16 19:28:39 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <HBnBh.21$4J4.9@trnddc01>
Source record: 45779

"Black Sheep" <black_sheep@maryhadalittlelamb.gov> wrote in message
news:45d477e2$0$16407$88260bb3@free.teranews.com...
> On Wed, 14 Feb 2007 14:32:30 +0000, Jerry Martes wrote:
>
>> "Black Sheep" <black_sheep@maryhadalittlelamb.gov> wrote in message
>> news:45d2aa42$0$16308$88260bb3@free.teranews.com...
>>>I am looking to purchase some antenna modeling software.
>>> Can anyone make a suggestion as to which one they think is the best,
>>> easiest to use and best value for the money.
>>>
>>> --
>>> Posted via a free Usenet account from http://www.teranews.com
>>
>> Hi Black
>>
>> Have you tried the free/demo version of EZNEC? "How To Use" that
>> antenna modeling program is well described in in HAM publications by guys
>> like Cebik http://www.cebik.com/amod/amod103.html. It is easy
>> to
>> use even without outside assistance. I'd like to know why every ham
>> with
>> antenna interest doesnt have a copy of EZNEC. Try the moseling
>> software at http://www.eznec.com/ then, if you have time, tell
>> me
>> why it isnt of interest to you.
>>
>> Jerry
>
> I have looked at EZNEC but there are others out there also. This is why
> the question is being asked.
>
> Which ones do you like and why? What one would you recommend to me and
> why?
> What features do you like about the program you are using.
>
> Basically, you be the sales person for whatever modeling progam you use.
>
Hi Black

I like EZNEC because it works very well, it is very affordable, it is
supported by an extremely good technical guy, it is easy to use, there is
alot of ARRL/HAM instructions available, it will produce circularly
polarized plots. AND, it is Affordable.
I also assume that *if* you were a professional, looking for advice on a

program for antenna modeling, you wouldnt be asking on this "HAM related news group".

Jerry

1466. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-16 20:18:36 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <er53is$1icu$1@f04n12.cac.psu.edu>
Source record: 45780

Richard Clark wrote:
> On Sat, 10 Feb 2007 12:06:06 -0600, "David G. Nagel" <nagel@core.com>
> wrote:
>
>> I hope it helps the student with his science project.
>
> Hi Dave,
>
> That is of infinite improbability. How many times do we have to tell
> adult amateur radio enthusiasts the necessity of matching (a warning
> already offered from the shadows of this thread)?
>
> So, shall we consider the merit of a total length of 3 meters in the
> AM band? If this discussion is so studiously avoided by those who
> weep away about the dearth of information, what chance does a naive
> student have to rummage up the details?
>
> The Rr summons up to roughly 20mOhms. Are any of the scolds going to
> offer the implications of this value? Are there any suggestions of
> using commercial tower sections to cut down on Ohmic loss? Any
> matching details for the massive SWR? Any hints on how to load the
> structure? Details for a top hat? Would the top hat consume part of
> that 3 meter restriction?

Richard, I dare say that the 3 meter limit, and the horrible mismatch achieved with such an antenna just might be part of the whole idea of part 15 transmission. The user isn't supposed to put much of a signal on the air. It's supposed to be a technically poor setup.

Of course, assuming that the science fair is taking place in a school building, the student could operate as a campus transmitter. Lots of extra steps and paperwork there though.

> Would a loop perform better? What dimensions? How to build the
> capacitors? Talk about underwhelming help....

Seems like a good way to go for the kid would be to buy a kit or better, build a radio from scratch, keeping within the legal limits.

Asking for help in here can be confusing enough for a new Ham, let alone a young schoolkid.

>> the dark side of the net had to have it's way with the subject.

I have these visions of you making Darth Vader sounds, and saying "I...am your father T."..... 8^)

- 73 de Mike KB3EIA -

1467. Re: W8JK Memorial Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-16 20:20:46 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <er53mu$1icu$2@f04n12.cac.psu.edu>
Source record: 45781

Roger wrote:
> On Mon, 12 Feb 2007 21:23:27 -0500, Roger <GetValidAddress@my.com>
> wrote:
>
>> On Mon, 12 Feb 2007 19:49:23 GMT, Dave Oldridge
>> <doldridg@leavethisoutshaw.ca> wrote:
>>
>>> Bob Dixon <dixon.8@osu.edu> wrote in news:dixon.8-5DD4D9.13324212022007
>>> @charm.magnus.acs.ohio-state.edu:
>>>
>>>> Since W8JK is well known in antenna circles, you may be interested in
>>>> thus.
>>>>
>>>> The John D Kraus Memorial Amateur Radio Club has been created, and
>>>> issued John's call sign W8JK.
>>>> The web site is http://www.naapo.org/W8JK/W8JK.htm . The station
>>>> will be on the air in various contests and special events. QSL via
>>>> KC8VEB. John was a well-known pioneer in antennas and Radio
>>>> Astronomy.
>>> I still have his McGraw-Hill textbook. It's a great reference!
>> But do you have "Bib Ear"?
>
> Oops Sorry about the typo.
>
> Big Ear!

But what about those of us who have Bib Ear?

Ain't pleasant, I tell ya!

- 73 de mike KB3EIA -

1468. Re: Looking for good antenna design software

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-16 20:44:50 UTC
From: Frank's <frank599@nojunkmailplease.telus.net>
Message-ID: <6JoBh.85985$Fd.37310@edtnps90>
Source record: 45782

"Lex-Lutor" <lex-makni-ovo.lutor@post.htnet.hr> wrote in message
news:er2nq9jto1@ss408.t-com.hr...
> Any idea or suggestion about good antenna design software not only for HAM
> use ?
>
> Tnx.

http://www.nittany-scientific.com/

1469. Re: Science Fair Project

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-16 21:07:48 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ei6ct2dr21j6fig08ksb63m4hdfh8dr6vt@4ax.com>
Source record: 45783

On Fri, 16 Feb 2007 15:18:36 -0500, Michael Coslo <mjc5@psu.edu>
wrote:

>Richard, I dare say that the 3 meter limit, and the horrible mismatch
>achieved with such an antenna just might be part of the whole idea of
>part 15 transmission. The user isn't supposed to put much of a signal on
>the air. It's supposed to be a technically poor setup.

Hi Mike,

All duly offered in the past.

> Seems like a good way to go for the kid would be to buy a kit or
>better, build a radio from scratch, keeping within the legal limits.

That too was offered.

>>> the dark side of the net had to have it's way with the subject.
>
> I have these visions of you making Darth Vader sounds, and saying
>"I...am your father T."..... 8^)

Myself, I would substitute Dark Helmet from "Spaceballs"
"I am your father's brother's nephew's cousin's former roommate."
given the avalanche of other advice that filled the void.

Lone Starr:
"What's that make us?"

Dark Helmet:
"Absolutely nothing!"

73's
Richard Clark, KB7QHC

1470. Re: Antenna Modeling Software

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 01:59:25 UTC
From: Frank's <frank599@nojunkmailplease.telus.net>
Message-ID: <1ktBh.83832$Y6.51050@edtnps89>
Source record: 45784

> I suppose any good modeling program would work for amateur antennas.
> What I would appreciate is a good as to which one you like and why.
> Recommend the one you like best to me. I am willing to spend up to $150
> for good modeling software. Easy to understand and use would be important.
>
> Its my understanding that the author of EZNEC hangs out in this group, I
> wish he would put his 2 cents in also.

Try NEC-Win Plus at $150. www.nittany-scientific.com

Frank

1471. Re: Very deep question regarding true polarization

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 04:17:59 UTC
From: "n3ox.dan@gmail.com" <n3ox.dan@gmail.com>
Message-ID: <1171685879.398922.156180@m58g2000cwm.googlegroups.com>
Source record: 45785

On Feb 16, 10:55 pm, "art" <aun...@insightbb.com> wrote:
> Is the Fariday rotation effect incorporated in any way with the basic
> NEC 2 and 4 computor design programs?
> Art

To the extent that it needs to be, yes.

Dan

1472. Re: W8JK Memorial Station

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 07:58:30 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns98D9F3E16D7FAdoldridgsprintca@64.59.135.159>
Source record: 45786

Roger <GetValidAddress@my.com> wrote in
news:d882t2h6ltcmifricu98c6de9d3v7oalkd@4ax.com:

> On Mon, 12 Feb 2007 19:49:23 GMT, Dave Oldridge
> <doldridg@leavethisoutshaw.ca> wrote:
>
>>Bob Dixon <dixon.8@osu.edu> wrote in news:dixon.8-5DD4D9.13324212022007
>>@charm.magnus.acs.ohio-state.edu:
>>
>>> Since W8JK is well known in antenna circles, you may be interested in
>>> thus.
>>>
>>> The John D Kraus Memorial Amateur Radio Club has been created, and
>>> issued John's call sign W8JK.
>>> The web site is http://www.naapo.org/W8JK/W8JK.htm . The station
>>> will be on the air in various contests and special events. QSL via
>>> KC8VEB. John was a well-known pioneer in antennas and Radio
>>> Astronomy.
>>
>>I still have his McGraw-Hill textbook. It's a great reference!
>
> But do you have "Bib Ear"?

Alas, no.

--
Dave Oldridge+
ICQ 1800667

1473. Re: HF random wire antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 08:05:36 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns98DAF133C86doldridgsprintca@64.59.135.159>
Source record: 45787

Juha Ojaniemi <Juha.Ojaniemi@iki.fi> wrote in news:53h6ouF1stvq2U1
@mid.individual.net:

> Hi,
>
> I have limited space for a HF antenna, so I built a random wire
antenna.
>
> The instructions I found (in Finnish):
> http://koti.mbnet.fi/takamaa/tiedostot/Satunnaisen%20langan%
20baluuni.JPG
>
> I wound the balun and bought 20 m wire. Then, OH1NT, an older ham,
> adviced me that 40 m wire would be better for 80 m band. So I hung up
40
> meters of wire.

This is normally what I do at a new QTH if I have the room. I try for at least 40m of wire center-fed (though I can get by with about 30 if I'm squeezed). And I just feed it with ladder line and a balanced tuner.

If it can be mounted as a sloper favouring a desired DX direction, so much the better. Horizontal, it's good for NVIS on 160, 80 and 40.

If you run into OH8OS on the air, tell him hello from me. We used to QSO on 15m a lot in 1965 when I was an operator at VE8ML.

--
Dave Oldridge+
ICQ 1800667
VA7CZ

1474. Re: killing cars with high RF?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 08:13:44 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns98DA251ED63Edoldridgsprintca@64.59.135.159>
Source record: 45788

"Stefan Wolfe" <stefan@eml.com> wrote in
news:45d0fd46$0$16994$4c368faf@roadrunner.com:

>
> "KE5MBX" <nelson.blaha@gmail.com> wrote in message
> news:1171322300.447846.61270@k78g2000cwa.googlegroups.com...
>> Hi,
>> What's all this business I hear people talking about blasting
>> people's car stereos or killing cars altogether with high-power RF? I
>> run 2m, 10m, and 11m in my jeep and I'd like to sort out the fact
>> from the legend and find out what kind of power I can use without
>> risking damage to my jeep or cars around me. At what power level is
>> front-end overload to a nearby radio likely? At what power level is
>> damage likely, and to what componets?
>>
>> I am currently using only 50 watts on a 5/8 wave (2m), 25w on a 1/4
>> wave (10m), legal 4w on a 1/4 wave (11m)
>>
>> Thanks,
>> Nelson KE5MBX
>>
>
> I think over 100W you may have problems with HF and VHF. It can be a
> problem.
>
> One thing that works real well is to transmit near the x-ray radar
> band where you have privileges. The traffic may slow down a bit as you
> set off the radar detectors :-)

Yeah, and it REALLY lights up the detector detectors....

--
Dave Oldridge+
ICQ 1800667

1475. Re: Resonating and Matching To A 476 MHz Yagi Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 10:35:02 UTC
From: ian_chappel@hotmail.com
Message-ID: <1171708502.941705.316200@s48g2000cws.googlegroups.com>
Source record: 45789

On Jan 25, 11:25 pm, Bob Bob <bob3b...@suddenlink.net> wrote:
> Hi Ian
>
> Sounds like you are having fun!
>
> - I would suggest that using a GDO for meaningful antenna work at UHF
> would incur quite a few inaccuracies. The big problem is how to couple
> it to the element itself without detuning it by its presence. You will
> hear some howls of protest but I personally wouldn't bother to try
> making it a resonant length. It's really not that important for
> radiation efficiency. The gamma match introduces a huge reactance that
> also has to be allowed for.
>
> - Using Ocarc's loss calculator 300r ribbon runs about 2.5dB for
> 100ft/30m. 450r open window ribbon runs about 0.7dB for the same
> distance! (http://www.ocarc.ca/coax.htm) RG213 (approx 1/2") coax is
> around 5dB. Keep in mind that ribbon bends and proximity to objects will
> cause problems that coax wont.
>
> - Converting coax to a balanced feed at the antenna can be very easily
> done with a 4:1 coax balun. This is basically a extra loop of 1/2 wave
> length coax built likehttp://www.n-lemma.com/calcs/dipole/balun.htmYou
> will still need to match at the antenna in some way. Maybe replace the
> gamma with a hairpin, use a delta match or maybe increase the number of
> driven elements folded dipole style to get the Z up to 200 ohms. A yagi
> feedpoint Z is going to be maybe 10-20r. One extra driven element
> (simple folded dipole) will multiply that by 4 and a third element
> another 4 times. That will be close enough to 200 ohms to work fine. You
> can also play with the extra element diameters to vary the final feed Z.
>
> - I personally wouldnt use a UHF TV balun without testing first. The
> problem is quality of manufacture!
>
> Hope you find this useful. Only some of my ideas!
>
> Cheers Bob W5/VK2YQA
>
>
>
> ian_chap...@hotmail.com wrote:
> > To optimise the matching to the driven element I used a gamma
> > match, the reality is I don't know if the driven element is at resonant
> > frequency let alone correctly adjusting the gamma match.
>

> > I was just reading another posting on rec.radio.amateur.antenna,
> > where the author suggested using 300 ohm TV ribbon as it is less lossy
> > than a lot of coax at UHF (476 MHz). Is this true? 300 ohm ribbon will
> > remove the need for a gamma match at the antenna end, but at the
> > transmitter end an unbalanced to balanced (50 to 300 ohm) balun will
> > be required. Would a normal TV set balun suffice for 0.5 watt of
> > transmit power?
>
> > To resonate the driven element I have contemplated using a UHF
> > Gate Dip Oscillator (GDO), has anyone succeed in doing this with
> > minimal test equipment such as a GDO? If the folded driven element
> > resonates at 476 MHz I will accept that it's impedence is 300 ohms.- Hide quoted text -
>
> - Show quoted text -

Bob,
Thank you for esponding to my questions, and apologis for my
delay in responding.

GDOs have their limitation as the coupling between the
oscillator and resonant circuit
causes the frequency to be pulled - a GDO with a frequency counter
might be a very useful instrument.

My main question about the use of a GDO is how high in
frequency can a practical GDO get
to in frequency and still oscillate, couple to a similar frequency
resonant system and be able to observe a
"dip".
Your advice on coupling and matching to the antenna are
excellent help, what I didn't understand
was the impedence value at the folded driven element. Probably
something from long ago, but I believed the
impedence of a folded element was 300 ohms???

Could you please explain what you meant by :-

>"or maybe increase the number of
> driven elements folded dipole style to get the Z up to 200 ohms. A yagi
> feedpoint Z is going to be maybe 10-20r. One extra driven element
> (simple folded dipole) will multiply that by 4 and a third element
> another 4 times."

In physical term I don't know what this means.

An article that caught my attention recently that I will share
with you is a cheap method
for measuring complex impedance, it is at:-
http://web.ukonline.co.uk/g3ldo/aegextra.htm

Once more thanks for your help.

Regards,
Ian

1476. Re: Resonating and Matching To A 476 MHz Yagi Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 13:22:12 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <8kDBh.15263$O02.11025@newssvr11.news.prodigy.net>
Source record: 45790

ian_chappel@hotmail.com wrote:
> My main question about the use of a GDO is how high in
> frequency can a practical GDO get
> to in frequency and still oscillate, couple to a similar frequency
> resonant system and be able to observe a
> "dip".

My cheap Knightkit GDO meter goes up to
300 MHz with a single wire loop for the
coil.
--
73, Cecil http://www.w5dxp.com

1477. Re: Resonating and Matching To A 476 MHz Yagi Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 15:15:33 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <p_EBh.236$5F5.60@trnddc02>
Source record: 45791

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:8kDBh.15263$O02.11025@newssvr11.news.prodigy.net...
> ian_chappel@hotmail.com wrote:
>> My main question about the use of a GDO is how high in
>> frequency can a practical GDO get
>> to in frequency and still oscillate, couple to a similar frequency
>> resonant system and be able to observe a
>> "dip".
>
> My cheap Knightkit GDO meter goes up to
> 300 MHz with a single wire loop for the
> coil.
> --
> 73, Cecil http://www.w5dxp.com

And, my Measurements Corp Grid Dip Meter goes up to 420 MHz.

Jerry

1478. Re: Resonating and Matching To A 476 MHz Yagi Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 15:33:06 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <SeFBh.104$4J4.87@trnddc01>
Source record: 45792

<ian_chappel@hotmail.com> wrote in message
news:1171708502.941705.316200@s48g2000cws.googlegroups.com...
> On Jan 25, 11:25 pm, Bob Bob <bob3b...@suddenlink.net> wrote:
>> Hi Ian
>>
>> Sounds like you are having fun!
>>
>> - I would suggest that using a GDO for meaningful antenna work at UHF
>> would incur quite a few inaccuracies. The big problem is how to couple
>> it to the element itself without detuning it by its presence. You will
>> hear some howls of protest but I personally wouldn't bother to try
>> making it a resonant length. It's really not that important for
>> radiation efficiency. The gamma match introduces a huge reactance that
>> also has to be allowed for.
>>
>> - Using Ocarc's loss calculator 300r ribbon runs about 2.5dB for
>> 100ft/30m. 450r open window ribbon runs about 0.7dB for the same
>> distance! (http://www.ocarc.ca/coax.htm) RG213 (approx 1/2") coax is
>> around 5dB. Keep in mind that ribbon bends and proximity to objects will
>> cause problems that coax wont.
>>
>> - Converting coax to a balanced feed at the antenna can be very easily
>> done with a 4:1 coax balun. This is basically a extra loop of 1/2 wave
>> length coax built likehttp://www.n-lemma.com/calcs/dipole/balun.htmYou
>> will still need to match at the antenna in some way. Maybe replace the
>> gamma with a hairpin, use a delta match or maybe increase the number of
>> driven elements folded dipole style to get the Z up to 200 ohms. A yagi
>> feedpoint Z is going to be maybe 10-20r. One extra driven element
>> (simple folded dipole) will multiply that by 4 and a third element
>> another 4 times. That will be close enough to 200 ohms to work fine. You
>> can also play with the extra element diameters to vary the final feed Z.
>>
>> - I personally wouldnt use a UHF TV balun without testing first. The
>> problem is quality of manufacture!
>>
>> Hope you find this useful. Only some of my ideas!
>>
>> Cheers Bob W5/VK2YQA
>>
>>
>>
>> ian_chap...@hotmail.com wrote:
>> > To optimise the matching to the driven element I used a gamma
>> > match, the reality is I don't know if the driven element is at resonant

>> > frequency let alone correctly adjusting the gamma match.
>>
>> > I was just reading another posting on rec.radio.amateur.antenna,
>> > where the author suggested using 300 ohm TV ribbon as it is less lossy
>> > than a lot of coax at UHF (476 MHz). Is this true? 300 ohm ribbon will
>> > remove the need for a gamma match at the antenna end, but at the
>> > transmitter end an unbalanced to balanced (50 to 300 ohm) balun will
>> > be required. Would a normal TV set balun suffice for 0.5 watt of
>> > transmit power?
>>
>> > To resonate the driven element I have contemplated using a UHF
>> > Gate Dip Oscillator (GDO), has anyone succeed in doing this with
>> > minimal test equipment such as a GDO? If the folded driven element
>> > resonates at 476 MHz I will accept that it's impedence is 300 ohms.-
>> > Hide quoted text -
>>
>> - Show quoted text -
>
> Bob,
> Thank you for esponding to my questions, and apologis for my
> delay in responding.
>
> GDOs have their limitation as the coupling between the
> oscillator and resonant circuit
> causes the frequency to be pulled - a GDO with a frequency counter
> might be a very useful instrument.
>
> My main question about the use of a GDO is how high in
> frequency can a practical GDO get
> to in frequency and still oscillate, couple to a similar frequency
> resonant system and be able to observe a
> "dip".
> Your advice on coupling and matching to the antenna are
> excellent help, what I didn't understand
> was the impedence value at the folded driven element. Probably
> something from long ago, but I believed the
> impedence of a folded element was 300 ohms???
>
> Could you please explain what you meant by :-
>
>>"or maybe increase the number of
>> driven elements folded dipole style to get the Z up to 200 ohms. A yagi
>> feedpoint Z is going to be maybe 10-20r. One extra driven element
>> (simple folded dipole) will multiply that by 4 and a third element
>> another 4 times."
>
> In physical term I don't know what this means.
>
> An article that caught my attention recently that I will share
> with you is a cheap method

> for measuring complex impedance, it is at:-
> http://web.ukonline.co.uk/g3ldo/aegextra.htm
>
> Once more thanks for your help.
>
> Regards,
> Ian

Hi Ian

If you get serious about building a device for measuring the complex impedance of circuits at VHF / UHF, I have some recent experience I'd share with you.
The problem with "Home Made" seems to be very difficult to get acurate data with when the load impedance is close to matching the Zo of the "Impedance Meter". For measuring complex impedances that present a VSWR of 2:1 or greater, a home made slotted line works quite well.

Jerry

1479. Re: Antenna Modeling Software

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 15:49:22 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1171727362.674526.225050@v45g2000cwv.googlegroups.com>
Source record: 45793

On 15 feb, 16:07, "Black Sheep" <black_sh...@maryhadalittlelamb.gov>
wrote:
> On Wed, 14 Feb 2007 01:00:46 -0800, Wimpie wrote:
> > On 14 feb, 07:20, "Black Sheep" <black_sh...@maryhadalittlelamb.gov>
> > wrote:
> >> I am looking to purchase some antenna modeling software.
> >> Can anyone make a suggestion as to which one they think is the best,
> >> easiest to use and best value for the money.
>
> >> --
> >> Posted via a free Usenet account fromhttp://www.teranews.com
>
> > Hello Black Sheep,
>
> > Can you provide us with some information about your antenna
> > challenges? It will make us easier to answer your question.
>
> > I am thinking of antenna types (wire antennas, printed circuit board
> > antennas, with / without dielectric materials, size with respect to
> > wavelength, etc), how frequently will you us it, available budget, is
> > it for professional or amateur use, etc.
>
> > Best Regards,
>
> > Wim
> > PA3DJS
>
> My needs are for amateur antennas, wires, verticals, yagis & etc.
> Just want to model antennas which I have ideas about or those which are
> already built and what might happen if it were modified to another
> configuration.
>
> I guess if price were a consideration no more than $150.
>
> --
> Posted via a free Usenet account fromhttp://www.teranews.com

Hello Black Sheep,

There is a program called "WireGrid for windows", it is from the
company that also makes the (expensive) FEKO package (South African,
EMSS). It was for some time on their server for free (but without any
warranty and support). It is no longer on their server (I checked
it). If you like, I can mail it to you (3900kB).

Wiregrid is a NEC pre- and post processor (with NEC2 files included), with a very reasonable interface with instant 3D structure view. You can enter wires and polygons that can be meshed automatically with predetermined wire diameter and grid size.

I like this program because you can enter polygons (for example for generating a finite ground plane) and the 3D viewer is really good.

Best Regards,

Wim
PA3DJS

1480. Re: Very deep question regarding true polarization

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 15:58:57 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1171727937.893788.50760@a75g2000cwd.googlegroups.com>
Source record: 45794

On 17 feb, 04:55, "art" <aun...@insightbb.com> wrote:
> Is the Fariday rotation effect incorporated in any way with the basic
> NEC 2 and 4 computor design programs?
> Art

Hello Art,

If you main the rotation of polarization of a wave during transit in a
DC magnetized medium, it is NO for NEC2. I do not believe that it is
modeled in NEC4.

Best Regards,

Wim

1481. Trimming 2m 5/8 wave antenna for 156 mhz ???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 17:41:17 UTC
From: James <jnipperxxx@nospamfdn.com>
Message-ID: <K5GdnTapV_aho0rYnZ2dnUVZ_qqrnZ2d@comcast.com>
Source record: 45795
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

Hello ! I just bought a 2m Hamstick antenna at the Orlando Hamfest, the model 9100. I would like to trim this antenna for 156 mhz, for marine use on my boat. Can someone tell me "about" how much I should shorten the whip to achieve this ? Remember, this is the 5/8 wave antenna with a loaded base.

Thank you very much !!

73 de Jim K4PYT

1482. Freq Wavelength Question.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 17:53:34 UTC
From: "ronaldguilmet@gmail.com" <ronaldguilmet@gmail.com>
Message-ID: <1171734814.684291.239370@l53g2000cwa.googlegroups.com>
Source record: 45796

Hi all,

I've been away from ham radio for quite some time, and I am looking to get my ht up and running. I want to make a J-pole.

Although I have found some plans to do so, I was looking more for the science behind it.

I see that the stub is 1/4 wave and the other side is 1/2 or 3/4.

I forget the formula to find the wavelength. Was it the freq divided by 468 or 234?

any help would be great.

kb2tfa

1483. Re: Freq Wavelength Question.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 17:59:30 UTC
From: Caveat Lector <CL@nowhere.com>
Message-ID: <2oHBh.8140$jF2.7125@newsfe06.phx>
Source record: 45797

See BuxCom at URL:
http://www.commparts.com/antutorial.htm#2mjpole

Also URL:
http://www.cmara.org/N1WAS1.htm

<ronaldguilmet@gmail.com> wrote in message
news:1171734814.684291.239370@l53g2000cwa.googlegroups.com...
> Hi all,
>
> I've been away from ham radio for quite some time, and I am looking to
> get my ht up and running. I want to make a J-pole.
>
> Although I have found some plans to do so, I was looking more for the
> science behind it.
>
> I see that the stub is 1/4 wave and the other side is 1/2 or 3/4.
>
> I forget the formula to find the wavelength. Was it the freq divided
> by 468 or 234?
>
>
> any help would be great.
>
> kb2tfa
>

1484. Re: Trimming 2m 5/8 wave antenna for 156 mhz ???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 18:08:42 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <12teh5dcb0f30cc@corp.supernews.com>
Source record: 45798
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

James wrote:
> Hello ! I just bought a 2m Hamstick antenna at the Orlando Hamfest, the
> model 9100. I would like to trim this antenna for 156 mhz, for marine
> use on my boat. Can someone tell me "about" how much I should shorten the
> whip to achieve this ? Remember, this is the 5/8 wave antenna with a loaded
> base.
>
> Thank you very much !!
>
>
> 73 de Jim K4PYT
>
>
IRRC the Hamstick is a quarter wave antenna and requires a counterpoise
to operate correctly. You would be better off getting a marine 1/2 wave
antenna for you boat as most fiberglass boats do not have enough metal
to provide the counterpoise.

Dave WD9BDZ

1485. Re: Trimming 2m 5/8 wave antenna for 156 mhz ???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 18:12:33 UTC
From: James <jnipperxxx@nospamfdn.com>
Message-ID: <8tqdne34jL4N2ErYnZ2dnUVZ_vKunZ2d@comcast.com>
Source record: 45799
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

Dave, as stated in my OP, this is a 5/8 wave antenna. It is the antenna that I have bought and that I will use temporarily. This will be for a very temporary use, and I agree with your suggestion about a marine 1/2 wave, which I will do later on.

My question is "about" how much to trim for 156 mhz use. I will use an SWR meter to get it right on spot, but I would like a feel for how much to trim. It is tricky to calculate , even using the "468" formula, because of it being base-loaded.

73 de Jim K4PYT

1486. Re: Trimming 2m 5/8 wave antenna for 156 mhz ???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 18:58:02 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45d74c3a$0$28169$4c368faf@roadrunner.com>
Source record: 45800
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

"James" <jnipperxxx@nospamfdn.com> wrote in message
news:8tqdne34jL4N2ErYnZ2dnUVZ_vKunZ2d@comcast.com...
> Dave, as stated in my OP, this is a 5/8 wave antenna. It is the antenna
> that I have bought and that I will use temporarily. This will be for a
> very
> temporary use, and I agree with your suggestion about a marine 1/2 wave,
> which I will do later on.
>
> My question is "about" how much to trim for 156 mhz use. I will use an
> SWR meter to get it right on spot, but I would like a feel for how much
> to
> trim. It is tricky to calculate , even using the "468" formula,
> because of it being base-loaded.
>
> 73 de Jim K4PYT
>
>

Triming alone want do it, the base is designed to match the 5/8 2m to 50
ohms. Unless you can also figure out a way to modify the matching network
you cant do it.

1487. Re: Trimming 2m 5/8 wave antenna for 156 mhz ???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 19:06:33 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <ZmIBh.3178$tD2.2021@newsread1.news.pas.earthlink.net>
Source record: 45801
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

"James" <jnipperxxx@nospamfdn.com> wrote in message
news:8tqdne34jL4N2ErYnZ2dnUVZ_vKunZ2d@comcast.com...
> Dave, as stated in my OP, this is a 5/8 wave antenna. It is the antenna
> that I have bought and that I will use temporarily. This will be for a
> very
> temporary use, and I agree with your suggestion about a marine 1/2 wave,
> which I will do later on.
>
> My question is "about" how much to trim for 156 mhz use. I will use an
> SWR meter to get it right on spot, but I would like a feel for how much
> to
> trim. It is tricky to calculate , even using the "468" formula,
> because of it being base-loaded.
>
> 73 de Jim K4PYT
>

You can start bu scaling the antenna length . That is devide 146 by 156
and get around .94. Then multiply the length of the element by .94.
As pointed out the loading (matching) coil will probalby need to be modified
somewhat for a perfect match, but this should get you close.

1488. Re: Trimming 2m 5/8 wave antenna for 156 mhz ???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 19:30:55 UTC
From: John Doe <hgorden@adelphia.net>
Message-ID: <fqqdnUBS_M9zykrYnZ2dnUVZ_sSmnZ2d@adelphia.com>
Source record: 45802
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

Start trimming by 1/4 " at a time.

"Ralph Mowery" <rmowery28146@earthlink.net> wrote in message
news:ZmIBh.3178$tD2.2021@newsread1.news.pas.earthlink.net...
>
> "James" <jnipperxxx@nospamfdn.com> wrote in message
> news:8tqdne34jL4N2ErYnZ2dnUVZ_vKunZ2d@comcast.com...
>> Dave, as stated in my OP, this is a 5/8 wave antenna. It is the
>> antenna
>> that I have bought and that I will use temporarily. This will be for a
>> very
>> temporary use, and I agree with your suggestion about a marine 1/2 wave,
>> which I will do later on.
>>
>> My question is "about" how much to trim for 156 mhz use. I will use an
>> SWR meter to get it right on spot, but I would like a feel for how much
>> to
>> trim. It is tricky to calculate , even using the "468" formula,
>> because of it being base-loaded.
>>
>> 73 de Jim K4PYT
>>
>
> You can start bu scaling the antenna length . That is devide 146 by 156
> and get around .94. Then multiply the length of the element by .94.
> As pointed out the loading (matching) coil will probalby need to be
> modified somewhat for a perfect match, but this should get you close.
>
>

1489. Re: Freq Wavelength Question.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 20:12:52 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <8lJBh.472$h8.194@trnddc05>
Source record: 45803

<ronaldguilmet@gmail.com> wrote in message
news:1171734814.684291.239370@l53g2000cwa.googlegroups.com...
> Hi all,
>
> I've been away from ham radio for quite some time, and I am looking to
> get my ht up and running. I want to make a J-pole.
>
> Although I have found some plans to do so, I was looking more for the
> science behind it.
>
> I see that the stub is 1/4 wave and the other side is 1/2 or 3/4.
>
> I forget the formula to find the wavelength. Was it the freq divided
> by 468 or 234?
>
>
> any help would be great.
>
> kb2tfa

Try looking in wikipedia for Wavelength.

1490. Re: Freq Wavelength Question.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 20:25:07 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <DwJBh.63641$wc5.43500@newssvr25.news.prodigy.net>
Source record: 45804

ronaldguilmet@gmail.com wrote:
> I forget the formula to find the wavelength. Was it the freq divided
> by 468 or 234?

Wavelength is 984 divided by the frequency. 468/f is the
length of a 1/2WL dipole and 234/f is the length of a
1/4WL monopole both taking end effects into account.
--
73, Cecil http://www.w5dxp.com

1491. Re: Freq Wavelength Question.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 20:49:46 UTC
From: christine <christine@hotmail.com>
Message-ID: <OTJBh.15553$fV4.11402@reader1.news.saunalahti.fi>
Source record: 45805

"fergus" <ferguscapewrath@yahoo.co.uk> wrote in message
news:m5qet2lq6278suk88vo64fppkiisthdlvd@4ax.com...
> On Sat, 17 Feb 2007 20:25:07 GMT, Cecil Moore <mycall@hotmail.com>
> wrote:
>
>>ronaldguilmet@gmail.com wrote:
>>> I forget the formula to find the wavelength. Was it the freq divided
>>> by 468 or 234?
>>
>>Wavelength is 984 divided by the frequency. 468/f is the
>>length of a 1/2WL dipole and 234/f is the length of a
>>1/4WL monopole both taking end effects into account.
>
> I thought wavelength was speed of light divided by frequency. ie. 3 x
> 10^8/freq. Or is the 984 in non SI units?
>
>
> --
>
> Fergus

no..in US they have strange formulas involving feets and inches... (sigh)
nothing to do with established SI

cheers,

1492. Re: Freq Wavelength Question.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 21:27:19 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <0gset2pkv4uhi27uhi9nu4u3hrqbnh6rh4@4ax.com>
Source record: 45806

On Sat, 17 Feb 2007 22:49:46 +0200, "christine"
<christine@hotmail.com> wrote:

>no..in US they have strange formulas involving feets and inches... (sigh)
>nothing to do with established SI

We also inherited the speed of light as 1.8x10^14 Furlongs per
Fortnight.

73's
Richard Clark, KB7QHC

1493. Re: Freq Wavelength Question.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 21:33:20 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <63tet219cb0t4kscrjuhs1hptgqe5tna33@4ax.com>
Source record: 45807

On Sat, 17 Feb 2007 13:27:19 -0800, Richard Clark <kb7qhc@comcast.net>
wrote:

>1.8x10^14 Furlongs
actually
1.8x10^12 Furlongs per fortnight

73's
Richard Clark, KB7QHC

1494. Re: Freq Wavelength Question.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 22:53:00 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <gHLBh.76852$qO4.34017@newssvr13.news.prodigy.net>
Source record: 45808

fergus wrote:
> I thought wavelength was speed of light divided by frequency. ie. 3 x
> 10^8/freq. Or is the 984 in non SI units?

It's actually 983.572 and it's in English units
based on the "standard" length of the foot of
one of the British kings.
--
73, Cecil http://www.w5dxp.com

1495. Re: Freq Wavelength Question.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 22:55:58 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <2KLBh.76853$qO4.6991@newssvr13.news.prodigy.net>
Source record: 45809

christine wrote:
> no..in US they have strange formulas involving feets and inches...

Strange? - It's the *English* system that we
adopted from our Mother Country.
--
73, Cecil http://www.w5dxp.com

1496. Re: Freq Wavelength Question.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-17 22:58:02 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <_LLBh.76854$qO4.9043@newssvr13.news.prodigy.net>
Source record: 45810

art wrote:
> when I was young I went to the tool room in East London and asked
> for 1 inch round by 6 foot and I was admonished up and down dale for
> using the measurement inches.

Did you remind them that the inch was based on
the length of a thumb joint of an *ENGLISH* King?
--
73, Cecil http://www.w5dxp.com

1497. Re: Freq Wavelength Question.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-18 00:55:53 UTC
From: Jim - NN7K <NN7K@NOWAY.NET>
Message-ID: <tuNBh.22833$zH1.12530@newssvr29.news.prodigy.net>
Source record: 45811

So what does this translate to , in Fathoms per
milleniam ? (something akin to exponetional light
years??) :)

Richard Clark wrote:
> On Sat, 17 Feb 2007 13:27:19 -0800, Richard Clark <kb7qhc@comcast.net>
> wrote:
>
>> 1.8x10^14 Furlongs
> actually
> 1.8x10^12 Furlongs per fortnight
>
> 73's
> Richard Clark, KB7QHC

1498. Re: Freq Wavelength Question.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-18 01:34:59 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1171762499.707978.257780@v45g2000cwv.googlegroups.com>
Source record: 45812

On 17 Feb, 14:58, Cecil Moore <myc...@hotmail.com> wrote:
> art wrote:
> > when I was young I went to the tool room in East London and asked
> > for 1 inch round by 6 foot and I was admonished up and down dale for
> > using the measurement inches.
>
> Did you remind them that the inch was based on
> the length of a thumb joint of an *ENGLISH* King?
> --
> 73, Cecil http://www.w5dxp.com

Yup, that is what is on the wall i.e. a foot, a yard e.t.c so that when there is a dispute in commerce one then goes to the wall and compare to the standard. As for the King it may have been Henry the Eight since he liked to hunt on the north (other)side of the river which was called The Isle Of Dogs but now it is probably named Canary wharf or something like that.Anne Boleyn lived a couple of miles away so maybe that is how she met the King. The observatory which is along side the meridian line at Greenwich was abandoned when London was electrified which thus disturbed the heavens.
It was also at the northside of the river of this point that most of the prisoners/convicts left for America to serve their sentences . After the revolution the prisoners/convicts had to go to Australia to serve their sentences. After a few years they had to scour the prisons for women to send to Australia so the men became settlers.So Cecil you could easily be an Aussie if your ancesters timed things right or you may not be even around if you were related to Cardinal Moore but don't lose your head over it like he did.
Art

1499. Re: Trimming 2m 5/8 wave antenna for 156 mhz ???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-18 02:53:32 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <45d7bfb2$0$17208$39cecf19@news.twtelecom.net>
Source record: 45813

Jimmie D wrote:

> "James" <jnipperxxx@nospamfdn.com> wrote in message
> news:8tqdne34jL4N2ErYnZ2dnUVZ_vKunZ2d@comcast.com...
>
>>Dave, as stated in my OP, this is a 5/8 wave antenna. It is the antenna
>>that I have bought and that I will use temporarily. This will be for a
>>very
>>temporary use, and I agree with your suggestion about a marine 1/2 wave,
>>which I will do later on.
>>
>>My question is "about" how much to trim for 156 mhz use. I will use an
>>SWR meter to get it right on spot, but I would like a feel for how much
>>to
>>trim. It is tricky to calculate , even using the "468" formula,
>>because of it being base-loaded.
>>
>>73 de Jim K4PYT
>>
>>
>
>
> Triming alone want do it, the base is designed to match the 5/8 2m to 50
> ohms. Unless you can also figure out a way to modify the matching network
> you cant do it.
>
>

B as in B, S as in S. It is plenty close enough to work just fine with
a little trimming.

And B means Bull, and S means Shit.

tom
K0TAR

1500. Is the toroid on CRT monitor cables good for any ham-thing?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-18 04:04:56 UTC
From: mcalhoun@ksu.edu
Message-ID: <er8j98$pt5@unix1.cc.ksu.edu>
Source record: 45814

I recently "liberated" a toroid that is on every CRT monitor cable from
its molded-on plastic covering: it is a little over 1-inch long by
about 0.7-inch outside diameter, and its internal diameter is a fraction
too small for RG/8, but RG/58 and RG/59 fit without any difficulty.
Might its characteristics be any good for any ham use?

--
--Myron A. Calhoun; 2001 Dunbar Road; Manhattan, KS 66502-3907
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
NRA Life Member and Rifle, Pistol, & Home Firearm Safety Certified Instructor
Certified Instructor for the Kansas Concealed-Carry Handgun license

1501. Re: Is the toroid on CRT monitor cables good for any ham-thing?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-18 04:18:58 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3skft21bpneumt4bgsnb2mu61fngc5chtg@4ax.com>
Source record: 45815

On 17 Feb 2007 22:04:56 -0600, mcalhoun@ksu.edu wrote:

>Might its characteristics be any good for any ham use?

Hi OM,

Put a loop of wire through it and attach the wire to an antenna
analyzer, if you have one, and measure its resistance at any
particular frequency.

73's
Richard Clark, KB7QHC

1502. Re: Trimming 2m 5/8 wave antenna for 156 mhz ???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-18 04:52:44 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45d7d799$0$5728$4c368faf@roadrunner.com>
Source record: 45816

"Tom Ring" <news0003@taring.org> wrote in message
news:45d7bfb2$0$17208$39cecf19@news.twtelecom.net...
> Jimmie D wrote:
>
>> "James" <jnipperxxx@nospamfdn.com> wrote in message
>> news:8tqdne34jL4N2ErYnZ2dnUVZ_vKunZ2d@comcast.com...
>>
>>>Dave, as stated in my OP, this is a 5/8 wave antenna. It is the
>>>antenna
>>>that I have bought and that I will use temporarily. This will be for a
>>>very
>>>temporary use, and I agree with your suggestion about a marine 1/2 wave,
>>>which I will do later on.
>>>
>>>My question is "about" how much to trim for 156 mhz use. I will use an
>>>SWR meter to get it right on spot, but I would like a feel for how much
>>>to
>>>trim. It is tricky to calculate , even using the "468" formula,
>>>because of it being base-loaded.
>>>
>>>73 de Jim K4PYT
>>>
>>>
>>
>>
>> Triming alone want do it, the base is designed to match the 5/8 2m to 50
>> ohms. Unless you can also figure out a way to modify the matching network
>> you cant do it.
>
> B as in B, S as in S. It is plenty close enough to work just fine with a
> little trimming.
>
> And B means Bull, and S means Shit.
>
> tom
> K0TAR
>
>

No need for the vulgarities but you are correct, it will probably work.
Sorry didnt mean to bring out any hostility.

Jimmie

1503. Re: Trimming 2m 5/8 wave antenna for 156 mhz ???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-18 06:23:37 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45d7ece6$0$16990$4c368faf@roadrunner.com>
Source record: 45817

"Jimmie D" <GFENDER@carolina.rr.com> wrote in message
news:45d7d799$0$5728$4c368faf@roadrunner.com...
>
> "Tom Ring" <news0003@taring.org> wrote in message
> news:45d7bfb2$0$17208$39cecf19@news.twtelecom.net...
>> Jimmie D wrote:
>>
>>> "James" <jnipperxxx@nospamfdn.com> wrote in message
>>> news:8tqdne34jL4N2ErYnZ2dnUVZ_vKunZ2d@comcast.com...
>>>
>>>>Dave, as stated in my OP, this is a 5/8 wave antenna. It is the
>>>>antenna
>>>>that I have bought and that I will use temporarily. This will be for a
>>>>very
>>>>temporary use, and I agree with your suggestion about a marine 1/2 wave,
>>>>which I will do later on.
>>>>
>>>>My question is "about" how much to trim for 156 mhz use. I will use
>>>>an
>>>>SWR meter to get it right on spot, but I would like a feel for how much
>>>>to
>>>>trim. It is tricky to calculate , even using the "468" formula,
>>>>because of it being base-loaded.
>>>>
>>>>73 de Jim K4PYT
>>>>
>>>>
>>>
>>>
>>> Triming alone want do it, the base is designed to match the 5/8 2m to 50
>>> ohms. Unless you can also figure out a way to modify the matching
>>> network you cant do it.
>>
>> B as in B, S as in S. It is plenty close enough to work just fine with a
>> little trimming.
>>
>> And B means Bull, and S means Shit.
>>
>> tom
>> K0TAR
>>
>>
>
> No need for the vulgarities but you are correct, it will probably work.

> Sorry didnt mean to bring out any hostility.
>
> Jimmie
>

Anyway, I was kind of thinking keeping it as a 5/8th's, I guess I am guilty of having a one track mind. I agree with Tom that the hamstick will probably resonate but cut somewhat shorter than a 5/8ths to make up for the extra wire the 2 meter matching coil has. You will probably wind up with a 9/16ths antenna |:). If memory serves the hamstick does not use a tapped coil matching network, just a series coil. I have tried cutting one of tapped coil types for 153Mhz and was barely able to get it to work at with an acceptable SWR, good luck

Jimmie

1504. Re: Trimming 2m 5/8 wave antenna for 156 mhz ???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-18 12:24:47 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <jAXBh.12205$gj4.4634@newssvr14.news.prodigy.net>
Source record: 45818

Jimmie D wrote:
> I agree with Tom that the hamstick will probably
> resonate but cut somewhat shorter than a 5/8ths to make up for the extra
> wire the 2 meter matching coil has.

Hamsticks usually have an adjustable stinger. Can
the stinger be adjusted from longest to shortest
and those two resonant frequencies be measured?
Is this the 9007 "Mobile Colinear Antenna" from
Lakeview? They don't say it is 5/8WL.
--
73, Cecil http://www.w5dxp.com

1505. Parelectronics OA144 antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-18 12:35:54 UTC
From: Adam 9A4QV <adam9a4qv@yahoo.com>
Message-ID: <er9h6v$s11$1@ss408.t-com.hr>
Source record: 45819

Hello,

Does anybody have a phisical dimensions of OA144 antenna (2m version).
There is a manual on the Parelectronics web page but without dimensions.
Another important thing is matching system in the closed box together with
current balun?
The idea is to duplicate antenna but with more robust design to meet
requirements for beacon 144 mhz antenna.
All informations are welcome.

Thanks
Adam, 9a4qv

1506. Re: Trimming 2m 5/8 wave antenna for 156 mhz ???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-18 13:46:17 UTC
From: Henry <noone@nowhere.net>
Message-ID: <VHYBh.14847$6a.13876@bignews4.bellsouth.net>
Source record: 45820
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

After reading all of this thread I came up with a thought.
use it as it is and see if it works satisfactorily.
if not make a coax stub and connect with a "T" adapter and trim that for
optimal performance.

Henry

"James" <jnipperxxx@nospamfdn.com> wrote in message
news:K5GdnTapV_aho0rYnZ2dnUVZ_qqrnZ2d@comcast.com...
> Hello ! I just bought a 2m Hamstick antenna at the Orlando Hamfest, the
> model 9100. I would like to trim this antenna for 156 mhz, for marine
> use on my boat. Can someone tell me "about" how much I should shorten
> the
> whip to achieve this ? Remember, this is the 5/8 wave antenna with a
> loaded
> base.
>
> Thank you very much !!
>
>
> 73 de Jim K4PYT
>
>

1507. Re: Is the toroid on CRT monitor cables good for any ham-thing?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-18 14:30:08 UTC
From: Alan WA4SCA <APBIDDLE@UNITED.NET>
Message-ID: <2iogt29sfbn3k3s174jasr0qhgq5is0p4v@4ax.com>
Source record: 45821

Those tend to be good up through at least VHF for keeping down RF
noise. I have used them on USB cables, and also on some APRS units,
with good effect. They are made so that trying them on an application
is easy, and unlikely to do any harm.

--
Alan
WA4SCA

1508. Re: Trimming 2m 5/8 wave antenna for 156 mhz ???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-18 15:28:29 UTC
From: James <jnipperxxx@nospamfdn.com>
Message-ID: <ud2dnRpRws0G7UXYnZ2dnUVZ_t-mnZ2d@comcast.com>
Source record: 45822

No, Cecil, this is NOT the collinear. It is a loaded, 5/8 wave. It is the 9002.

What is a stinger ? Are you referring to the stainless steel whip ?

73 de Jim K4PYT

1509. Re: Very deep question regarding true polarization

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-18 16:20:55 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1171815655.130560.116690@h3g2000cwc.googlegroups.com>
Source record: 45823

On 17 feb, 18:04, "art" <aun...@insightbb.com> wrote:
> On 17 Feb, 07:58, "Wimpie" <wim...@tetech.nl> wrote:
>
> > On 17 feb, 04:55, "art" <aun...@insightbb.com> wrote:
>
> > > Is the Fariday rotation effect incorporated in any way with the basic
> > > NEC 2 and 4 computor design programs?
> > > Art
>
> > Hello Art,
>
> > If you main the rotation of polarization of a wave during transit in a
> > DC magnetized medium, it is NO for NEC2. I do not believe that it is
> > modeled in NEC4.
>
> > Best Regards,
>
> > Wim
>
> Yes that is what I mean noting that since it cannot be cancelled it
> thus applies to a.c. as well. I somehow believe that it is connected
> in some way to curl but ofcourse I have no reference to it. I have the
> distinct feeling that it refers to the offset in polarity created by
> the horizontal vector of curl which thus means for the case of
> equilibrium polarity cannot be at right angles to the radiating
> elements surface or parallel to it . I can duplicate this situation
> using NEC based computor programs i.e. tilt, but I cannot find
> reference to it anywhere. One must remember that Faradays work is now
> quite old with respect to modern day advances but then we are now
> getting a bit deep for most readers. My computor program predates NEC
> 4 !
> Regards
> Art

Hello Art,

As far as I know, all (maybe most) simulators for antennas assume the
media to be HILS, you can only enter properties like u', u'' or e'
e'', or in the form of absolute u or e together with a loss factor.

Probably there will be specialized simulators or custom programs
within research facilities that can handle non-HILS meda, but I think
that is of no use for antenna design for radiocommunication where the
interface is air.

Of course for propagation faraday rotation can be of importance.

If a metallic structure gives rise to polarization change, this will be shown by antenna simulators that can visualize field properties like E and H.

Best Regards,

Wim
PA3DJS

1510. Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-18 17:48:04 UTC
From: Henry Kolesnik <kolesnik@nojunksbcglobal.net>
Message-ID: <oj0Ch.12273$gj4.11472@newssvr14.news.prodigy.net>
Source record: 45825
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

What's a good reasonably priced sound card that would be good for doing guitar waterfall, slab plots and FFTs and what software should I consider? Is there any good freeware or shareware?
tnx

--

73
Hank WD5JFR

1511. Re: Trimming 2m 5/8 wave antenna for 156 mhz ???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-18 17:48:38 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <Wj0Ch.45485$Gr2.44004@newssvr21.news.prodigy.net>
Source record: 45824

James wrote:
> No, Cecil, this is NOT the collinear. It is a loaded, 5/8 wave. It
> is the 9002.

Sorry, that one is not shown in the Worldradio
advertisement so I didn't know what it looked like.

> What is a stinger ? Are you referring to the stainless steel whip ?

Yes, the Lakeview web page says the 5/8WL is "Tunable
for other frequencies". My suggestion is to tune it
to the lowest frequency and measure that frequency.
Then tune it to the highest frequency and measure
that frequency. That should give enough information
to raise its resonant frequency by 7%.
--
73, Cecil http://www.w5dxp.com

1512. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-18 18:01:10 UTC
From: Arny Krueger <arnyk@hotpop.com>
Message-ID: <2pKdncWSpsfpCUXYnZ2dnUVZ_v6tnZ2d@comcast.com>
Source record: 45726
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

"Henry Kolesnik" <kolesnik@nojunksbcglobal.net> wrote in
message
news:oj0Ch.12273$gj4.11472@newssvr14.news.prodigy.net
> What's a good reasonably priced sound card that would be
> good for doing guitar waterfall, slab plots and FFTs and
> what software should I consider? Is there any good
> freeware or shareware?

If your system board is only 1-3 years old, the audio interface that is
built on it, makes a good starting point.

1513. Re: Trimming 2m 5/8 wave antenna for 156 mhz ???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-18 18:10:26 UTC
From: James <jnipperxxx@nospamfdn.com>
Message-ID: <8pOdncUL9tgPC0XYnZ2dnUVZ_qSrnZ2d@comcast.com>
Source record: 45727

Pretty good idea Cecil. Thanks !!

73 de Jim K4PYT

1514. Re: Very deep question regarding true polarization

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-18 20:47:46 UTC
From: Mike Lucas <w5chr@bellsouth.net>
Message-ID: <FZ2Ch.41442$I8.18854@bignews8.bellsouth.net>
Source record: 45728

"art" <aunwin@insightbb.com> wrote >>
big snip
> Wimpie I do like your style of debate even where some statements
> appear lacking in thought.
big snip
> Back to the subject. So in summation Faradays rotation is a subject of
> equilibrium and in
> his case refers to cosmic and where "curl " is a derivative thereof
> with respect to earth, which as you state will be shown in the E and H
> vector format. Hopefully you can follow all that and prove it for
> yourself with a vertical radiator design.
> Best Regards
> Art
>
Art: I have been working on my closed_mindedness, and feel that I will
make
significant improvement if you will provide me with enough hard data to
build a version of your magnificent antenna.
1. Has a physical version of your antenna been constructed?
2. I have sworn off of EZNEC, so I would need a copy of your antenna
model, in any commercially available computor (sic) program format..
3. I have access to aluminum in plate, tube, or foil form. Would I need
anything else?
4. What would be the best way to feed the array, so as to prevent
intermodial
dirfraction?
5. I can mount the main elements on some Milford trunnions that I have saved
for just such a project. Do you think that bipolar status is attainable?

Glad to see you doing so well.

Mike W5CHR
Memphis

1515. skyscraper grounds?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-18 21:00:23 UTC
From: ml <m@di.net>
Message-ID: <m-26152F.16001918022007@news.verizon.net>
Source record: 45729

hi

a friend of mine might get permission to put up an antenna or two on top of his apt building about 30 stories up mostly flat roof

the other buildings for a good distance are less than 6 stories

so i was wondering how do you protect something like that from lightning

even if he disconnects the rig from the antenna you've still got well over 100ft of coax with a lot of charge

there are no other antennas up there just a red flashing light ontop of the elevator room

what is typically done?

running a heavy cable to ground downside the buidling is out

i guess it wouldn't be 'code' to grab a electrical ground out of the elevator room, and i guess equally bad to tie into the steal girders in there

so how do the pro's do it??

1516. Re: Trimming 2m 5/8 wave antenna for 156 mhz ???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-18 21:05:29 UTC
From: philo <philo@privacy.net>
Message-ID: <koidnUJc86gVIkXYnZ2dnUVZ_hisnZ2d@athenet.net>
Source record: 45730
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

"John Doe" <hgorden@adelphia.net> wrote in message
news:fqqdnUBS_M9zykrYnZ2dnUVZ_sSmnZ2d@adelphia.com...
> Start trimming by 1/4 " at a time.

Yep...that's what I'd do

and when the SWR gets down to some reasonable level

stop trimming!

1517. Re: skyscraper grounds?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-18 21:24:37 UTC
From: chuck <nospam@nospam.org>
Message-ID: <1171833946_1377@sp6iad.superfeed.net>
Source record: 45731

ml wrote:
> hi
>
>
> a friend of mine might get permission to put up an antenna or two on top
> of his apt building about 30 stories up mostly flat roof
>
> the other buildings for a good distance are less than 6 stories
>
> so i was wondering how do you protect something like that from
> lightning
>
> even if he disconnects the rig from the antenna you've still got well
> over 100ft of coax with a lot of charge
>
>
> there are no other antennas up there just a red flashing light ontop
> of the elevator room
>
> what is typically done?
>
> running a heavy cable to ground downside the buidling is out
>
> i guess it wouldn't be 'code' to grab a electrical ground out of the
> elevator room, and i guess equally bad to tie into the steal girders
> in there
>
> so how do the pro's do it

The building has no lightning protection in place now?

-----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

1518. Re: skyscraper grounds?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-18 21:42:16 UTC
From: richardharrison@webtv.net
Message-ID: <22574-45D8C838-660@storefull-3258.bay.webtv.net>
Source record: 45732

ml wrote:
"A friend of mine might get permission to put up an antenna or two on top of his apt building about 30 stories up. mostly flat roof."

Likely the building already has air terminals (lightning rods) around its periphery. These probably are connected with heavy cable to the the steel skeleton of the building. If not, that is another story.

Your friend needs to directly ground his antennas to the same system as the air terminals for lightning protection.

Best regards, Richard Harrison, KB5WZI

1519. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-18 22:49:56 UTC
From: "videochas www.locoworks.com" <videochas@aol.com>
Message-ID: <1171838996.380059.193360@p10g2000cwp.googlegroups.com>
Source record: 45733
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

On Feb 18, 9:48 am, "Henry Kolesnik" <koles...@nojunksbcglobal.net>
wrote:
> What's a good reasonably priced sound card that would be good for doing
> guitar waterfall, slab plots and FFTs and what software should I
> consider? Is there any good freeware or shareware?
> tnx
>
> --
>
> 73
> Hank WD5JFR

Pardon my ignorance, but what is a"slab plot"? It sounds
architectural.

1520. Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-18 23:14:48 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1171840488.069684.81190@h3g2000cwc.googlegroups.com>
Source record: 45734

How does the Coreolis force differ from radiation "curl" and how does
a tv set made in the northern hemasphere compare in Australia
(southern hemisphere) with an Australian TV set ?

1521. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-18 23:20:51 UTC
From: Mike <vk6mo@iinet.net.au>
Message-ID: <45d8df5d$0$13737$5a62ac22@per-qv1-newsreader-01.iinet.net.au>
Source record: 45735

"art" <aunwin@insightbb.com> wrote in message
news:1171840488.069684.81190@h3g2000cwc.googlegroups.com...
> How does the Coreolis force differ from radiation "curl" and how does
> a tv set made in the northern hemasphere compare in Australia
> (southern hemisphere) with an Australian TV set ?
>

I don't know about the Coreolis force but most Aussie TV's are made in the
Northern hemisphere. In fact I don't think any TV's are made in Australia.

1522. Radiation Pattern Measurements

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 00:06:27 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <7S5Ch.268$4J4.220@trnddc01>
Source record: 45736

I have begun a project to try to record antenna radiation patterns of my antenna, using NOAA polar orbiting satellites as the illuminator. I am just starting to get data that shows the idea is feasible. The antenna constructed for 137 MHz, which is the satellite frequency. The received signal strength is recorded from the DC in the IF part of the receiver, so that is an S-Meter reading.
So far, I am able to get Excel to grind out "patterns" as a function of Time. When I get more precise, I'll relate Angle to Time so more meaningful plots can be drawn.

It is likely that this method of recording real radiation patterns has been done by someone, somewhere. I am now trying to understand how I can correct the data to account for the path loss, which can be as high as 12 dB.

My question is, does anyone know of anyone who has already done the math for supporting data acquisition like this "satellite illuminated pattern range". I'm running short on brain power.

Jerry

1523. Re: Resonating and Matching To A 476 MHz Yagi Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 00:51:55 UTC
From: Bob Bob <bob3bob3@suddenlink.net>
Message-ID: <bu8na4-u1l.ln1@p400bob.personal.cox.net>
Source record: 45737

Hi Ian

A folded dipole in free space is as you say close to 300 ohms. A folded dipole in a parasitic (eg yagi) array is reduced in Z in the same way that a "normal" dipole does in the same place. ie a 75 ohm FS dipole might get to 8 ohms with close spaced parasitic elements around it. In the same place a folded dipole would be reduced by the same factor. This means the feed Z is now around 36 ohms. You can also play with the respective diameters of the elements that go to make up the folded dipole to get a different Z transformation. I once built a 78Mhz device out of 3/4" vs 1/2" Cu pipe to get a feed Z of around 200 ohms - for a 4:1 balun to match...

You may also like to look at a complex impedance meter that uses tuned coax lengths. Gordon VK2ZAB (Now VK3 something) posted an updated design to Carl SM6MOM's original article - http://www.grantronics.com.au/docs Kind of hard to work out what's what. Just grab all the PDF's! It will tell you the whole feedpoint equation rather than having to fiddle with loose coupling a GDO.

Cheers Bob VK2YQA.

ian_chappel@hotmail.com wrote:

>
> Bob,
> Thank you for esponding to my questions, and apologis for my
> delay in responding.
>
> GDOs have their limitation as the coupling between the
> oscillator and resonant circuit
> causes the frequency to be pulled - a GDO with a frequency counter
> might be a very useful instrument.
>
> My main question about the use of a GDO is how high in
> frequency can a practical GDO get
> to in frequency and still oscillate, couple to a similar frequency
> resonant system and be able to observe a
> "dip".
> Your advice on coupling and matching to the antenna are
> excellent help, what I didn't understand
> was the impedence value at the folded driven element. Probably
> something from long ago, but I believed the
> impedence of a folded element was 300 ohms???
>
> Could you please explain what you meant by :-

>
>> "or maybe increase the number of
>> driven elements folded dipole style to get the Z up to 200 ohms. A yagi
>> feedpoint Z is going to be maybe 10-20r. One extra driven element
>> (simple folded dipole) will multiply that by 4 and a third element
>> another 4 times."
>
> In physical term I don't know what this means.
>
> An article that caught my attention recently that I will share
> with you is a cheap method
> for measuring complex impedance, it is at:-
> http://web.ukonline.co.uk/g3ldo/aegextra.htm
>
> Once more thanks for your help.
>
> Regards,
> Ian
>

1524. Re: skyscraper grounds?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 01:06:56 UTC
From: ml <m@di.net>
Message-ID: <m-228E8B.20065618022007@news.verizon.net>
Source record: 45738

In article <1171833946_1377@sp6iad.superfeed.net>,
chuck <nospam@nospam.org> wrote:

> ml wrote:
> > hi
> >
> >
> > a friend of mine might get permission to put up an antenna or two on top
> > of his apt building about 30 stories up mostly flat roof
> >
> > the other buildings for a good distance are less than 6 stories
> >
> > so i was wondering how do you protect something like that from
> > lightning
> >
> > even if he disconnects the rig from the antenna you've still got well
> > over 100ft of coax with a lot of charge
> >
> >
> > there are no other antennas up there just a red flashing light ontop
> > of the elevator room
> >
> > what is typically done?
> >
> > running a heavy cable to ground downside the buidling is out
> >
> > i guess it wouldn't be 'code' to grab a electrical ground out of the
> > elevator room, and i guess equally bad to tie into the steal girders
> > in there
> >
> > so how do the pro's do it
>
> The building has no lightning protection in place now?
>
<<<<>>i might have over looked the obvious, i didn't get to walk the
roof, but looking at it from the ground or building apartment to the
other building it's 1 of 2 buildings (twins) no obvious lightning rods
that i can see any place thou i can't totally see the roof

the only thing i can clearly see is 2 red lights on a short pole on the
wall of the elevator room

i'll certainly look for lightning protection if it's there great if not
i dunno

just seems to me a really really tall building out in the open, with
a ham antenna ontop can certainly get it's share of zaps

thanks all

1525. Re: skyscraper grounds?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 01:22:31 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <fruht2laq8jps3vg0u11t370vomchalaqi@4ax.com>
Source record: 45739

On Sun, 18 Feb 2007 21:00:23 GMT, ml <m@di.net> wrote:

>there are no other antennas up there just a red flashing light ontop
>of the elevator room

Hi Myles,

Your friend may stand getting static from the FAA if those red lights
are aeronautical warning lights. If so (and this is just a guess),
then he may be required to light up his mast (as well as paint it).

Checking with authorities might be warranted.

73's
Richard Clark, KB7QHC

1526. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 01:30:02 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1171848602.697769.36140@a75g2000cwd.googlegroups.com>
Source record: 45740

On 18 Feb, 15:20, "Mike" <v...@iinet.net.au> wrote:
> "art" <aun...@insightbb.com> wrote in message
>
> news:1171840488.069684.81190@h3g2000cwc.googlegroups.com...
>
> > > How does the Coreolis force differ from radiation "curl" and how does
> > > a tv set made in the northern hemasphere compare in Australia
> > > (southern hemisphere) with an Australian TV set ?
>
> > I don't know about the Coreolis force but most Aussie TV's are made in the
> > Northern hemisphere. In fact I don't think any TV's are made in Australia.

Mike I have now cleared the snow away so I have no excuse to day dream
while I get my strength back so I must now finish with this thread.
I pointed out earlier the relationships between curl and Faradays
rotation
where Faraday used a light and a electrical magnet to measure
polarization angle and where I connect it to curl is similar but time
variable related.
The corriolis forces are also connected but more specifically to the
earths magnetic field and where water revolves in different directions
depending on the hemisphere that you are in. With the television
addition I was looking at the magnetic yoke with the above in mind
which would suggest that what is in equilibrium in the northern
hemisphere would not be in equilibrium in the Southern hemisphere.
Since I know nothing about TVs that is all speculation on my part. Bye
Bye
Art

1527. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 02:30:59 UTC
From: FFF
Message-ID: <5i2it2l01i96dga6f311ip2jvdchkdc5sv@4ax.com>
Source record: 45741
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

On Sun, 18 Feb 2007 17:48:04 GMT, "Henry Kolesnik"
<kolesnik@nojunksbcglobal.net> wrote:

>What's a good reasonably priced sound card that would be good for doing
>guitar waterfall, slab plots and FFTs and what software should I
>consider? Is there any good freeware or shareware?
>tnx

Well, if you go to this site, you may find something interesting about
all that you are looking for.
This is a little bit much, . . But hey, with THX certification, it
is going to give you a punch.

http://www.creative.com/products/product.asp?category=1&subcategory=205&product=11226

1528. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 02:38:55 UTC
From: Henry Kolesnik <kolesnik@nojunksbcglobal.net>
Message-ID: <358Ch.59278$QU1.40818@newssvr22.news.prodigy.net>
Source record: 45742
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

Slab plots may not be the best term and it may be stack plots. Lets say
you have a plot of wave at time=o and another time=1 and so on. If you
stack these plots offset a bit using a transparent medium you can see
the wave as it decays over time. There's a good picture of this in the
Hewlett Packard catalog in the description of the HP 3561A. The folders
of Microsofts new Vista screen are a step in that direction.
hank
"videochas www.locoworks.com" <videochas@aol.com> wrote in message
news:1171838996.380059.193360@p10g2000cwp.googlegroups.com...
> On Feb 18, 9:48 am, "Henry Kolesnik" <koles...@nojunksbcglobal.net>
> wrote:
>> What's a good reasonably priced sound card that would be good for
>> doing
>> guitar waterfall, slab plots and FFTs and what software should I
>> consider? Is there any good freeware or shareware?
>> tnx
>>
>> --
>>
>> 73
>> Hank WD5JFR
>
> Pardon my ignorance, but what is a"slab plot"? It sounds
> architectural.
>

1529. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 04:14:11 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45d92006$0$5224$4c368faf@roadrunner.com>
Source record: 45743

"art" <aunwin@insightbb.com> wrote in message
news:1171848602.697769.36140@a75g2000cwd.googlegroups.com...
> On 18 Feb, 15:20, "Mike" <v...@iinet.net.au> wrote:
>> "art" <aun...@insightbb.com> wrote in message
>>
>> news:1171840488.069684.81190@h3g2000cwc.googlegroups.com...
>>
>> > How does the Coreolis force differ from radiation "curl" and how does
>> > a tv set made in the northern hemasphere compare in Australia
>> > (southern hemisphere) with an Australian TV set ?
>>
>> I don't know about the Coreolis force but most Aussie TV's are made in
>> the
>> Northern hemisphere. In fact I don't think any TV's are made in
>> Australia.
>
> Mike I have now cleared the snow away so I have no excuse to day dream
> while I get my strength back so I must now finish with this thread.
> I pointed out earlier the relationships between curl and Faradays
> rotation
> where Faraday used a light and a electrical magnet to measure
> polarization angle and where I connect it to curl is similar but time
> variable related.
> The corriolis forces are also connected but more specifically to the
> earths magnetic field and where water revolves in different directions
> depending on the hemisphere that you are in. With the television
> addition I was looking at the magnetic yoke with the above in mind
> which would suggest that what is in equilibrium in the northern
> hemisphere would not be in equilibrium in the Southern hemisphere.
> Since I know nothing about TVs that is all speculation on my part. Bye
> Bye
> Art
>

Left hand rule is the same in both hemispheres.

1530. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 04:35:38 UTC
From: "David Morgan (MAMS)" <findme@m-a-m-s.comC/Odm>
Message-ID: <uO9Ch.713$CG5.124@trnddc03>
Source record: 45744
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

"Henry Kolesnik" <kolesnik@nojunksbcglobal.net> wrote in message
news:oj0Ch.12273$gj4.11472@newssvr14.news.prodigy.net...
> What's a good reasonably priced sound card that would be good for doing
> guitar waterfall, slab plots and FFTs and what software should I
> consider? Is there any good freeware or shareware?
> tnx
>
> --
>
> 73
> Hank WD5JFR
>

RME

http://www.rme-audio.com/english/soundcds.htm

1531. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 11:11:16 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12tj1ep88h435b@corp.supernews.com>
Source record: 45745

In the southern hemisphere, the TV deflection yokes are wound in the opposite direction. This of course results in a reversal of the normal flow of current through the gun assembly. While in the northern hemisphere, the CRT contains three "electron guns" which shoot electrons toward the phosphor screen, in Australia they use a TRC which has three "hole targets" instead. The screen emits holes which are deflected by the anti-yoke, or ekoy, and routed to the appropriate color hole target. The hole targets are, of course, magenta, cyan, and yellow rather than red, green, and blue as they are in the northern hemisphere, and their filaments must be cooled rather than heated.

The scan lines in the southern hemisphere also proceed from right to left, bottom to top, but that's another topic. . .

An' that's nothin' but the dinkum truth, mate!

Roy Lewallen, W7EL

art wrote:
> On 18 Feb, 15:20, "Mike" <v...@iinet.net.au> wrote:
>> "art" <aun...@insightbb.com> wrote in message
>>
>> news:1171840488.069684.81190@h3g2000cwc.googlegroups.com...
>>
>>> How does the Coreolis force differ from radiation "curl" and how does
>>> a tv set made in the northern hemasphere compare in Australia
>>> (southern hemisphere) with an Australian TV set ?
>> I don't know about the Coreolis force but most Aussie TV's are made in the
>> Northern hemisphere. In fact I don't think any TV's are made in Australia.
>
> Mike I have now cleared the snow away so I have no excuse to day dream
> while I get my strength back so I must now finish with this thread.
> I pointed out earlier the relationships between curl and Faradays
> rotation
> where Faraday used a light and a electrical magnet to measure
> polarization angle and where I connect it to curl is similar but time
> variable related.
> The corriolis forces are also connected but more specifically to the
> earths magnetic field and where water revolves in different directions
> depending on the hemisphere that you are in. With the television
> addition I was looking at the magnetic yoke with the above in mind
> which would suggest that what is in equilibrium in the northern
> hemisphere would not be in equilibrium in the Southern hemisphere.
> Since I know nothing about TVs that is all speculation on my part. Bye
> Bye

> Art
>

1532. Re: Antenna Modeling Software

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 11:34:53 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12tj2r1dn5rhoea@corp.supernews.com>
Source record: 45746

Frank's wrote:
>>. . .
>> Its my understanding that the author of EZNEC hangs out in this group, I
>> wish he would put his 2 cents in also.

Sorry, I've been otherwise occupied lately.

Also, I don't generally comment in threads asking for software recommendations except occasionally to answer a factual question or correct the rare factually false statement, because the poster wants and should get unbiased opinions from users rather than the invariably biased opinions from developers and sellers.

As you can see from the responses, there are many choices, each with advantages and disadvantages, and the same choice isn't best for everyone. The only comment I'll make about EZNEC here is that anyone who does purchase it and isn't completely satisfied will get a prompt and full refund.

I do, however, believe very strongly in the power of computer modeling in general, and will readily recommend that anyone interested in learning more about antennas get some sort of modeling program.

Roy Lewallen, W7EL

1533. Re: Antenna Axial Ratio RHCP LHCP

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 11:57:17 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12tj450q8erp3d4@corp.supernews.com>
Source record: 45747

Bobby wrote:
> All,
>
> How do you determine the axial ratio from a RHCP wave to a LHCP wave
> from an antenna? In essence, I need an axial ratio transformation from
> RHCP to LHCP.
>
> Any ideas on the equation or where I can find it will be helpful.

That's an easy one.

The axial ratio of a purely RHCP wave is 1. The axial ratio of a purely LHCP wave is 1. The transformation would be 1 = 1.

Roy Lewallen, W7EL

1534. Re: Queston on Yagi Antennae

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 12:06:54 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12tj4n2cc0gn542@corp.supernews.com>
Source record: 45748

Here's why some of the TV antenna elements are V shaped, and you can verify this with your EZNEC in a couple of minutes:

Take a 40 meter dipole and excite it on 15 meters. You'll find you get a cloverleaf pattern. Now bend each of the arms 30 degrees to form a vee with 120 degree included angle. You'll see that the lobes in the cloverleaf now line up to make a bidirectional pattern. The pattern on 40 meters isn't changed much by this modification. So you can make an effective 40/15 meter bidirectional antenna using this technique. (I've done it. Works great -- as long as the stations you want to talk to are in line with the lobes.)

The upper TV channels are approximately three times the frequency of the lower ones, just like 40 and 15 meters. So the same trick is used for TV antennas, making some elements do double duty.

This is, by the way, the principle behind the vee beam. As you make the dipole longer and longer, the lobes point more and more away from the center and toward the end. So you have to bend the antenna at more and more of an angle to get them to line up. This is where the graph showing optimum angle vs vee beam leg length comes from.

Roy Lewallen, W7EL

AndyS wrote:
> Andy writes;
>
> I know I could go to my EZNEC and find this out for myself,
> but I figure someone here has already done this and a quick
> answer is all I need..
>
> In "normal" Yagi antennae, the elements are parallel
> and at 90 degrees to the mounting boom.
>
> In some TV antennae, the elements are at an angle to the
> mounting boom, slanted in the direction of the station being
> received. Otherwise, they look pretty much like a Yagi.
>
> My question is, what effect does "slanting" the elements
> forward have on the impedance, and the pattern ?
>
> [[[[[[< < < < <
>
> Normal Yagi Slanted Yagi
>
>

> Thanks in advance for the meaningful answers..
>
> Andy W4OAH
>

1535. Re: Is the toroid on CRT monitor cables good for any ham-thing?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 12:34:10 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1171888450.238422.213170@s48g2000cws.googlegroups.com>
Source record: 45749

In "Experimental Methods in RF design" they are cited as an excellent source of toroids for oscillator coils with a call out for the number of turns on a specific oscillator...

denny / k8do

1536. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 14:06:30 UTC
From: NoSpam@daqarta.com
Message-ID: <45d9ad82.1201022@news.sysmatrix.net>
Source record: 45750
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

On Sun, 18 Feb 2007 17:48:04 GMT, "Henry Kolesnik"
<kolesnik@nojunksbcglobal.net> wrote:

>What's a good reasonably priced sound card that would be good for doing
>guitar waterfall, slab plots and FFTs and what software should I
>consider? Is there any good freeware or shareware?
>tnx
>

Can't help you with the slab plots or waterfalls,
but my Daqarta shareware has color spectrograms,
as well as spectra and waveform displays, signal
averaging, signal generation, etc.

FFT size is 1024 points, so you won't be able to use
this for tuning your guitar, if that's what you had in mind.
I'm in the process of adding a high-resolution
FFT peak position interpolator that might or might not
help that... it won't separate close peaks, though.

I'd be glad to answer any questions.

Best regards,

Bob Masta

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Science with your sound card!

1537. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 15:09:25 UTC
From: RST Engineering <jim@rstengineering.com>
Message-ID: <Y4jCh.2$Jq.170144@news.sisna.com>
Source record: 45751

Oh, nicely done, sir, nicely done !!!

Jim

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:12tj1ep88h435b@corp.supernews.com...
>
> An' that's nothin' but the dinkum truth, mate!
>
> Roy Lewallen, W7EL

1538. Non-ham antenna help req., plz?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 15:46:06 UTC
From: kelvin_cool_ohm <kelvin_cool_ohm@noemail.invalid>
Message-ID: <Xns98DC6D8D18A68kelvincoolohmnoemail@127.0.0.1>
Source record: 45752

I am trying to build one of those "booster" loops similar to
the ones that people use to position near an A.M. radio to
improve reception, BUT I'm wanting mine to work at 433 MHz!
Can any of you folks point me to some library or internet
resources that would describe optimum loop geometry and size?
Also, where to find the tuning capacitor that matches?

TIA

1539. Re: Non-ham antenna help req., plz?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 16:24:47 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1171902287.663998.89440@j27g2000cwj.googlegroups.com>
Source record: 45753

On Feb 19, 7:46 am, "kelvin_cool_ohm"
<kelvin_cool_...@noemail.invalid> wrote:
> I am trying to build one of those "booster" loops similar to
> the ones that people use to position near an A.M. radio to
> improve reception, BUT I'm wanting mine to work at 433 MHz!
> Can any of you folks point me to some library or internet
> resources that would describe optimum loop geometry and size?
> Also, where to find the tuning capacitor that matches?
>
> TIA

Loop antennas of the sort used for 2MHz and below are of a different nature than a loop that would be used for 433MHz, generally. That is, low frequency receiving loops are generally a small fraction of a wavelength across (like commonly less than 1/100th), but at 433MHz, a loop that would be worthwhile is generally going to be a large fraction of the 27-inch wavelength of that frequency. The behaviour of the loop will be different than the AM broadcast ones. I suspect you will do better with a different external antenna. What sort of receiver will you use it with? Does that receiver have a connector for an external antenna? Could you put the antenna higher up in the air, and run an antenna lead to the receiver? Exactly what are you trying to accomplish? If the only thing you are trying to do is make an accessory that looks cool, the dimensions don't matter, but if your goal is to receive some specific signals you're now having trouble with, let us know a bit more about that problem and we can perhaps offer some suggestions.

Cheers,
Tom

1540. Re: skyscraper grounds?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 17:22:04 UTC
From: Jake Brodsky <ab3a@cNo0mScPaAsMt.net>
Message-ID: <tqydnep1364gQUTYnZ2dnUVZ_t-mnZ2d@comcast.com>
Source record: 45754

ml wrote:
> so how do the pro's do it??

The steel structure of the sky scraper is one of the best grounds you could have. It is effectively a Faraday shield around everything.

You ought to find out where the ground connections for the existing lighting rods are and use that. If there are no lightning rods around (shudder) find some structural steel close to your antenna, and bug (clamp) on to it. I would also suggest following an electrical panel ground around to see where its ground is. They too ought to be on building steel.

Good Luck!

Jake Brodsky
Amateur Radio Station AB3A

1541. Re: delay line? velocity factor???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 17:52:05 UTC
From: james <james27613@yahoo.com>
Message-ID: <45D9E3C5.5FFA75B8@yahoo.com>
Source record: 45755

Adm. Hooper would bring her wires with her
when she was a guest on the Tonight show with Johnny Carson.

Adm Grace Murray Hooper, a pioneer in practical computing,
and the first woman admiral in the U.S. Navy.

> >
> In the early days of computers they used to use a length of wire as
> temporary memory. At the start of a store cycle a piece of data would be
> input to the wire, after a period of time the data would come out and be
> placed into the computation.
> Admiral Grace Hopper used to give an example of time and delay in her
> speeches. She would say that one day she called down to the computer
> department and asked for a micro second. They sent her 1000 feet of
> wire. She then called down and asked for a nanosecond, they sent her one
> foot of wire. No point to this just a good story.
>
> Dave N

1542. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 17:54:27 UTC
From: Henry Kolesnik <kolesnik@nojunksbcglobal.net>
Message-ID: <mvlCh.59334$QU1.336@newssvr22.news.prodigy.net>
Source record: 45757
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

Bob
I sent an eamil to your site and asked them to send it to you becasue I
couldn't figure your address.

--

73
Hank WD5JFR
"Bob Masta" <NoSpam@daqarta.com> wrote in message
news:45d9ad82.1201022@news.sysmatrix.net...
> On Sun, 18 Feb 2007 17:48:04 GMT, "Henry Kolesnik"
> <kolesnik@nojunksbcglobal.net> wrote:
>
>>What's a good reasonably priced sound card that would be good for
>>doing
>>guitar waterfall, slab plots and FFTs and what software should I
>>consider? Is there any good freeware or shareware?
>>tnx
>>
>
> Can't help you with the slab plots or waterfalls,
> but my Daqarta shareware has color spectrograms,
> as well as spectra and waveform displays, signal
> averaging, signal generation, etc.
>
> FFT size is 1024 points, so you won't be able to use
> this for tuning your guitar, if that's what you had in mind.
> I'm in the process of adding a high-resolution
> FFT peak position interpolator that might or might not
> help that... it won't separate close peaks, though.
>
> I'd be glad to answer any questions.
>
> Best regards,
>
>
>
>
> Bob Masta
>
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> www.daqarta.com

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1543. Re: skyscraper grounds?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 17:54:39 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns98DC64CF48EBFdoldridgsprintca@64.59.135.159>
Source record: 45756

chuck <nospam@nospam.org> wrote in
news:1171833946_1377@sp6iad.superfeed.net:

> ml wrote:
>> hi
>>
>>
>> a friend of mine might get permission to put up an antenna or two on
>> top of his apt building about 30 stories up mostly flat roof
>>
>> the other buildings for a good distance are less than 6 stories
>>
>> so i was wondering how do you protect something like that from
>> lightning
>>
>> even if he disconnects the rig from the antenna you've still got
>> well over 100ft of coax with a lot of charge
>>
>>
>> there are no other antennas up there just a red flashing light
>> ontop of the elevator room
>>
>> what is typically done?
>>
>> running a heavy cable to ground downside the buidling is out
>>
>> i guess it wouldn't be 'code' to grab a electrical ground out of
>> the elevator room, and i guess equally bad to tie into the steal
>> girders in there
>>
>> so how do the pro's do it
>
> The building has no lightning protection in place now?

Even if it does, this antenna is likely to protrude above its zone.

--
Dave Oldridge+
ICQ 1800667

1544. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 18:34:50 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <98rjt2tmesscthi5jk8s8knorfavn7ld3g@4ax.com>
Source record: 45758
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

On Mon, 19 Feb 2007 14:06:30 GMT, NoSpam@daqarta.com (Bob Masta)
wrote:

>FFT size is 1024 points, so you won't be able to use
>this for tuning your guitar, if that's what you had in mind.

Hi Bob,

Why not? 1024 points (bins) has enough resolution to shake out every
note on a Hawaiian slide guitar. The only care is selecting the
sampling rate and most FFT packages should be able to resolve
exceedingly fine.

73's
Richard Clark, KB7QHC

1545. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 19:03:28 UTC
From: KC4UAI <kc4uai@gmail.com>
Message-ID: <1171911808.775195.120620@a75g2000cwd.googlegroups.com>
Source record: 45759

On Feb 18, 5:14 pm, "art" <aun...@insightbb.com> wrote:
> How does the Coreolis force differ from radiation "curl" and how does
> a tv set made in the northern hemasphere compare in Australia
> (southern hemisphere) with an Australian TV set ?

http://en.wikipedia.org/wiki/Coriolis_effect

Um... The effect you are talking about doesn't have anything to do with the relationship between magnetic fields and electric fields. It has to do with the difference in surface speeds between the poles and the equator and how that difference interacts with various fluids. In the Northern Hemisphere as these fluids move southward, they will be seen to swing to the west because the earth is spinning towards the east under them.

So... If one had a US TV in Australia, then it would work exactly like it did in the US. (Voltage, frequency and video format aside.)

-= KC4UAI =-

1546. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 20:08:14 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <TsnCh.20$oe.69701@news.sisna.com>
Source record: 45760

art wrote:
> How does the Coreolis force differ from radiation "curl" and how does
> a tv set made in the northern hemasphere compare in Australia
> (southern hemisphere) with an Australian TV set ?
>

In the NORTHERN HEMISPHERE...
The LAND moves COUNTERCLOCKWISE around the North Pole.
Air flows COUNTERCLOCKWISE around a LOW pressure zone.
Air flows CLOCKWISE around a HIGH pressure zone.

In the SOUTHERN HEMISPHERE...
The LAND moves CLOCKWISE around the South Pole.
Air flows CLOCKWISE around a LOW pressure zone.
Air flows COUNTERCLOCKWISE around a HIGH pressure zone.

... similar effects are also noted in magnetic phenomenon and
objects/properties affected by magnetic properties.

I know of no complete studies which have reached any conclusive ends in
the directions you seem to suggest. Most likely, not enough is known yet.

JS

1547. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 21:16:29 UTC
From: Henry Kolesnik <kolesnik@nojunksbcglobal.net>
Message-ID: <NsoCh.59361$QU1.47553@newssvr22.news.prodigy.net>
Source record: 45761
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

There's a good example of a 3D plot here:
http://www.spectraplus.com/screenshots.html#3d
Has anyone used this software?
tnx

--

73
Hank WD5JFR
"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:98rjt2tmesscthi5jk8s8knorfavn7ld3g@4ax.com...
> On Mon, 19 Feb 2007 14:06:30 GMT, NoSpam@daqarta.com (Bob Masta)
> wrote:
>
>>FFT size is 1024 points, so you won't be able to use
>>this for tuning your guitar, if that's what you had in mind.
>
> Hi Bob,
>
> Why not? 1024 points (bins) has enough resolution to shake out every
> note on a Hawaiian slide guitar. The only care is selecting the
> sampling rate and most FFT packages should be able to resolve
> exceedingly fine.
>
> 73's
> Richard Clark, KB7QHC

1548. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 21:27:44 UTC
From: KC4UAI <kc4uai@gmail.com>
Message-ID: <1171920464.133280.233960@j27g2000cwj.googlegroups.com>
Source record: 45762

On Feb 19, 2:08 pm, John Smith I <assemblywiz...@gmail.com> wrote:

> ... similar effects are also noted in magnetic phenomenon and
> objects/properties affected by magnetic properties.
>

Yes, but they don't change direction.. The relationship between a traveling electric field and associated magnetic field are still related by a vector cross product that does not change no matter where you are on the earth's surface or in space, (Einstein and Hawking's black hole theories aside.) This means that a beam of electrons will be deflected exactly the same way by the same magnetic field no matter where you are and your TV will work the same way at the north pole, Amundsen-Scott Station and everywhere in between.

1549. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 21:52:25 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1171921945.016408.38120@v45g2000cwv.googlegroups.com>
Source record: 45763

On 19 Feb, 13:27, "KC4UAI" <kc4...@gmail.com> wrote:
> On Feb 19, 2:08 pm, John Smith I <assemblywiz...@gmail.com> wrote:
>
> > ... similar effects are also noted in magnetic phenomenon and
> > objects/properties affected by magnetic properties.
>
> Yes, but they don't change direction.. The relationship between a
> traveling electric field and associated magnetic field are still
> related by a vector cross product that does not change no matter where
> you are on the earth's surface or in space, (Einstein and Hawking's
> black hole theories aside.) This means that a beam of electrons will
> be deflected exactly the same way by the same magnetic field no matter
> where you are and your TV will work the same way at the north pole,
> Amundsen-Scott Station and everywhere in between.

Oh my !! We are but one little part of the Universe all of which is
in equilibrium with each other. If everything turned the same way I
suspect you would fly off your handle as equilibrium would be lost
Don't tempt fate or Harvard will take their diploma back
Art

1550. Field strength - S plane summation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 21:56:17 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98DD5AEC6A32Fnonenowhere@61.9.191.5>
Source record: 45764

I am looking for reference information for summation of field strength measurements in x, z and z planes to the so called s-plane summation.

Does anyone have any pointers?

Thanks
Owen

1551. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 21:59:43 UTC
From: Arny Krueger <arnyk@hotpop.com>
Message-ID: <YqWdnQv3E7NSgEfYnZ2dnUVZ_tyinZ2d@comcast.com>
Source record: 45765
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

"Henry Kolesnik" <kolesnik@nojunksbcglobal.net> wrote in
message
news:NsoCh.59361$QU1.47553@newssvr22.news.prodigy.net
> There's a good example of a 3D plot here:
> http://www.spectraplus.com/screenshots.html#3d
> Has anyone used this software?

Yes, but not for exactly that purpose.

Here's a sample of my usage of Spectra:

http://www.pcavtech.com/soundcards/lynxtwo/

1552. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 22:00:14 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1171922414.873337.176460@q2g2000cwa.googlegroups.com>
Source record: 45766

On 19 Feb, 13:52, "art" <aun...@insightbb.com> wrote:
> On 19 Feb, 13:27, "KC4UAI" <kc4...@gmail.com> wrote:
>
> > On Feb 19, 2:08 pm, John Smith I <assemblywiz...@gmail.com> wrote:
>
> > > ... similar effects are also noted in magnetic phenomenon and
> > > objects/properties affected by magnetic properties.
>
> > Yes, but they don't change direction.. The relationship between a
> > traveling electric field and associated magnetic field are still
> > related by a vector cross product that does not change no matter where
> > you are on the earth's surface or in space, (Einstein and Hawking's
> > black hole theories aside.) This means that a beam of electrons will
> > be deflected exactly the same way by the same magnetic field no matter
> > where you are and your TV will work the same way at the north pole,
> > Amundsen-Scott Station and everywhere in between.
>
> Oh my !! We are but one little part of the Universe all of which is
> in equilibrium with each other. If everything turned the same way I
> suspect you would fly off your handle as equilibrium would be lost
> Don't tempt fate or Harvard will take their diploma back
> Art

1553. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 22:03:31 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1171922611.081879.165360@t69g2000cwt.googlegroups.com>
Source record: 45767

On 19 Feb, 13:52, "art" <aun...@insightbb.com> wrote:
> On 19 Feb, 13:27, "KC4UAI" <kc4...@gmail.com> wrote:
>
> > On Feb 19, 2:08 pm, John Smith I <assemblywiz...@gmail.com> wrote:
>
> > > ... similar effects are also noted in magnetic phenomenon and
> > > objects/properties affected by magnetic properties.
>
> > Yes, but they don't change direction.. The relationship between a
> > traveling electric field and associated magnetic field are still
> > related by a vector cross product that does not change no matter where
> > you are on the earth's surface or in space, (Einstein and Hawking's
> > black hole theories aside.) This means that a beam of electrons will
> > be deflected exactly the same way by the same magnetic field no matter
> > where you are and your TV will work the same way at the north pole,
> > Amundsen-Scott Station and everywhere in between.
>
> Oh my !! We are but one little part of the Universe all of which is
> in equilibrium with each other. If everything turned the same way I
> suspect you would fly off your handle as equilibrium would be lost
> Don't tempt fate or Harvard will take their diploma back
> Art

If an Aussi stepped in some deep mud and sank thru all the way
to the U.S his feet would come out first and you want him to
demonstrate the right hand rule while standing on his head !!!!
Art

1554. Re: Parelectronics OA144 antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 22:06:03 UTC
From: Dale Parfitt <par@parelectronics.com>
Message-ID: <fbpCh.1262$XT.885@trnddc06>
Source record: 45768

"Adam 9A4QV" <adam9a4qv@yahoo.com> wrote in message
news:er9h6v$s11$1@ss408.t-com.hr...
> Hello,
>
> Does anybody have a phisical dimensions of OA144 antenna (2m version).
> There is a manual on the Parelectronics web page but without dimensions.
> Another important thing is matching system in the closed box together with
> current balun?
> The idea is to duplicate antenna but with more robust design to meet
> requirements for beacon 144 mhz antenna.
> All informations are welcome.
>
> Thanks
> Adam, 9a4qv
>
>
Hi Adam,
The OA-144's have survived 130MPH winds in Puerto Rico and many years of
mobile service in Alaska.

73,
Dale W4OP
for PAR Electronics, Inc.
>

1555. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 22:08:54 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <7o6kt2tdhlhdded5f6b1u8fc9v06u073vv@4ax.com>
Source record: 45769
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

On Mon, 19 Feb 2007 15:16:29 -0600, "Henry Kolesnik"
<kolesnik@nojunksbcglobal.net> wrote:

>There's a good example of a 3D plot here:
>http://www.spectraplus.com/screenshots.html#3d
>Has anyone used this software?

Hi Hank,

Yes, I have. It is exceedingly expensive, but you can probably get 30
days of free use if you have a one-time knock off project. Of course,
it may take 30 days to figure it out.

FFT analyzers are a dime a dozen, but few know how to use them
accurately - or are even aware of what can be done with them. Bob's
complaint, notwithstanding, a 1024 bin FFT employing the proper mixing
inputs can resolve any note on a guitar to within hundredths of a
cycle. I am sure this is of no interest to you, however.

What are you trying to measure? The dime a dozen analyzers (meaning
free, or packaged with other software) can do enough if you are not
particularly demanding.

73's
Richard Clark, KB7QHC

1556. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 22:23:32 UTC
From: Arny Krueger <arnyk@hotpop.com>
Message-ID: <rO-dnRWbM4vCvkfYnZ2dnUVZ_qemnZ2d@comcast.com>
Source record: 45770
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:7o6kt2tdhlhdded5f6b1u8fc9v06u073vv@4ax.com
> On Mon, 19 Feb 2007 15:16:29 -0600, "Henry Kolesnik"
> <kolesnik@nojunksbcglobal.net> wrote:
>
>> There's a good example of a 3D plot here:
>> http://www.spectraplus.com/screenshots.html#3d
>> Has anyone used this software?
>
> Hi Hank,
>
> Yes, I have. It is exceedingly expensive, but you can
> probably get 30 days of free use if you have a one-time
> knock off project. Of course, it may take 30 days to
> figure it out.
>
> FFT analyzers are a dime a dozen, but few know how to use
> them accurately - or are even aware of what can be done
> with them. Bob's complaint, notwithstanding, a 1024 bin
> FFT employing the proper mixing inputs can resolve any
> note on a guitar to within hundredths of a cycle. I am
> sure this is of no interest to you, however.

Over the years, the most useful FFT software I've had, is the (fairly
simple) FFT analyzer in Audition/CEP. It's big plus is the ability to use
the Audition/CEP audio editor to select portions of real-world waveforms,
and to use the wave generation and modification features to create waves for
use in analysis and testing.

1557. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 22:29:39 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <dxpCh.25$If.91226@news.sisna.com>
Source record: 45771

KC4UAI wrote:
> On Feb 19, 2:08 pm, John Smith I <assemblywiz...@gmail.com> wrote:
>
>> ... similar effects are also noted in magnetic phenomenon and
>> objects/properties affected by magnetic properties.
>>
>
> Yes, but they don't change direction.. The relationship between a
> traveling electric field and associated magnetic field are still
> related by a vector cross product that does not change no matter where
> you are on the earth's surface or in space, (Einstein and Hawking's
> black hole theories aside.) This means that a beam of electrons will
> be deflected exactly the same way by the same magnetic field no matter
> where you are and your TV will work the same way at the north pole,
> Amundsen-Scott Station and everywhere in between.
>
>

Oxygen molecules are ever slightly magnetic ... one-third of waters composition is oxygen molecules.

When you pull the plug in your sink, in the northern hemisphere the "whirlpool" which forms spins in one direction, in the southern hemisphere the opposite direction (this computed on an average, or, force/contrivance can be applied to change the direction of normal spin.)

I know of NO ONE who claims to know FOR CERTAIN, EXACTLY why, this happens or is able to offer conclusive proof ... to say more would only be guessing. To say the previous in any other manner would suggest more is known than actually is ... that is simply all which IS "known."

One can extrapolate upon the above and venture guesses/theories, caution should be used when doing so.

JS

1558. Re: skyscraper grounds?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 22:31:17 UTC
From: Dave <noone@nowhere.com>
Message-ID: <VypCh.6395$am1.6367@trndny01>
Source record: 45772

"ml" <m@di.net> wrote in message
news:m-26152F.16001918022007@news.verizon.net...
> hi
>
>
> a friend of mine might get permission to put up an antenna or two on top
> of his apt building about 30 stories up mostly flat roof
>
> the other buildings for a good distance are less than 6 stories
>
> so i was wondering how do you protect something like that from
> lightning

you don't. you add proper arresters and connect to the existing building ground to handle the inevitable direct strokes. and don't do it on the cheap or he may be liable for damage to lots of other stuff when the lightning follows his transmission line into the otherwise safe building.

1559. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 22:35:46 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <a79kt2tftdi93101vnonn4qvgbh8go39dt@4ax.com>
Source record: 45774
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

On Mon, 19 Feb 2007 17:23:32 -0500, "Arny Krueger" <arnyk@hotpop.com>
wrote:

>Over the years, the most useful FFT software I've had, is the (fairly
>simple) FFT analyzer in Audition/CEP. It's big plus is the ability to use
>the Audition/CEP audio editor to select portions of real-world waveforms,
>and to use the wave generation and modification features to create waves for
>use in analysis and testing.

Hi Arny,

I am sure this is an useful tool, but without windowing the data, any
semblance to reasonable analysis is a house built on sand. I note in
your provided link to work you have done that you use Blackman
exclusively. This is at least a good first pass to achieving an
analysis, but any variety of work is going to be more demanding (the
Blackman window has its limitations), otherwise it is like looking
through glasses smeared with Vaseline.

73's
Richard Clark, KB7QHC

1560. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 22:37:19 UTC
From: Dave <noone@nowhere.com>
Message-ID: <zEpCh.5004$lo1.4362@trndny05>
Source record: 45773

"art" <aunwin@insightbb.com> wrote in message
news:1171840488.069684.81190@h3g2000cwc.googlegroups.com...
> How does the Coreolis force differ from radiation "curl" and how does
> a tv set made in the northern hemasphere compare in Australia
> (southern hemisphere) with an Australian TV set ?
>

radiation doesn't curl, fields do, and coreolis force is ficticious, you can counteract it by placing your canoe paddles at right angles to the direction of motion as you circle a whirlpool in your boat. as for tv's, everyone knows that you have to reverse the magnitization on tv's when you cross the equator, if you don't all the colors come out wrong and the pictures are all upside down.

1561. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-19 23:21:20 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98DD695794EAAnonenowhere@61.9.191.5>
Source record: 45775

"Dave" <noone@nowhere.com> wrote in news:zEpCh.5004$lo1.4362@trndny05:

> for tv's, everyone knows that you have to reverse the magnitization on
> tv's when you cross the equator, if you don't all the colors come out
> wrong and the pictures are all upside down.

You can't rick Art like that, he will be well aware that we in the southern hemisphere are upside down relative to you guys, so compensating for the effect you describe.

Owen

1562. Re: delay line? velocity factor???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 00:37:21 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <sufkt2pu3k3u9btipbbsfds89htaevh792@4ax.com>
Source record: 45626

>In the early days of computers they used to use a length of wire as
>temporary memory. At the start of a store cycle a piece of data would be
>input to the wire, after a period of time the data would come out and be
>placed into the computation.
>Admiral Grace Hopper used to give an example of time and delay in her
>speeches. She would say that one day she called down to the computer
>department and asked for a micro second. They sent her 1000 feet of
>wire. She then called down and asked for a nanosecond, they sent her one
>foot of wire. No point to this just a good story.
>
>Dave N
The delay lines I encountered at IBM that were used for storage were
"sonic" delay lines. They were driven in a torsion mode (mechanical)
and were very reliable up to about 10 milliseconds(I think!) of data.
Above that they began to be temperamental and required constant
temperature ovens. The larger ones were used as video storage with a
screen of data in each instance.

Delay lines running at light speed (about a NS per ft) were used as
clock generators by inputting a pulse and tapping the line down stream
for a very stable clock sequence.

John Ferrell W8CCW

1563. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 01:03:20 UTC
From: Henry Kolesnik <kolesnik@nojunksbcglobal.net>
Message-ID: <tNrCh.59384$QU1.6999@newssvr22.news.prodigy.net>
Source record: 45627
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

Amy, Bob, Richard
Thanks for your response and interest. I'm retired used to be an
engineer
before management laid waste to that. I've started taking weekly guitar
lessons over a year ago and slowly getting a bit better. It's a hell
of a challenge at 66. I want
to buy a better guitar and all guitars don't sound the same, even the
same model. One shouldn't expect them to because they're all made from
different cuts of wood and assembled by human hands. What amazed me is
that the materials used for the nut, neck, saddle and bridge as well as
the mfg and age of the strings have a noticeable effect on the sound.
The bridge pins, angle of the strings out of the bridge pin holes and
tuners also have effects.
In the last year I found at least four guitars that I really liked, 3
used ones and a new one all over a $1000.00 but I passed because I'm not
that impulsive or flush with cash. A good player can make just about
any guitar sound good, or a hell of a lot better than me.
I'm into ham radio also and last year at hamfest I traded for an HP
3582A spectrum analyzer but the learning curve is a bit steep for me.
So unless I can find an experienced user or devote much more time to it
I'm going to have to trade it.
Last week I won an HP 3561A on ePay but it has a problem that I hope I
can fix. In the meantime I thought it might make sense to scope out
sound cards and related software. I know a lot of hams use sound cards
for various & different applications and it's about time I took a wack
at one and what better way than trying to figure out what it is that
makes one guitar sound so much better than another. Or if changing the
nut, saddle or bridge pins really improves the sound or is it just
wishful thinking.
And I can make use of it for ham radio weak signal detection and
analysis.
I used a term; slab diagrams which may be known as stack diagrams. I'm
interested in watching a plucked and later chords as they decay over
time in sort of a 3D plot. There's a good example of what I'm looking
for in the HP catalog describing the HP 3561A.
tnx

73
Hank WD5JFR

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:7o6kt2tdhlhdded5f6b1u8fc9v06u073vv@4ax.com...
> On Mon, 19 Feb 2007 15:16:29 -0600, "Henry Kolesnik"

> <kolesnik@nojunksbcglobal.net> wrote:
>
>>There's a good example of a 3D plot here:
>>http://www.spectraplus.com/screenshots.html#3d
>>Has anyone used this software?
>
> Hi Hank,
>
> Yes, I have. It is exceedingly expensive, but you can probably get 30
> days of free use if you have a one-time knock off project. Of course,
> it may take 30 days to figure it out.
>
> FFT analyzers are a dime a dozen, but few know how to use them
> accurately - or are even aware of what can be done with them. Bob's
> complaint, notwithstanding, a 1024 bin FFT employing the proper mixing
> inputs can resolve any note on a guitar to within hundredths of a
> cycle. I am sure this is of no interest to you, however.
>
> What are you trying to measure? The dime a dozen analyzers (meaning
> free, or packaged with other software) can do enough if you are not
> particularly demanding.
>
> 73's
> Richard Clark, KB7QHC

1564. Re: delay line? velocity factor???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 01:42:58 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12tkkh6n7us4v19@corp.supernews.com>
Source record: 45628

A feature of the '50s-era radars I worked on in the '60s was MTI, or moving target indication. It was done simply by subtracting the return from the previous pulse from the current one and displaying only things which had changed. This was done to reduce clutter from fixed objects, and it was effective against some jamming techniques. Doing something like that is trivial today, but it wasn't back then. The pulse repetition time of the long-range radars was over 2 ms (round trip time for 400 miles or so), so a delay of that time with a bandwidth of a few MHz was required.

The sets I worked on used a large piezoelectric quartz slab with many faces, and transducers on two of the faces. One transducer would convert the electrical signal to a mechanical wave which would enter the slab, bounce around from one face to another, until at the right time it would hit a face below the critical angle and exit. And that face was, of course, where the other transducer was. To keep the timing precise, the slab was used to control the radar pulse interval.

Not long before I was involved, a mercury delay line was used. This was a tube of mercury with a transducer at each end, and a mechanical wave was sent from one end to the other. I never saw one, but heard many stories about how fussy they were and that it would take hours or days for waves to settle if it was bumped or jiggled. Folks who had dealt with them considered the quartz delay line to be a big improvement.

Roy Lewallen, W7EL

1565. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 01:55:04 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <cn0qa4-14a.ln1@mail.specsol.com>
Source record: 45629

John Smith I <assemblywizard@gmail.com> wrote:
> KC4UAI wrote:
> > On Feb 19, 2:08 pm, John Smith I <assemblywiz...@gmail.com> wrote:
> >
> >> ... similar effects are also noted in magnetic phenomenon and
> >> objects/properties affected by magnetic properties.
> >>
> >
> > Yes, but they don't change direction.. The relationship between a
> > traveling electric field and associated magnetic field are still
> > related by a vector cross product that does not change no matter where
> > you are on the earth's surface or in space, (Einstein and Hawking's
> > black hole theories aside.) This means that a beam of electrons will
> > be deflected exactly the same way by the same magnetic field no matter
> > where you are and your TV will work the same way at the north pole,
> > Amundsen-Scott Station and everywhere in between.
> >
> >

> Oxygen molecules are ever slightly magnetic ... one-third of waters
> composition is oxygen molecules.

Irrelevant.

> When you pull the plug in your sink, in the northern hemisphere the
> "whirlpool" which forms spins in one direction, in the southern
> hemisphere the opposite direction (this computed on an average, or,
> force/contrivance can be applied to change the direction of normal spin.)

For real, normal, manufactured sinks, toilets, and bathtubs, this is not true.

> I know of NO ONE who claims to know FOR CERTAIN, EXACTLY why, this
> happens or is able to offer conclusive proof ... to say more would only
> be guessing. To say the previous in any other manner would suggest more
> is known than actually is ... that is simply all which IS "known."

In a perfectly smooth, level, and symetrical sink filled with absolutely
still water, it will always go the same way and this is trivially explained
by the corriolis effect.

For real world sinks, the deviations from perfect smoothness, levelness, and
symmetry overpowers the corriolis effect and the water goes which ever
way dominates from the imperfections.

> One can extrapolate upon the above and venture guesses/theories, caution
> should be used when doing so.

Or one could get an education in basic physics.

The physical world is within the realm of understanding for at least
50% of the population.

I guess you are in the bottom half.

http://www.snopes.com/science/coriolis.asp
http://www.newton.dep.anl.gov/askasci/phy99/phy99107.htm
http://en.wikipedia.org/wiki/Coriolis_effect

--
Jim Pennino

Remove .spam.sux to reply.

1566. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 01:55:05 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <iv0qa4-14a.ln1@mail.specsol.com>
Source record: 45630

John Smith I <assemblywizard@gmail.com> wrote:
> art wrote:
> > How does the Coreolis force differ from radiation "curl" and how does
> > a tv set made in the northern hemasphere compare in Australia
> > (southern hemisphere) with an Australian TV set ?
> >

> In the NORTHERN HEMISPHERE...
> The LAND moves COUNTERCLOCKWISE around the North Pole.
> Air flows COUNTERCLOCKWISE around a LOW pressure zone.
> Air flows CLOCKWISE around a HIGH pressure zone.

> In the SOUTHERN HEMISPHERE...
> The LAND moves CLOCKWISE around the South Pole.
> Air flows CLOCKWISE around a LOW pressure zone.
> Air flows COUNTERCLOCKWISE around a HIGH pressure zone.

> ... similar effects are also noted in magnetic phenomenon and
> objects/properties affected by magnetic properties.

> I know of no complete studies which have reached any conclusive ends in
> the directions you seem to suggest. Most likely, not enough is known yet.

This has been understood by the educated world since about 1778 when
Laplace published his tidal equations, or 1835 when Gaspard-Gustave Coriolis
published.

Your education seems to be a bit behind the times.

--
Jim Pennino

Remove .spam.sux to reply.

1567. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 02:32:09 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <x4tCh.40$Pg.151700@news.sisna.com>
Source record: 45634

jimp@specsol.spam.sux.com wrote:
> ...

You missed the point, as usual. Since with what I presented, and the way I presented it, one would have been required to have digested the information and have a basic understanding of known physic forces.

You waste my time. You only serve to waste the time of anyone of interest here. Are there not some children around your neighborhood you could amuse and be amused by, and thereby free the adults to other pursuits.

As long as you hang around sucking air for no purpose, you may as well make yourself useful.

Come on, be a good bloke for a change ...

JS

1568. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 02:36:02 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <a8tCh.41$zg.140426@news.sisna.com>
Source record: 45631

jimp@specsol.spam.sux.com wrote:
> John Smith I <assemblywizard@gmail.com> wrote:
>> art wrote:
>>> How does the Coreolis force differ from radiation "curl" and how does
>>> a tv set made in the northern hemasphere compare in Australia
>>> (southern hemisphere) with an Australian TV set ?
>>>
>
>> In the NORTHERN HEMISPHERE...
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>> Air flows COUNTERCLOCKWISE around a LOW pressure zone.
>> Air flows CLOCKWISE around a HIGH pressure zone.
>
>> In the SOUTHERN HEMISPHERE...
>> The LAND moves CLOCKWISE around the South Pole.
>> Air flows CLOCKWISE around a LOW pressure zone.
>> Air flows COUNTERCLOCKWISE around a HIGH pressure zone.
>
>> ... similar effects are also noted in magnetic phenomenon and
>> objects/properties affected by magnetic properties.
>
>> I know of no complete studies which have reached any conclusive ends in
>> the directions you seem to suggest. Most likely, not enough is known yet.
>
> This has been understood by the educated world since about 1778 when
> Laplace published his tidal equations, or 1835 when Gaspard-Gustave Coriolis
> published.
>
> Your education seems to be a bit behind the times.
>

It is quite obvious the "Coriolis Effect" has NOTHING to do with water
taking its' whirlpool course down the drain in regards to its' current
hemisphere ... but you grow predictable. I figured you would lack the
intelligence to see this obvious fact.

You probably would amuse a high school physics lab to no end, ever try
dressing up in a clowns suit and visiting one?

JS

1569. Re: delay line? velocity factor???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 03:17:35 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98DD916561848nonenowhere@61.9.191.5>
Source record: 45633

Roy Lewallen <w7el@eznec.com> wrote in news:12tkkh6n7us4v19
@corp.supernews.com:

> A feature of the '50s-era radars I worked on in the '60s was MTI, or
> moving target indication. It was done simply by subtracting the return
> from the previous pulse from the current one and displaying only things
> which had changed. This was done to reduce clutter from fixed objects,
> and it was effective against some jamming techniques. Doing something
> like that is trivial today, but it wasn't back then. The pulse
> repetition time of the long-range radars was over 2 ms (round trip time
> for 400 miles or so), so a delay of that time with a bandwidth of a few
> MHz was required.
>

My recollection was that LC delay lines were also used, and MTI radar was very useful for close in to the airport where structures (the built environment) created the greatest clutter problem distinguishing low flying aircraft, so shorter delay times (hundreds of us) were adequate.

Other techniques I have come across for various delay applications, including circulating memories included various forms of semi-distributed LC elements, coils of piano wire with magnetostrictive transducers, and early dynamic shift registers that were a kind of charge shuffling arrangement.

Owen

1570. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 03:31:59 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <CYtCh.43$Qf.99426@news.sisna.com>
Source record: 45635

Jimmie D wrote:

> ...
> I t doesnt happen, water swirling down the drain in different directionn
> because you are in the southern or northern hemisphere is a myth.
>
>

Obviously you have a sink, you can prove it correct.

And, indeed, it is correct. Has to do with the oxygen molecules slight magnetic force in interaction with the appropriate pole of the earth.

My goodness. Who would have guessed so many could benefit from a simple high school physics course, and then an introduction to antennas?

JS

1571. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 03:33:56 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45da680e$0$28078$4c368faf@roadrunner.com>
Source record: 45632

"John Smith I" <assemblywizard@gmail.com> wrote in message
news:dxpCh.25$If.91226@news.sisna.com...
> KC4UAI wrote:
>> On Feb 19, 2:08 pm, John Smith I <assemblywiz...@gmail.com> wrote:
>>
>>> ... similar effects are also noted in magnetic phenomenon and
>>> objects/properties affected by magnetic properties.
>>>
>>
>> Yes, but they don't change direction.. The relationship between a
>> traveling electric field and associated magnetic field are still
>> related by a vector cross product that does not change no matter where
>> you are on the earth's surface or in space, (Einstein and Hawking's
>> black hole theories aside.) This means that a beam of electrons will
>> be deflected exactly the same way by the same magnetic field no matter
>> where you are and your TV will work the same way at the north pole,
>> Amundsen-Scott Station and everywhere in between.
>>
>>
>
> Oxygen molecules are ever slightly magnetic ... one-third of waters
> composition is oxygen molecules.
>
> When you pull the plug in your sink, in the northern hemisphere the
> "whirlpool" which forms spins in one direction, in the southern hemisphere
> the opposite direction (this computed on an average, or, force/contrivance
> can be applied to change the direction of normal spin.)
>
> I know of NO ONE who claims to know FOR CERTAIN, EXACTLY why, this happens
> or is able to offer conclusive proof ... to say more would only be
> guessing. To say the previous in any other manner would suggest more is
> known than actually is ... that is simply all which IS "known."
>
> One can extrapolate upon the above and venture guesses/theories, caution
> should be used when doing so.
>
> JS

I t doesnt happen, water swirling down the drain in different directionn
because you are in the southern or northern hemisphere is a myth.

1572. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 03:45:14 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1171943114.701533.57570@j27g2000cwj.googlegroups.com>
Source record: 45636

On 19 Feb, 15:21, Owen Duffy <n...@no.where> wrote:
> "Dave" <n...@nowhere.com> wrote innews:zEpCh.5004$lo1.4362@trndny05:
>
> > for tv's, everyone knows that you have to reverse the magnitization on
> > tv's when you cross the equator, if you don't all the colors come out
> > wrong and the pictures are all upside down.
>
> You can't rick Art like that, he will be well aware that we in the southern
> hemisphere are upside down relative to you guys, so compensating for the
> effect you describe.
>
> Owen

Quit it Owen, I'm sitting in the stands watching the play go
backwards and forwards and giggling all the time. It is like asking
the capital of Kentucky, is it louavle or Louyvill and the longer it
goes on the funnier it will be so please stay quiet
Thanks

1573. RESULT: rec.radio.amateur.moderated will be created

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 03:47:01 UTC
From: "Paul W. Schleck, K3FU" <pschleck@novia.net>
Message-ID: <45da6ec5$0$37549$540ea2cf@novia.net>
Source record: 45637
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

The following was just posted to Usenet by the news.announce.newgroups
moderator on behalf of the Big-8 Management Board:

http://www.big-8.org/dokuwiki/doku.php?id=nan:2007-02-19-rec.radio.amateur.moderated-resul
t

This is a creation announcement for a new moderated discussion newsgroup
for amateur radio on Usenet. It has been relayed to
rec.radio.amateur.antenna, rec.radio.amateur.dx,
rec.radio.amateur.equipment, and rec.radio.amateur.homebrew, as
announced above. Please consult with your local news server
administrators regarding the creation of this newsgroup after a newgroup
control message is sent on or about Thursday, February 22, 2007.

--
73, Paul W. Schleck, K3FU
pschleck@novia.net
http://www.novia.net/~pschleck/
Finger pschleck@novia.net for PGP Public Key

1574. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 04:20:14 UTC
From: RST Engineering <jim@rstengineering.com>
Message-ID: <iGuCh.44$cg.124026@news.sisna.com>
Source record: 45638

I did. Actually, I got a masters in it. In the words of one of my more brilliant professors, "You suck hind tit".

Jim

> Or one could get an education in basic physics.

1575. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 05:25:01 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <mncqa4-4ea.ln1@mail.specsol.com>
Source record: 45639

John Smith I <assemblywizard@gmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:
> > John Smith I <assemblywizard@gmail.com> wrote:
> >> art wrote:
> >>> How does the Coreolis force differ from radiation "curl" and how does
> >>> a tv set made in the northern hemasphere compare in Australia
> >>> (southern hemisphere) with an Australian TV set ?
> >>>
> >
> >> In the NORTHERN HEMISPHERE...
> >> The LAND moves COUNTERCLOCKWISE around the North Pole.
> >> Air flows COUNTERCLOCKWISE around a LOW pressure zone.
> >> Air flows CLOCKWISE around a HIGH pressure zone.
> >
> >> In the SOUTHERN HEMISPHERE...
> >> The LAND moves CLOCKWISE around the South Pole.
> >> Air flows CLOCKWISE around a LOW pressure zone.
> >> Air flows COUNTERCLOCKWISE around a HIGH pressure zone.
> >
> >> ... similar effects are also noted in magnetic phenomenon and
> >> objects/properties affected by magnetic properties.
> >
> >> I know of no complete studies which have reached any conclusive ends in
> >> the directions you seem to suggest. Most likely, not enough is known yet.
> >
> > This has been understood by the educated world since about 1778 when
> > Laplace published his tidal equations, or 1835 when Gaspard-Gustave Coriolis
> > published.
> >
> > Your education seems to be a bit behind the times.
> >

> It is quite obvious the "Coriolis Effect" has NOTHING to do with water
> taking its' whirlpool course down the drain in regards to its' current
> hemisphere ... but you grow predictable. I figured you would lack the
> intelligence to see this obvious fact.

Babbling fool, the above was about AIR, not water.

Do you know the difference between air and water?

<snip remaining babble>

--
Jim Pennino

Remove .spam.sux to reply.

1576. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 05:27:17 UTC
From: Jenn <jennconductsREMOVETHIS@hotmail.com>
Message-ID: <jennconductsREMOVETHIS-3BDA3E.21271619022007@newsclstr02.news.prodigy.com>
Source record: 45640
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

In article <tNrCh.59384$QU1.6999@newssvr22.news.prodigy.net>,
"Henry Kolesnik" <kolesnik@nojunksbcglobal.net> wrote:

> Amy, Bob, Richard
> Thanks for your response and interest. I'm retired used to be an
> engineer
> before management laid waste to that. I've started taking weekly guitar
> lessons over a year ago and slowly getting a bit better. It's a hell
> of a challenge at 66. I want
> to buy a better guitar and all guitars don't sound the same, even the
> same model. One shouldn't expect them to because they're all made from
> different cuts of wood and assembled by human hands. What amazed me is
> that the materials used for the nut, neck, saddle and bridge as well as
> the mfg and age of the strings have a noticeable effect on the sound.
> The bridge pins, angle of the strings out of the bridge pin holes and
> tuners also have effects.
> In the last year I found at least four guitars that I really liked, 3
> used ones and a new one all over a $1000.00 but I passed because I'm not
> that impulsive or flush with cash. A good player can make just about
> any guitar sound good, or a hell of a lot better than me.
> I'm into ham radio also and last year at hamfest I traded for an HP
> 3582A spectrum analyzer but the learning curve is a bit steep for me.
> So unless I can find an experienced user or devote much more time to it
> I'm going to have to trade it.
> Last week I won an HP 3561A on ePay but it has a problem that I hope I
> can fix. In the meantime I thought it might make sense to scope out
> sound cards and related software. I know a lot of hams use sound cards
> for various & different applications and it's about time I took a wack
> at one and what better way than trying to figure out what it is that
> makes one guitar sound so much better than another. Or if changing the
> nut, saddle or bridge pins really improves the sound or is it just
> wishful thinking.

What a neat project!

I can tell you, based on years of experience with changing out the parts
that you mentioned (nut, saddle, bridge, pins, ESPECIALLY break angle)
that these things DO make a difference in the sound. I have NOT heard a
difference with changes of neck or tuners (certainly these things affect
the intonation of the instrument, but I've never known then to change
the quality of sound).

However, the choice of wood, body shape, and top bracing are far more
relevant. You might want to check with Martin, Taylor, Larrivee, et al

to see if they have any scientific info that can help you. They aren't in the business of pushing pins, tuners, etc.

Good luck and please post what you find out!

(Since this is RAO, I should point out that my hearing of the things mentioned in my second paragraph above is based on differences heard based on changes made to the instruments when it wasn't possible to know about the changes.)

1577. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 06:05:25 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <qcwCh.47$fe.60476@news.sisna.com>
Source record: 45641

jimp@specsol.spam.sux.com wrote:

> ...
> Babbling fool, the above was about AIR, not water.
>
> Do you know the difference between air and water?
>
> <snip remaining babble>
>

Is it possible you will ever come to know the difference between your
A$$ and a hole in the ground?

Or, even the hole in your head--for that matter ...

JS

1578. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 13:23:26 UTC
From: Henry Kolesnik <kolesnik@nojunksbcglobal.net>
Message-ID: <iDCCh.15863$O02.10206@newssvr11.news.prodigy.net>
Source record: 45642
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

Jenn
The neck wood affects the sound energy as it goes from the nut vibrate
the guitar and so does the truss rod. Tuners can influence the sound
because their weight can dampen vibrations. An interesting thing is to
hold a tuner lightly (or the headstock) when
you pluck a string and feel the vibrations.
A good analysis should be able to detect loose bracing and you should
also be able to see the effects of scalloped bracing.
I shotgunned this query because I didn't know where I would find the
most help. If responders can suggest a group I could limit it and not
waste time of those who aren't interested.
I've also made unconnected posts to other groups, but have less interest
and reponse so far.
I didn't post to any guitar groups because most there are musicians that
don't need this kind of crutch and have an ear that's been trained for
many years. I want to see if I can catch up by being able to see.
In addition it should be helpful in voice training which I also need
because I'm trying but with less success to sing.

73
Hank WD5JFR

"Jenn" <jennconductsREMOVETHIS@hotmail.com> wrote in message
news:jennconductsREMOVETHIS-3BDA3E.21271619022007@newsclstr02.news.prodigy.com...
> In article <tNrCh.59384$QU1.6999@newssvr22.news.prodigy.net>,
> "Henry Kolesnik" <kolesnik@nojunksbcglobal.net> wrote:
>
>> Amy, Bob, Richard
>> Thanks for your response and interest. I'm retired used to be an
>> engineer
>> before management laid waste to that. I've started taking weekly
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>> lessons over a year ago and slowly getting a bit better. It's a
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>> of a challenge at 66. I want
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>> same model. One shouldn't expect them to because they're all made
>> from
>> different cuts of wood and assembled by human hands. What amazed me
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>> that the materials used for the nut, neck, saddle and bridge as well
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>> the mfg and age of the strings have a noticeable effect on the sound.

>> The bridge pins, angle of the strings out of the bridge pin holes and
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>> In the last year I found at least four guitars that I really liked, 3
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>> wishful thinking.
>
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> that these things DO make a difference in the sound. I have NOT heard
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> affect
> the intonation of the instrument, but I've never known then to change
> the quality of sound).
>
> However, the choice of wood, body shape, and top bracing are far more
> relevant. You might want to check with Martin, Taylor, Larrivee, et
> al
> to see if they have any scientific info that can help you. They
> aren't
> in the business of pushing pins, tuners, etc.
>
> Good luck and please post what you find out!
>
> (Since this is RAO, I should point out that my hearing of the things
> mentioned in my second paragraph above is based on differences heard
> based on changes made to the instruments when it wasn't possible to
> know

> about the changes.)

1579. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 13:29:25 UTC
From: packer@iprimus.com.au
Message-ID: <45daf7a1.52430875@news.iprimus.com.au>
Source record: 45643
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

On Tue, 20 Feb 2007 05:27:17 GMT, Jenn
<jennconductsREMOVETHIS@hotmail.com> wrote:

>(Since this is RAO, I should point out that my hearing of the things
>mentioned in my second paragraph above is based on differences heard
>based on changes made to the instruments when it wasn't possible to know
>about the changes.)

Eh?

1580. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 14:04:19 UTC
From: NoSpam@daqarta.com
Message-ID: <45dafa62.615953@news.sysmatrix.net>
Source record: 45644
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

On Mon, 19 Feb 2007 10:34:50 -0800, Richard Clark <kb7qhc@comcast.net>
wrote:

>On Mon, 19 Feb 2007 14:06:30 GMT, NoSpam@daqarta.com (Bob Masta)
>wrote:
>
>>FFT size is 1024 points, so you won't be able to use
>>this for tuning your guitar, if that's what you had in mind.
>
>Hi Bob,
>
>Why not? 1024 points (bins) has enough resolution to shake out every
>note on a Hawaiian slide guitar. The only care is selecting the
>sampling rate and most FFT packages should be able to resolve
>exceedingly fine.
>

The problem is that the line resolution of an FFT is the sample
rate divided by the number of time points. So with 44100 Hz
sample rate and 1024 points you get a bit over 43 Hz per line.
So the first non-DC spectral line would be 43 Hz, which is about
a low F on a bass guitar, and the very next line would be the F
an octave above that... you'd miss an entire octave!

The standard musical note frequencies (semitones) differ
from each other by about 6% (12th root of 2, since there are
12 notes in an "octave"). But you need much better
resolution than this for tuning, typically a "cent" or so,
namely 1/100 of a semitone or .06%. At 43 Hz that
works out to about 0.026 Hz. A 64K-point FFT
at 44100 Hz will have a native resolution of 0.67 Hz,
which still isn't good enough... but at 64K samples,
you are looking at 1.48 seconds of sound. If the
pitch changes over that interval, the spectral peak
will be smeared even further.

If you attempt to beat this game by going to lower
sample rates, note that frequency resolution is
still proportional to the inverse of the total sampling
interval. So if you tried to use the 1K FFT but sample at
44100 / 64 = 689 Hz to get the same (inadequate)
resolution as the above 64K FFT, you'd still need 1.48
seconds of sound. Sound cards don't sample that
low intrinsically (typically 8K lower limit, 4K on old

Sound Blasters), but you might manage using sample
rate conversion (either Windows or sound card built-in).
I haven't tried this, but I suspect that it would not be a satisfying
experience due to the s-l-o-w time response.

Best regards,

Bob Masta

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1581. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 14:18:56 UTC
From: NoSpam@daqarta.com
Message-ID: <45db00e8.2286199@news.sysmatrix.net>
Source record: 45645
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

On Mon, 19 Feb 2007 14:08:54 -0800, Richard Clark <kb7qhc@comcast.net>
wrote:

>On Mon, 19 Feb 2007 15:16:29 -0600, "Henry Kolesnik"
><kolesnik@nojunksbcglobal.net> wrote:
>
>>There's a good example of a 3D plot here:
>>http://www.spectraplus.com/screenshots.html#3d
>>Has anyone used this software?
>
>Hi Hank,
>
>Yes, I have. It is exceedingly expensive, but you can probably get 30
>days of free use if you have a one-time knock off project. Of course,
>it may take 30 days to figure it out.
>
>FFT analyzers are a dime a dozen, but few know how to use them
>accurately - or are even aware of what can be done with them. Bob's
>complaint, notwithstanding, a 1024 bin FFT employing the proper mixing
>inputs can resolve any note on a guitar to within hundredths of a
>cycle. I am sure this is of no interest to you, however.

Yes, you can easily resolve to 100ths of a cycle, but not from
a native FFT. (See my other response.) You can do it from
the waveform by measuring the time between cycles. That's
one of the methods I'm working on. The other is to do it from
the FFT via peak interpolation. The waveform method will
be very accurate with simple static waveforms, but I expect it
will have trouble with the 2nd harmonic of a plucked string,
which is not an integer multiple so "rolls" through the waveform.
The FFT interpolator will not have the same raw accuracy, and must
have absolutely separated spectral peaks since it assumes the
one it's interpolating is the only one. I'm not hopeful it can be
made good enough to tune a guitar, at least not in the bottom
octave where the harmonics land on adjacent spectral lines.

Best regards,

Bob Masta

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1582. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 14:43:10 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <erf1e6$1j3a$1@f04n12.cac.psu.edu>
Source record: 45646

jimp@specsol.spam.sux.com wrote:
> John Smith I <assemblywizard@gmail.com> wrote:
>> jimp@specsol.spam.sux.com wrote:
>>> John Smith I <assemblywizard@gmail.com> wrote:
>>>> art wrote:
>>>>> How does the Coreolis force differ from radiation "curl" and how does
>>>>> a tv set made in the northern hemasphere compare in Australia
>>>>> (southern hemisphere) with an Australian TV set ?
>>>>>
>>>> In the NORTHERN HEMISPHERE...
>>>> The LAND moves COUNTERCLOCKWISE around the North Pole.
>>>> Air flows COUNTERCLOCKWISE around a LOW pressure zone.
>>>> Air flows CLOCKWISE around a HIGH pressure zone.
>>>> In the SOUTHERN HEMISPHERE...
>>>> The LAND moves CLOCKWISE around the South Pole.
>>>> Air flows CLOCKWISE around a LOW pressure zone.
>>>> Air flows COUNTERCLOCKWISE around a HIGH pressure zone.
>>>> ... similar effects are also noted in magnetic phenomenon and
>>>> objects/properties affected by magnetic properties.
>>>> I know of no complete studies which have reached any conclusive ends in
>>>> the directions you seem to suggest. Most likely, not enough is known yet.
>>> This has been understood by the educated world since about 1778 when
>>> Laplace published his tidal equations, or 1835 when Gaspard-Gustave Coriolis
>>> published.
>>>
>>> Your education seems to be a bit behind the times.
>>>
>
>> It is quite obvious the "Coriolis Effect" has NOTHING to do with water
>> taking its' whirlpool course down the drain in regards to its' current
>> hemisphere ... but you grow predictable. I figured you would lack the
>> intelligence to see this obvious fact.
>
> Babbling fool, the above was about AIR, not water.
>
> Do you know the difference between air and water?

In order to observe the Coriolis effect in draining water, several
extraordinary precautions must be taken. You must have a smooth circular
pan with a precisely centered and very small hole in the center. The pan
is filled with water, and allowed to sit for enough time that all motion
of the water is gone at the onset of the experiment. My source suggests
a week. Then the stopper must be removed from below in a manner that
doesn't disturb the water. (save the obvious) If the flow is small

enough, and no other disturbances occur, after about an hour, a cyclonic rotation occurs.

For all practical purposes, the effect is only applicable for large and long lasting fluid motion.

Too bad that, it would be fun to watch water refuse to swirl at all if we emptied a sink at the equator. 8^)

- 73 de Mike KB3EIA -

1583. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 14:58:34 UTC
From: Arny Krueger <arnyk@hotpop.com>
Message-ID: <LtGdndkqIdgIkUbYnZ2dnUVZ_tOmnZ2d@comcast.com>
Source record: 45647
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

"paul packer" <packer@iprimus.com.au> wrote in message
news:45daf7a1.52430875@news.iprimus.com.au
> On Tue, 20 Feb 2007 05:27:17 GMT, Jenn
> <jennconductsREMOVETHIS@hotmail.com> wrote:
>
>
>> (Since this is RAO, I should point out that my hearing
>> of the things mentioned in my second paragraph above is
>> based on differences heard based on changes made to the
>> instruments when it wasn't possible to know about the
>> changes.)
>
> Eh?

Jenn apparently thinks that the changes in SQ that come from modifying the working parts of musical instruments are fully comparable to say, adding one more strand of wire to a speaker cable composed of finely stranded wilre.

1584. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 15:01:08 UTC
From: Arny Krueger <arnyk@hotpop.com>
Message-ID: <HoednRWRtY-ykEbYnZ2dnUVZ_v6tnZ2d@comcast.com>
Source record: 45648
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:a79kt2tftdi93101vnonn4qvgbh8go39dt@4ax.com
> On Mon, 19 Feb 2007 17:23:32 -0500, "Arny Krueger"
> <arnyk@hotpop.com> wrote:
>
>> Over the years, the most useful FFT software I've had,
>> is the (fairly simple) FFT analyzer in Audition/CEP.
>> It's big plus is the ability to use the Audition/CEP
>> audio editor to select portions of real-world waveforms,
>> and to use the wave generation and modification features
>> to create waves for use in analysis and testing.

> I am sure this is an useful tool, but without windowing
> the data, any semblance to reasonable analysis is a house
> built on sand.

So you think that the FFT analysis tool in CEP doesn't do windowing?????

> I note in your provided link to work you
> have done that you use Blackman exclusively. This is at
> least a good first pass to achieving an analysis, but any
> variety of work is going to be more demanding (the
> Blackman window has its limitations), otherwise it is
> like looking through glasses smeared with Vaseline.

So you think that Spectra doesn't provide options for windowing and/or that
I have no idea what effect they have on actual results????

1585. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 15:26:23 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <12tm4p4q94qghc1@corp.supernews.com>
Source record: 45649

```
Michael Coslo wrote:
> jimp@specsol.spam.sux.com wrote:
>> John Smith I <assemblywizard@gmail.com> wrote:
>>> jimp@specsol.spam.sux.com wrote:
>>>> John Smith I <assemblywizard@gmail.com> wrote:
>>>>> art wrote:
>>>>>> How does the Coreolis force differ from radiation "curl" and how does
>>>>>> a tv set made in the northern hemasphere compare in Australia
>>>>>> (southern hemisphere) with an Australian TV set ?
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>>>>> In the NORTHERN HEMISPHERE...
>>>>> The LAND moves COUNTERCLOCKWISE around the North Pole.
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>>>>> In the SOUTHERN HEMISPHERE...
>>>>> The LAND moves CLOCKWISE around the South Pole.
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>>>>> ... similar effects are also noted in magnetic phenomenon and
>>>>> objects/properties affected by magnetic properties.
>>>>> I know of no complete studies which have reached any conclusive
>>>>> ends in the directions you seem to suggest. Most likely, not
>>>>> enough is known yet.
>>>> This has been understood by the educated world since about 1778 when
>>>> Laplace published his tidal equations, or 1835 when Gaspard-Gustave
>>>> Coriolis
>>>> published.
>>>>
>>>> Your education seems to be a bit behind the times.
>>>>
>>
>>> It is quite obvious the "Coriolis Effect" has NOTHING to do with
>>> water taking its' whirlpool course down the drain in regards to its'
>>> current hemisphere ... but you grow predictable. I figured you would
>>> lack the intelligence to see this obvious fact.
>>
>> Babbling fool, the above was about AIR, not water.
>>
>> Do you know the difference between air and water?
>
>
> In order to observe the Coriolis effect in draining water, several
> extraordinary precautions must be taken. You must have a smooth circular
> pan with a precisely centered and very small hole in the center. The pan
```

> is filled with water, and allowed to sit for enough time that all motion
> of the water is gone at the onset of the experiment. My source suggests
> a week. Then the stopper must be removed from below in a manner that
> doesn't disturb the water. (save the obvious) If the flow is small
> enough, and no other disturbances occur, after about an hour, a cyclonic
> rotation occurs.
>
> For all practical purposes, the effect is only applicable for large
> and long lasting fluid motion.
>
> Too bad that, it would be fun to watch water refuse to swirl at all
> if we emptied a sink at the equator. 8^)
>
> - 73 de Mike KB3EIA -

In a recent email to an acquaintance of mine who lives in Australia I asked him what the action of draining water was down under. His reply was that results were mixed with some drains turning counter clockwise and some drains turning clockwise. Sometimes it was the same drain.

It seems the jury is still out on the subject.

Dave WD9BDZ

1586. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 16:27:51 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1171988871.474548.255840@l53g2000cwa.googlegroups.com>
Source record: 45650

On 20 Feb, 07:26, "David G. Nagel" <n...@core.com> wrote:
> Michael Coslo wrote:
> > j...@specsol.spam.sux.com wrote:
> >> John Smith I <assemblywiz...@gmail.com> wrote:
> >>> j...@specsol.spam.sux.com wrote:
> >>>> John Smith I <assemblywiz...@gmail.com> wrote:
> >>>>> art wrote:
> >>>>>> How does the Coreolis force differ from radiation "curl" and how does
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> >>>>>> (southern hemisphere) with an Australian TV set ?
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> >>>>> The LAND moves CLOCKWISE around the South Pole.
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> >>>>> ... similar effects are also noted in magnetic phenomenon and
> >>>>> objects/properties affected by magnetic properties.
> >>>>> I know of no complete studies which have reached any conclusive
> >>>>> ends in the directions you seem to suggest. Most likely, not
> >>>>> enough is known yet.
> >>>> This has been understood by the educated world since about 1778 when
> >>>> Laplace published his tidal equations, or 1835 when Gaspard-Gustave
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> >>>> published.
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> >>>> Your education seems to be a bit behind the times.
>
> >>> It is quite obvious the "Coriolis Effect" has NOTHING to do with
> >>> water taking its' whirlpool course down the drain in regards to its'
> >>> current hemisphere ... but you grow predictable. I figured you would
> >>> lack the intelligence to see this obvious fact.
>
> >> Babbling fool, the above was about AIR, not water.
>
> >> Do you know the difference between air and water?
>
> > In order to observe the Coriolis effect in draining water, several
> > extraordinary precautions must be taken. You must have a smooth circular
> > pan with a precisely centered and very small hole in the center. The pan
> > is filled with water, and allowed to sit for enough time that all motion

> > of the water is gone at the onset of the experiment. My source suggests
> > a week. Then the stopper must be removed from below in a manner that
> > doesn't disturb the water. (save the obvious) If the flow is small
> > enough, and no other disturbances occur, after about an hour, a cyclonic
> > rotation occurs.
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> > For all practical purposes, the effect is only applicable for large
> > and long lasting fluid motion.
>
> > Too bad that, it would be fun to watch water refuse to swirl at all
> > if we emptied a sink at the equator. 8^)
>
> > - 73 de Mike KB3EIA -
>
> In a recent email to an acquaintance of mine who lives in Australia I
> asked him what the action of draining water was down under. His reply
> was that results were mixed with some drains turning counter clockwise
> and some drains turning clockwise. Sometimes it was the same drain.
>
> It seems the jury is still out on the subject.
>
> Dave WD9BDZ- Hide quoted text -
>
> - Show quoted text -

Gentlemen, gentlemen calm down
Let us l;ook at how this myth came about

A gentleman obtained a glass container and filled it with water.
To make sure every thing was kosha he placed a school clock over the
container of water and then called his friend down under to
corroborate the experiment. Being a friedly man he descided to place
the clock under the container so the man down under could also see the
clock. He then pulled the plug and watched as the water circled
clockwise and then asked the man down under which way did the water go
and to his surprise the Aussi said counter clockwise!
Now stop this foolishnes and consider what Roy said about Aussi T.V.
He stated that the yoke on the CRT was wound in an opposite way to
T.V.s in the upper hemisphere so why not consider the implications of
that and let the past be seen as water under the bridge
Art

1587. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 16:32:26 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <af8mt253n7uqpnruud90gb1oscc103dilm@4ax.com>
Source record: 45651

On Tue, 20 Feb 2007 09:26:23 -0600, "David G. Nagel" <nagel@core.com>
wrote:

>It seems the jury is still out on the subject.

Given the correspondence, one juror is holding out for acquittal, and
Madame LeFarge is cackling in the court room.

73's
Richard Clark, KB7QHC

1588. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 17:05:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <tolra4-da.ln1@mail.specsol.com>
Source record: 45652

Michael Coslo <mjc5@psu.edu> wrote:
> jimp@specsol.spam.sux.com wrote:
> > John Smith I <assemblywizard@gmail.com> wrote:
> >> jimp@specsol.spam.sux.com wrote:
> >>> John Smith I <assemblywizard@gmail.com> wrote:
> >>>> art wrote:
> >>>>> How does the Coreolis force differ from radiation "curl" and how does
> >>>>> a tv set made in the northern hemasphere compare in Australia
> >>>>> (southern hemisphere) with an Australian TV set ?
> >>>>>
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> >>> This has been understood by the educated world since about 1778 when
> >>> Laplace published his tidal equations, or 1835 when Gaspard-Gustave Coriolis
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> >>> Your education seems to be a bit behind the times.
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> >> It is quite obvious the "Coriolis Effect" has NOTHING to do with water
> >> taking its' whirlpool course down the drain in regards to its' current
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> >> intelligence to see this obvious fact.
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> > Babbling fool, the above was about AIR, not water.
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> extraordinary precautions must be taken. You must have a smooth circular
> pan with a precisely centered and very small hole in the center. The pan
> is filled with water, and allowed to sit for enough time that all motion
> of the water is gone at the onset of the experiment. My source suggests
> a week. Then the stopper must be removed from below in a manner that

> doesn't disturb the water. (save the obvious) If the flow is small
> enough, and no other disturbances occur, after about an hour, a cyclonic
> rotation occurs.

> For all practical purposes, the effect is only applicable for large and
> long lasting fluid motion.

> Too bad that, it would be fun to watch water refuse to swirl at all if
> we emptied a sink at the equator. 8^)

It is a matter of scale.

The coriolis effect is weak and directly a function of distance.

Water in a sink is a tiny distance and the effect is miniscule.

On huge things like weather fronts, the coriolis effect is quite obvious.

Firing tables for long range artillery have corrections for the effect.

--
Jim Pennino

Remove .spam.sux to reply.

1589. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 18:03:03 UTC
From: Jenn <jennconductsREMOVETHIS@hotmail.com>
Message-ID: <jennconductsREMOVETHIS-6AFC5B.10030220022007@newsclstr02.news.prodigy.com>
Source record: 45653
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

In article <iDCCh.15863$O02.10206@newssvr11.news.prodigy.net>,
"Henry Kolesnik" <kolesnik@nojunksbcglobal.net> wrote:

> Jenn
> The neck wood affects the sound energy as it goes from the nut vibrate
> the guitar and so does the truss rod.

True; I was thinking of the neck shape. The question is, of course, can
one hear the difference between different neck woods on the same
instrument body.

> Tuners can influence the sound
> because their weight can dampen vibrations.

But can one hear the difference between different tuners? I seriously
doubt it.

> An interesting thing is to
> hold a tuner lightly (or the headstock) when
> you pluck a string and feel the vibrations.

But can you hear the tone quality change as you hold the tuners? I
can't detect that difference on any of my instruments.

> A good analysis should be able to detect loose bracing and you should
> also be able to see the effects of scalloped bracing.

Indeed.

> I shotgunned this query because I didn't know where I would find the
> most help. If responders can suggest a group I could limit it and not
> waste time of those who aren't interested.
> I've also made unconnected posts to other groups, but have less interest
> and reponse so far.
> I didn't post to any guitar groups because most there are musicians that
> don't need this kind of crutch and have an ear that's been trained for
> many years. I want to see if I can catch up by being able to see.
> In addition it should be helpful in voice training which I also need
> because I'm trying but with less success to sing.

If you go to rec.music.makers.guitar.acoustic, you'll find several
outstanding luthiers there who may be able to offer help. And though I
don't hang out there, rec.music.makers.builders might also include
similar folks.

Good luck, Hank!

>
> 73
> Hank WD5JFR
>
> "Jenn" <jennconductsREMOVETHIS@hotmail.com> wrote in message
> news:jennconductsREMOVETHIS-3BDA3E.21271619022007@newsclstr02.news.prodigy.com
> ...
> > In article <tNrCh.59384$QU1.6999@newssvr22.news.prodigy.net>,
> > "Henry Kolesnik" <kolesnik@nojunksbcglobal.net> wrote:
> >
>> Amy, Bob, Richard
>> Thanks for your response and interest. I'm retired used to be an
>> engineer
>> before management laid waste to that. I've started taking weekly
>> guitar
>> lessons over a year ago and slowly getting a bit better. It's a
>> hell
>> of a challenge at 66. I want
>> to buy a better guitar and all guitars don't sound the same, even the
>> same model. One shouldn't expect them to because they're all made
>> from
>> different cuts of wood and assembled by human hands. What amazed me
>> is
>> that the materials used for the nut, neck, saddle and bridge as well
>> as
>> the mfg and age of the strings have a noticeable effect on the sound.
>> The bridge pins, angle of the strings out of the bridge pin holes and
>> tuners also have effects.
>> In the last year I found at least four guitars that I really liked, 3
>> used ones and a new one all over a $1000.00 but I passed because I'm
>> not
>> that impulsive or flush with cash. A good player can make just about
>> any guitar sound good, or a hell of a lot better than me.
>> I'm into ham radio also and last year at hamfest I traded for an HP
>> 3582A spectrum analyzer but the learning curve is a bit steep for me.
>> So unless I can find an experienced user or devote much more time to
>> it
>> I'm going to have to trade it.
>> Last week I won an HP 3561A on ePay but it has a problem that I hope
>> I
>> can fix. In the meantime I thought it might make sense to scope out
>> sound cards and related software. I know a lot of hams use sound
>> cards
>> for various & different applications and it's about time I took a
>> wack
>> at one and what better way than trying to figure out what it is that
>> makes one guitar sound so much better than another. Or if changing
>> the
>> nut, saddle or bridge pins really improves the sound or is it just
>> wishful thinking.
> >

> > What a neat project!
> >
> > I can tell you, based on years of experience with changing out the
> > parts
> > that you mentioned (nut, saddle, bridge, pins, ESPECIALLY break angle)
> > that these things DO make a difference in the sound. I have NOT heard
> > a
> > difference with changes of neck or tuners (certainly these things
> > affect
> > the intonation of the instrument, but I've never known then to change
> > the quality of sound).
> >
> > However, the choice of wood, body shape, and top bracing are far more
> > relevant. You might want to check with Martin, Taylor, Larrivee, et
> > al
> > to see if they have any scientific info that can help you. They
> > aren't
> > in the business of pushing pins, tuners, etc.
> >
> > Good luck and please post what you find out!
> >
> > (Since this is RAO, I should point out that my hearing of the things
> > mentioned in my second paragraph above is based on differences heard
> > based on changes made to the instruments when it wasn't possible to
> > know
> > about the changes.)

1590. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 23:22:08 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <12tn0ji4ofbba59@corp.supernews.com>
Source record: 45654

To bring antennas into the discussion:
Many years ago when a grad student working in the vicinity of, and eating at the same table with, Grote Reber, he noted that the bean plant wound itself in the opposite direction in Tasmania than in the US. (We never left the meat plate in his vicinity.) While constructing new instrumentation to measure low frequency radiation from space (housed in beautiful cabinets that he made) using an antenna with directivity determined by the relative thinness of the ionosphere in Tasmania, he tended bean plants that he caused to grow the wrong way.
He published papers on the subject in 1960 and 1964. As I recall, one finding was that yields increased if beans were caused to do what they do not want to do.

So, at least two things arise from this: plants can do different things in the two hemispheres and the ionosphere is "different" in the two hemispheres.

The like of Grote the world is not likely to see again. His ability to see significance in well known things was awesome. It only he had had a publicist, he would have received a Nobel prize.

73, Mac N8TT

--
J. Mc Laughlin; Michigan U.S.A.
Home: JCM@Power-Net.Net

>
> It is a matter of scale.
>
> The coriolis effect is weak and directly a function of distance.
>
> Water in a sink is a tiny distance and the effect is miniscule.
>
> On huge things like weather fronts, the coriolis effect is quite obvious.
>
> Firing tables for long range artillery have corrections for the effect.
>
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

1591. EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-20 23:37:48 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12tn1id3o0efm43@corp.supernews.com>
Source record: 45655

EZNEC is now able to run under Linux using the wine emulator. EZNEC version 4.0.34 (the current version) or later is required.

Roy Lewallen, W7EL

1592. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 00:25:01 UTC
From: packer@iprimus.com.au
Message-ID: <45db9142.10856343@news.iprimus.com.au>
Source record: 45656
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

On Tue, 20 Feb 2007 09:58:34 -0500, "Arny Krueger" <arnyk@hotpop.com>
wrote:

>"paul packer" <packer@iprimus.com.au> wrote in message
>news:45daf7a1.52430875@news.iprimus.com.au
>> On Tue, 20 Feb 2007 05:27:17 GMT, Jenn
>> <jennconductsREMOVETHIS@hotmail.com> wrote:
>>
>>
>>> (Since this is RAO, I should point out that my hearing
>>> of the things mentioned in my second paragraph above is
>>> based on differences heard based on changes made to the
>>> instruments when it wasn't possible to know about the
>>> changes.)
>>
>> Eh?
>
>Jenn apparently thinks that the changes in SQ that come from modifying the
>working parts of musical instruments are fully comparable to say, adding one
>more strand of wire to a speaker cable composed of finely stranded wilre.

I don't know what Jenn said, but I do know that you don't know either.

1593. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 02:35:26 UTC
From: Jenn <jennconductsREMOVETHIS@hotmail.com>
Message-ID: <jennconductsREMOVETHIS-ADD732.18352620022007@newsclstr02.news.prodigy.com>
Source record: 45657
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

In article <45db9142.10856343@news.iprimus.com.au>,
packer@iprimus.com.au (paul packer) wrote:

> On Tue, 20 Feb 2007 09:58:34 -0500, "Arny Krueger" <arnyk@hotpop.com>
> wrote:
>
> >"paul packer" <packer@iprimus.com.au> wrote in message
> >news:45daf7a1.52430875@news.iprimus.com.au
> >> On Tue, 20 Feb 2007 05:27:17 GMT, Jenn
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> >Jenn apparently thinks that the changes in SQ that come from modifying the
> >working parts of musical instruments are fully comparable to say, adding one
> >more strand of wire to a speaker cable composed of finely stranded wilre.
>
> I don't know what Jenn said, but I do know that you don't know either.

Crap, another post from the same morning before breakfast! <blush>

What I meant is that the differences that I heard after changes in the
instruments were heard without me knowing that changes had been made.
Thus, there was no "listener bias", a favorite topic around here at
various times.

Whatever Arny is blathering about, I have no idea.

1594. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 03:05:26 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <qvcnt2tf3pas0istpjk3dc8m98vpcnn3ck@4ax.com>
Source record: 45658
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

On Tue, 20 Feb 2007 10:01:08 -0500, "Arny Krueger" <arnyk@hotpop.com>
wrote:

>So you think that the FFT analysis tool in CEP doesn't do windowing?????

With about as much panache as a Yugo in the Indy 500. Hardly a reason
to throw $350 into the wind.

>So you think that Spectra doesn't provide options for windowing and/or that
>I have no idea what effect they have on actual results????

The designer of Spectra is a local Ham - I know his capabilities, I
don't know yours. All I have to go on is the pedestrian choice of
Blackman windowing that demonstrates nothing in the way of "ideas on
the effect on actual results." As I offered, it is an ordinarily
suitable choice if you have no demanding requirements.

Hi Hank,

There are a world of free analyzers, one quick search found 16:
http://freshmeat.net/search/?q=fft&section=projects&Go.x=11&Go.y=10

Get your feet wet before throwing the green at bloatware designs that
invest their resources in advertising. If you find nothing in this
first list, I can certainly 26 find more.

73's
Richard Clark, KB7QHC

1595. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 03:53:08 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <45dbc22e$0$17205$39cecf19@news.twtelecom.net>
Source record: 45659

Roy Lewallen wrote:
> EZNEC is now able to run under Linux using the wine emulator. EZNEC
> version 4.0.34 (the current version) or later is required.
>
> Roy Lewallen, W7EL

Wonderful! Thanks Roy.

Is there a faq on your site or anyone elses?

Now only if Pegasus mail had a linux version I could dump this crummy OS
once and for all.

tom
K0TAR

1596. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 04:02:18 UTC
From: Arny Krueger <arnyk@hotpop.com>
Message-ID: <joqdnSuQX_3YWUbYnZ2dnUVZ_rKvnZ2d@comcast.com>
Source record: 45660
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:qvcnt2tf3pas0istpjk3dc8m98vpcnn3ck@4ax.com
> On Tue, 20 Feb 2007 10:01:08 -0500, "Arny Krueger"
> <arnyk@hotpop.com> wrote:
>
>> So you think that the FFT analysis tool in CEP doesn't
>> do windowing?????
>
> With about as much panache as a Yugo in the Indy 500.
> Hardly a reason to throw $350 into the wind.
>
>> So you think that Spectra doesn't provide options for
>> windowing and/or that I have no idea what effect they
>> have on actual results????
>
> The designer of Spectra is a local Ham - I know his
> capabilities, I don't know yours. All I have to go on is
> the pedestrian choice of Blackman windowing that
> demonstrates nothing in the way of "ideas on the effect
> on actual results." As I offered, it is an ordinarily
> suitable choice if you have no demanding requirements.

I got it now, I'm dealing with a FFT snob, not someone who just sees them as
a tool to get a job done.

1597. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 04:03:10 UTC
From: Arny Krueger <arnyk@hotpop.com>
Message-ID: <9lednTCP-tHkWUbYnZ2dnUVZ_hGdnZ2d@comcast.com>
Source record: 45661
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

```
"paul packer" <packer@iprimus.com.au> wrote in message
news:45db9142.10856343@news.iprimus.com.au
> On Tue, 20 Feb 2007 09:58:34 -0500, "Arny Krueger"
> <arnyk@hotpop.com> wrote:
>
>> "paul packer" <packer@iprimus.com.au> wrote in message
>> news:45daf7a1.52430875@news.iprimus.com.au
>>> On Tue, 20 Feb 2007 05:27:17 GMT, Jenn
>>> <jennconductsREMOVETHIS@hotmail.com> wrote:
>>>
>>>
>>>> (Since this is RAO, I should point out that my hearing
>>>> of the things mentioned in my second paragraph above is
>>>> based on differences heard based on changes made to the
>>>> instruments when it wasn't possible to know about the
>>>> changes.)
>>>
>>> Eh?
>>
>> Jenn apparently thinks that the changes in SQ that come
>> from modifying the working parts of musical instruments
>> are fully comparable to say, adding one more strand of
>> wire to a speaker cable composed of finely stranded
>> wilre.
>
> I don't know what Jenn said, but I do know that you don't
> know either.
```

Paul, you keep missing the meaning of words that I wrote - this time the word you missed is "apparently".

1598. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 04:05:19 UTC
From: Arny Krueger <arnyk@hotpop.com>
Message-ID: <qaKdnR7XwdpiWUbYnZ2dnUVZ_revnZ2d@comcast.com>
Source record: 45662
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

"Jenn" <jennconductsREMOVETHIS@hotmail.com> wrote in
message
news:jennconductsREMOVETHIS-ADD732.18352620022007@newsclstr02.news.prodigy.com
> In article <45db9142.10856343@news.iprimus.com.au>,
> packer@iprimus.com.au (paul packer) wrote:
>
>> On Tue, 20 Feb 2007 09:58:34 -0500, "Arny Krueger"
>> <arnyk@hotpop.com> wrote:
>>
>>> "paul packer" <packer@iprimus.com.au> wrote in message
>>> news:45daf7a1.52430875@news.iprimus.com.au
>>>> On Tue, 20 Feb 2007 05:27:17 GMT, Jenn
>>>> <jennconductsREMOVETHIS@hotmail.com> wrote:
>>>>
>>>>
>>>>> (Since this is RAO, I should point out that my hearing
>>>>> of the things mentioned in my second paragraph above
>>>>> is based on differences heard based on changes made
>>>>> to the instruments when it wasn't possible to know
>>>>> about the changes.)
>>>>
>>>> Eh?
>>>
>>> Jenn apparently thinks that the changes in SQ that come
>>> from modifying the working parts of musical instruments
>>> are fully comparable to say, adding one more strand of
>>> wire to a speaker cable composed of finely stranded
>>> wilre.
>>
>> I don't know what Jenn said, but I do know that you
>> don't know either.
>
> Crap, another post from the same morning before
> breakfast! <blush>
>
> What I meant is that the differences that I heard after
> changes in the instruments were heard without me knowing
> that changes had been made. Thus, there was no "listener
> bias", a favorite topic around here at various times.

OK, since I'm dealing with a member of a lesser species, I'll spell it out:

As a rule, changes in the mechanics of musical instruments have relatively gross effects, compared to the sort of things that many high end audiophiles fret about.

> Whatever Arny is blathering about, I have no idea.

Yup, much of what I write is over the heads of members lesser species.

1599. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 04:14:35 UTC
From: Cebu_Charlie <Cebu_Charlie@philtelcom.net>
Message-ID: <Uo-dnWove66WWkbYnZ2dnUVZ_sjinZ2d@hawaiiantel.net>
Source record: 45663

Roy Lewallen wrote:

> EZNEC is now able to run under Linux using the wine emulator. EZNEC
> version 4.0.34 (the current version) or later is required.
>
> Roy Lewallen, W7EL

great Roy, but do us all a favor and port it out to linux so we dont have to play with wine to use it.

1600. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 04:16:27 UTC
From: David Ryeburn <ryeburn@sfu.caz>
Message-ID: <ryeburn-5BAAD8.20162720022007@morgoth.sfu.ca>
Source record: 45664

In article <12tn1id3o0efm43@corp.supernews.com>,
Roy Lewallen <w7el@eznec.com> wrote:

> EZNEC is now able to run under Linux using the wine emulator. EZNEC
> version 4.0.34 (the current version) or later is required.
>
> Roy Lewallen, W7EL

That's great news. Now does anyone know whether it will run under CrossOver (the CodeWeavers implementation of WINE for Intel Macs)? That would give me an excuse for upgrading from a year 2001 G4 PowerPC Macintosh to a year 2007 Intel Macintosh. Mac OS X is to a large extent based on the BSD variety of UNIX.

I know that the CodeWeavers people have mainly concentrated on getting things like the Windows versions of the Micro$loth Office suite of programs to run under CrossOver, the point of which escapes me since Office has been around for Macs even longer than it has for Windows machines and thus Mac users are under no pressure to be able to use the Windows versions of the Office programs. (Word and Excel files are, for the most part, platform-independent, or at least are easily translatable between Windows and Mac formats. I frequently turn Mac Word 5.1a files into Windows XP Word files to give to my daughter, and do the reverse when she sends me Word files. Such translation is easily done on a Mac, and with some difficulty can be done on a Windows machine.)

Ironically if I were to get an Intel Mac, one of the programs I could no longer use is the lean, mean 1992 Mac version of MS Word 5.1a, still working nicely after 15 years on my year 2001 computer. This program runs faster and better under Classic (i.e. Mac OS 9) within Mac OS X than it ever did in the old days. Two layers of emulation are going on here -- OS X is emulating OS 9, and the PowerPC version of OS 9 is emulating a 680x0 CPU on a PPC chip (G5, G4, G3, or earlier) -- Word 5 was written before the days of the PPC chips. Classic is not readily available for Intel Macs (there are semi-satisfactory hacks which make it sort of work).

David, ex-W8EZE

--
David Ryeburn
ryeburn@sfu.caz
To send e-mail, use "ca" instead of "caz".

1601. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 04:28:06 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <aTPCh.21$Qk2.64576@news.sisna.com>
Source record: 45665

Tom Ring wrote:

> ...
> Now only if Pegasus mail had a linux version I could dump this crummy OS
> once and for all.
>
> tom
> K0TAR

WINE Pegasus ...

http://www.bytebot.net/geekdocs/pmail-wine.html

JS

1602. Ferrite rod antenna for ne602 mixer

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 06:20:49 UTC
From: Bill Bowden <wrongaddress@att.net>
Message-ID: <1172038849.920492.41030@m58g2000cwm.googlegroups.com>
Source record: 45666

I'm trying to match a 4 inch ferrite rod antenna stick to the 3K balanced input of a NE602 mixer chip on the AM broadcast band (540-1650 kHz).

The primary has about 100 turns and I've tried 25 turns on the secondary to feed the 602 with reasonable results, but I don't know what the optimum would be.
I added another winding of 50 turns tapped every 5 turns and experimented with that, but it seems to work best with the maximum turns. But there isn't much difference from 25 turns to 50 turns on the secondary. Seems the more the better, but there should be some optimum.

Anybody know where the best place is to locate the secondary winding, and how to determine the optimum number of turns to yield a 3K output impedance?

Thanks,

-Bill

1603. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 06:28:37 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12tnpkmhgv18a4d@corp.supernews.com>
Source record: 45667

Tom Ring wrote:
>
> Wonderful! Thanks Roy.
>
> Is there a faq on your site or anyone elses?

Not anything regarding use on Linux. The version that's capable of running on a Linux emulator has been available only about one day, and as far as I know only one person has tested it on that system.

> . . .

Roy Lewallen, W7EL

1604. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 06:30:29 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12tnpo655jure73@corp.supernews.com>
Source record: 45668

Cebu_Charlie wrote:
>
> great Roy, but do us all a favor and port it out to linux so we dont have to
> play with wine to use it.

I'm sure you're a cool guy and all, but I'm not about to spend a couple
of years of full time to do you a favor so you won't have to fool with
wine. Sometimes it's just a tough world.

Roy Lewallen, W7EL

1605. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 06:36:19 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12tnq3435qqe5cc@corp.supernews.com>
Source record: 45669

David Ryeburn wrote:
>
> That's great news. Now does anyone know whether it will run under
> CrossOver (the CodeWeavers implementation of WINE for Intel Macs)? That
> would give me an excuse for upgrading from a year 2001 G4 PowerPC
> Macintosh to a year 2007 Intel Macintosh. Mac OS X is to a large extent
> based on the BSD variety of UNIX.

The demo program is free, at http://eznec.com. While there's a small possibility that the full program would fail on a system that can run the demo, it's not likely. So anybody wanting to know about a particular system should just download the demo and try it.

I know that all EZNEC program types have been run successfully on Macs for many years using the SoftWindows emulator.

Ironically, the change to EZNEC which made it able to run on Linux was made in order to make it work under Microsoft Vista.

> . . .

Roy Lewallen, W7EL

1606. Re: Field strength - S plane summation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 06:39:48 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12tnq9kpu52brdc@corp.supernews.com>
Source record: 45670

Maybe the lack of responses is because of the obscurity of the "s-plane summation". I've never heard of it, and a web search brought only one or two possible hits from publications I'd have to buy in order to view. Any principle with that low a profile on the web is pretty esoteric.

Roy Lewallen, W7EL

Owen Duffy wrote:
> I am looking for reference information for summation of field strength
> measurements in x, z and z planes to the so called s-plane summation.
>
> Does anyone have any pointers?
>
> Thanks
> Owen

1607. Re: Non-ham antenna help req., plz?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 06:47:37 UTC
From: kelvin_cool_ohm <kelvin_cool_ohm@noemail.invalid>
Message-ID: <Xns98DE123FB98FFkelvincoolohmnoemail@127.0.0.1>
Source record: 45671

"K7ITM" <k7itm@msn.com> wrote in news:1171902287.663998.89440
@j27g2000cwj.googlegroups.com:

<snip>
>
> Loop antennas of the sort used for 2MHz and below are of a different
> nature than a loop that would be used for 433MHz, generally. That is,
> low frequency receiving loops are generally a small fraction of a
> wavelength across (like commonly less than 1/100th), but at 433MHz, a
> loop that would be worthwhile is generally going to be a large
> fraction of the 27-inch wavelength of that frequency. The behaviour
> of the loop will be different than the AM broadcast ones. I suspect
> you will do better with a different external antenna. What sort of
> receiver will you use it with? Does that receiver have a connector
> for an external antenna? Could you put the antenna higher up in the
> air, and run an antenna lead to the receiver? Exactly what are you
> trying to accomplish? If the only thing you are trying to do is make
> an accessory that looks cool, the dimensions don't matter, but if your
> goal is to receive some specific signals you're now having trouble
> with, let us know a bit more about that problem and we can perhaps
> offer some suggestions.
>
> Cheers,
> Tom
>
>
Thank you for replying.

This project was originally intended to help my dad who had mobility
problems, and though it is no longer needed for that purpose, I wanted
to carry it through to completion out of curiosity.

The application is for use with one of those remote-reading barbecue
thermometers which is at the end of its 100 foot range and where the
receiver is located inside a condominium which has metal-framed windows
and metal doors. The receiver will work 10 feet closer to the cooking
area (and ten feet further from the structure) but since it is then
outside, it loses its remote-reading usefulness.

I was hoping to find an unamplified way to make the signal slightly
stronger just inside a window. The only method I have of determining
sufficient signal strength is to push the "synchronize" button on the
transmitter and see if the receiver display changes from "-----" to an
actual temperature reading. I had hoped that a small loop in the center
of a window pane would allow me to set the receiver on a box inside the

window.

These units have no external antenna conections, but looks is of no importance as far as coil design goes. If someone can suggest a way to use a "pickup" coil closer to the cooking area cabled to a "relay" coil on the outside of a window, that would even be acceptable.

If someone can suggest a weak local oscillator circuit (preferrably crystal controlled) that I can use to beat against the 433MHz transmitter frequency in a standard broadcast receiver front end so that signal strength measurement could be taken, I would also be interested in that.

Thanks in advance for any suggestions.

Rick

1608. Re: Field strength - S plane summation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 06:59:13 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98DEB6F921EA1nonenowhere@61.9.191.5>
Source record: 45673

Roy Lewallen <w7el@eznec.com> wrote in
news:12tnq9kpu52brdc@corp.supernews.com:

> Maybe the lack of responses is because of the obscurity of the
> "s-plane summation". I've never heard of it, and a web search brought
> only one or two possible hits from publications I'd have to buy in
> order to view. Any principle with that low a profile on the web is
> pretty esoteric.
>
> Roy Lewallen, W7EL
>

Roy, to kick it along a little...

The technique calls for making sets of measurements with the antenna in three orthogonal orientations and summing the z, y and z plane values to an "s plane" value to represent maximum field strength. I think the summation that is typically used is the square root of the sum of the squares.

The technique suits automated measurement where a series of perhaps hundreds of measurements at different frequencies are made, the antenna is manually changed, and the series repeated etc. Software is then used to process the logged measurements.

Clearly there is an issue about the temporaral nature of separate measurements in each plane at a given frequency.

I was interested in any standards or regulatory "procedures" that may exist that describe / mandate such technique. Most procedures that I have found just call for orienting the antenna for maximum response rather than the x,z,z trick.

I would like to understand its application better to for a view about the appropriateness to particular applications. I suspect its main value is in automated EMC data capture.

I am still on the BPL measurement tram!

Owen

1609. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 07:13:10 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45dbece9$0$28080$4c368faf@roadrunner.com>
Source record: 45672

"John Smith I" <assemblywizard@gmail.com> wrote in message
news:CYtCh.43$Qf.99426@news.sisna.com...
> Jimmie D wrote:
>
> > ...
>> I t doesnt happen, water swirling down the drain in different directionn
>> because you are in the southern or northern hemisphere is a myth.
>
> Obviously you have a sink, you can prove it correct.
>
> And, indeed, it is correct. Has to do with the oxygen molecules slight
> magnetic force in interaction with the appropriate pole of the earth.
>
> My goodness. Who would have guessed so many could benefit from a simple
> high school physics course, and then an introduction to antennas?
>
> JS

Cant prove it to nobody but myself, kitchen sink is a double and it is
different in both sinks. Please tell just which way you think it spins in
the northern hemisphere.

1610. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 08:46:28 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <1trnt25irs6f0sstksie7vkvloili9pgf1@4ax.com>
Source record: 45674
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

On Tue, 20 Feb 2007 23:02:18 -0500, "Arny Krueger" <arnyk@hotpop.com>
wrote:

>> The designer of Spectra is a local Ham - I know his
>> capabilities, I don't know yours. All I have to go on is
>> the pedestrian choice of Blackman windowing that
>> demonstrates nothing in the way of "ideas on the effect
>> on actual results." As I offered, it is an ordinarily
>> suitable choice if you have no demanding requirements.
>
>I got it now, I'm dealing with a FFT snob, not someone who just sees them as
>a tool to get a job done.

Connoisseur is more appropriate, and as for getting the job done, I
did that on contract to HP for one of their many FFT audio analyzers
22 years ago. I've written 200,000 lines of fourier code for many
products that get jobs done.

I also have the seminal work by Blackman and Tukey that predates the
math of the Fourier transform: "The Measurement of Power Spectra."
An extract bears repeating:
"'... we were able to discover in the general wave
record a very weak low-frequency peak which would
surely have escaped our attention without spectral
analysis. This peak, it turns out, is almost certainly
due to a swell from the Indian Ocean, 10,000 miles
distant. Physical dimensions are: 1mm high and
a kilometer long.'"

The Hann or Hamm windowing functions are preferable as even Blackman
would admit and even these two are hardly exemplars of outstanding
performance. My designs exhibited a noise floor of -200dB
(statistical noise from the transcendentals' math). A poor Blackman
window would throw away 120dB of that to offer only -80dB. -80dB is
certainly impressive to mundane applications, but most would agree
that very little more effort was needed to gain 12 more orders of
magnitude in performance.

Hi Hank,

If you've waded through my prior list of freely available Fourier
analyzers, more can be found at:
http://sourceforge.net/search/?type_of_search=soft&words=fft
Not all are applications however.

However, you should probably try to get a copy of HP's Application Note 243-1 "Dynamic Signal Analyzer Applications." Of particular note for your studies into the nuances of investigating construction materials in Guitars (I did it with Violins), you should study the Fourier math relating to "Coherence" suited for a dual channel analyzer.

73's
Richard Clark, KB7QHC

1611. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 10:29:34 UTC
From: packer@iprimus.com.au
Message-ID: <45dc1e82.47016390@news.iprimus.com.au>
Source record: 45675
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

On Tue, 20 Feb 2007 23:03:10 -0500, "Arny Krueger" <arnyk@hotpop.com>
wrote:

>> I don't know what Jenn said, but I do know that you don't
>> know either.
>
>Paul, you keep missing the meaning of words that I wrote

Shouldn't that be "words that I've written"? There could be an
inherent explanation here.

1612. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 12:13:07 UTC
From: wood@itd.nrl.navy.mil
Message-ID: <wood-2102070713070001@jbw-mac.itd.nrl.navy.mil>
Source record: 45676

In article <12tnpo655jure73@corp.supernews.com>, Roy Lewallen
<w7el@eznec.com> wrote:

> Cebu_Charlie wrote:
> >
> > great Roy, but do us all a favor and port it out to linux so we dont have to
> > play with wine to use it.
>
> I'm sure you're a cool guy and all, but I'm not about to spend a couple
> of years of full time to do you a favor so you won't have to fool with
> wine. Sometimes it's just a tough world.
>
> Roy Lewallen, W7EL

Hello, Roy, and all. I have used a g77-compiled version of NEC-4 on a
Linux platform and it worked fine. The GNU compiler works with FORTRAN-77
source code as well as C. I assume a g77 compilation of the NEC-2 source
code would also work. Of course this is just number-crunching NEC that
does not provide the other bells and whistles of EZNEC. Sincerely, and
73s from N4GGO,

John Wood (Code 5550) e-mail: wood@itd.nrl.navy.mil
Naval Research Laboratory
4555 Overlook Avenue, SW
Washington, DC 20375-5337

1613. Re: Ferrite rod antenna for ne602 mixer

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 12:44:59 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1172061899.629809.158990@m58g2000cwm.googlegroups.com>
Source record: 45677

try here
http://home.att.net/~ray.l.cross/murod_mm/

denny / k8do

1614. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 13:30:30 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1172064630.179607.105170@h3g2000cwc.googlegroups.com>
Source record: 45678

Ya know, older Pentiums can be had for a song at flea markets,
Salvation army, church donation sites, etc.. And are free from trash
bins, and curbsides - especially near the local college at the end of
every semester...

An older pentium may take a few more seconds to crunch your Eznec
design compared to some 3GHZ screamer, but that gives you time to
think (and scratch) whilst waiting...

So as opposed to spending thousands on a new Mac, how about getting an
Eznec box for cheap...

denny

1615. "Combiner" For Two Antennas Into A Radio Single Input ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 14:06:55 UTC
From: Robert11 <rgsros@notme.com>
Message-ID: <zZWdne50kKRjzEHYnZ2dnUVZ_tmknZ2d@comcast.com>
Source record: 45679

Hello:

I do a lot of listening with a Uniden scanner on pretty much all of the scanner freq's, from perhaps
25 MHz up to 956 MHz, or so. These are of course FM and AM.

Have two antennas: One a R/S Discone, and the other a Scantenna.
The Discone is presently hooked up to a sw set that also has capabilities in the scanner freq. range.

Was wondering, about this, as I saw a very brief mention in a maghazine about using "Combiners"
to combine the outputs (capabilities) of two antennas into a single radio's input.

Is this possible, and is there anything to be gained ?
What about phase differences, etc. ?

Can't imagine that it works to improve things, but really don't know.
The article was, unfortunately, more of a mention that it is done, rather than any technical details.

So, what would happen if I "combined" my Scantenna and R/S Discone into my scanner's input ?

Thanks,
Bob

1616. Re: Field strength - S plane summation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 14:46:18 UTC
From: chuck <nospam@nospam.org>
Message-ID: <1172069249_16813@sp6iad.superfeed.net>
Source record: 45680

Owen Duffy wrote:
> Roy Lewallen <w7el@eznec.com> wrote in
> news:12tnq9kpu52brdc@corp.supernews.com:
>
>> Maybe the lack of responses is because of the obscurity of the
>> "s-plane summation". I've never heard of it, and a web search brought
>> only one or two possible hits from publications I'd have to buy in
>> order to view. Any principle with that low a profile on the web is
>> pretty esoteric.
>>
>> Roy Lewallen, W7EL
>>
>
> Roy, to kick it along a little...
>
> The technique calls for making sets of measurements with the antenna in
> three orthogonal orientations and summing the z, y and z plane values to
> an "s plane" value to represent maximum field strength. I think the
> summation that is typically used is the square root of the sum of the
> squares.
>
> The technique suits automated measurement where a series of perhaps
> hundreds of measurements at different frequencies are made, the antenna
> is manually changed, and the series repeated etc. Software is then used
> to process the logged measurements.
>
> Clearly there is an issue about the temporaral nature of separate
> measurements in each plane at a given frequency.

Well, if the field is changing in an unknown way, measurements at x, y,
and z axes at different times would be meaningless of course.
>
> I was interested in any standards or regulatory "procedures" that may
> exist that describe / mandate such technique. Most procedures that I
> have found just call for orienting the antenna for maximum response
> rather than the x,z,z trick.
>
Calculation of the resultant for a static field is not really a trick.
In the absence of a triaxial instrument, that may be the only practical
technique available.

> I would like to understand its application better to for a view about
> the appropriateness to particular applications. I suspect its main value
> is in automated EMC data capture.
>

You are talking about simply calculating the resultant of three orthogonal vectors. Not an esoteric technique. Its main value is in making a measurement without a triaxial instrument. Or, alternatively, positioning a single-axis instrument for maximum reading and then measuring the position coordinates of the instrument's axis.

Many triaxial instruments have three orthogonal probes and calculate and display the resultant automatically. Three orthogonal measurements separated in time and requiring separate calculation of the resultant is a move away from automation and accuracy, I would think.

You might search instead for discussions on measuring static magnetic fields with single-axis gaussmeters. Inexpensive gaussmeters are commonly used in this manner. I get ~350K results in a google search on "triaxial field measurement."

> I am still on the BPL measurement tram!
>
> Owen

Chuck

-----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

1617. Butternut HF-9V as elevated-feed groundplane

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 15:28:03 UTC
From: Eric <reply.in.group@nospam.no>
Message-ID: <pan.2007.02.21.15.28.01.976806@nospam.no>
Source record: 45681

Any of you have any experience with the Butternut HF-9V with TBR-160S 160-meter add-on, when mounted as a ground plane with the base elevated to, say, 20 or 30 feet?

I'm wondering how that will work with four ground plane radials as contrasted with ground-mounting and an extensive buried radial system.

I have the ideal place to mount one, about 25 feet in elevation at the base, and can string two radials for 160, three radials for 80, and four radials for 40, tilted down a little (but not the 35 degrees of downward tilt that I read somewhere is the ideal downward tilt for a ground plane to raise the feedpoint impedance to 50 ohms).

I'm hoping that those radials will also be enough for operation on 20 meters... it would be difficult (but not impossible) to also string four more radials for 20 meters.

Ground mounting this antenna with an extensive buried radial system would be very difficult (but not quite impossible if it would REALLY make the difference).

What are my chances for good success working DX with this setup and about 70 watts of power?

Would it be worth the extra effort to try to get the base of the antenna up to 40 feet rather than 25 feet?

Thanks...

1618. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 15:58:38 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <pjpot2t0un8mrfj2sud292610e8gqsikh1@4ax.com>
Source record: 45682

On Tue, 20 Feb 2007 18:14:35 -1000, Cebu_Charlie
<Cebu_Charlie@philtelcom.net> wrote:

>Roy Lewallen wrote:
>
>> EZNEC is now able to run under Linux using the wine emulator. EZNEC
>> version 4.0.34 (the current version) or later is required.
>>
>> Roy Lewallen, W7EL
>
>great Roy, but do us all a favor and port it out to linux so we dont have to
>play with wine to use it.

What I need is an operating system that will run all the software that
XP does without my spending much time tinkering with it.

I revisit Linux every few years with a fresh release and an identical
machine to my Windows system. SUSE 10 has come close but some of the
simplest things elude me. Since retirement 15 years ago I have become
isolated from other users except on the Internet. When I seek answers
to simple questions I an usually overwhelmed with a flood of answers
of varying usefulness.

I would like to run my windows and dos software on my Linux machine
with NTFS support, attached to my LAN. I want to be able to install &
delete hardware and software with processes that behave in a
consistent manner. I should be able to use my PIC programmers and my
ham radio software with out tinkering.

Until that happens with Linux I am locked into an XP machine and a
Win 98 machine in the configuration. I don't want to discourage the
Linux community but at this time it is best suited to the business
user where a few applications on a number of systems will get the job
done.

John Ferrell W8CCW

1619. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 16:06:57 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <erhqn1$1732$1@f04n12.cac.psu.edu>
Source record: 45683

Jimmie D wrote:
> "John Smith I" <assemblywizard@gmail.com> wrote in message
> news:CYtCh.43$Qf.99426@news.sisna.com...
>> Jimmie D wrote:
>>
>>> ...
>>> I t doesnt happen, water swirling down the drain in different directionn
>>> because you are in the southern or northern hemisphere is a myth.
>> Obviously you have a sink, you can prove it correct.
>>
>> And, indeed, it is correct. Has to do with the oxygen molecules slight
>> magnetic force in interaction with the appropriate pole of the earth.
>>
>> My goodness. Who would have guessed so many could benefit from a simple
>> high school physics course, and then an introduction to antennas?
>>
>> JS
>
> Cant prove it to nobody but myself, kitchen sink is a double and it is
> different in both sinks. Please tell just which way you think it spins in
> the northern hemisphere.

Your location is obviously directly on the equator, and the "line"
passes directly between the double sinks.

Ain't science wunnerful? ;^)

- 73 de Mike KB3EIA -

1620. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 16:07:53 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <cjrot2hv1djnni5ep67er0o7ar119p2orr@4ax.com>
Source record: 45684

On Wed, 21 Feb 2007 02:13:10 -0500, "Jimmie D"
<GFENDER@carolina.rr.com> wrote:

>
>"John Smith I" <assemblywizard@gmail.com> wrote in message
>news:CYtCh.43$Qf.99426@news.sisna.com...
>> Jimmie D wrote:
>>
>> > ...
>>> I t doesnt happen, water swirling down the drain in different directionn
>>> because you are in the southern or northern hemisphere is a myth.
>>
>> Obviously you have a sink, you can prove it correct.
>>
>> And, indeed, it is correct. Has to do with the oxygen molecules slight
>> magnetic force in interaction with the appropriate pole of the earth.
>>
>> My goodness. Who would have guessed so many could benefit from a simple
>> high school physics course, and then an introduction to antennas?
>>
>> JS
>
>Cant prove it to nobody but myself, kitchen sink is a double and it is
>different in both sinks. Please tell just which way you think it spins in
>the northern hemisphere.
>
Perhaps it is time for all of us with flush toilets to activate the
them and report back?
John Ferrell W8CCW

1621. Re: Field strength - S plane summation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 17:13:42 UTC
From: Frank <ve6cbdeletethis@andthis.telus.net>
Message-ID: <a5%Ch.98609$Fd.82750@edtnps90>
Source record: 45685

"chuck" <nospam@nospam.org> wrote in message
news:1172069249_16813@sp6iad.superfeed.net...
> Owen Duffy wrote:
>> Roy Lewallen <w7el@eznec.com> wrote in
>> news:12tnq9kpu52brdc@corp.supernews.com:
>>> Maybe the lack of responses is because of the obscurity of the
>>> "s-plane summation". I've never heard of it, and a web search brought
>>> only one or two possible hits from publications I'd have to buy in
>>> order to view. Any principle with that low a profile on the web is
>>> pretty esoteric.
>>> Roy Lewallen, W7EL
>>>
>>
>> Roy, to kick it along a little...
>>
>> The technique calls for making sets of measurements with the antenna in
>> three orthogonal orientations and summing the z, y and z plane values to
>> an "s plane" value to represent maximum field strength. I think the
>> summation that is typically used is the square root of the sum of the
>> squares. The technique suits automated measurement where a series of
>> perhaps
>> hundreds of measurements at different frequencies are made, the antenna
>> is manually changed, and the series repeated etc. Software is then used
>> to process the logged measurements. Clearly there is an issue about the
>> temporaral nature of separate
>> measurements in each plane at a given frequency.
>
> Well, if the field is changing in an unknown way, measurements at x, y,
> and z axes at different times would be meaningless of course.
>>
>> I was interested in any standards or regulatory "procedures" that may
>> exist that describe / mandate such technique. Most procedures that I
>> have found just call for orienting the antenna for maximum response
>> rather than the x,z,z trick.
> Calculation of the resultant for a static field is not really a trick. In
> the absence of a triaxial instrument, that may be the only practical
> technique available.
>
>> I would like to understand its application better to for a view about
>> the appropriateness to particular applications. I suspect its main value
>> is in automated EMC data capture.
>
> You are talking about simply calculating the resultant of three orthogonal
> vectors. Not an esoteric technique. Its main value is in making a

> measurement without a triaxial instrument. Or, alternatively, positioning
> a single-axis instrument for maximum reading and then measuring the
> position coordinates of the instrument's axis.
>
> Many triaxial instruments have three orthogonal probes and calculate and
> display the resultant automatically. Three orthogonal measurements
> separated in time and requiring separate calculation of the resultant is a
> move away from automation and accuracy, I would think.
>
> You might search instead for discussions on measuring static magnetic
> fields with single-axis gaussmeters. Inexpensive gaussmeters are commonly
> used in this manner. I get ~350K results in a google search on "triaxial
> field measurement."

Owen,

Where, I guess, "S" is the Poynting vector? I have made attempts at
estimating
the TRP from a NEC output file -- including the ground wave. The results
appear to be reasonably correct, but have no means of verifying the results.
If I am on the right track I can send you my Excel spread sheet clearly
showing
the method I used. I did the analysis for Reg in order to compute the true
radiation resistance of a ground mounted monopole. I have a MathCAD 7
document, which also shows the method I used, and is probably easier to
interpret.

73,

Frank

1622. Re: Butternut HF-9V as elevated-feed groundplane

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 17:16:16 UTC
From: nm5k@wt.net
Message-ID: <1172078176.517878.135500@a75g2000cwd.googlegroups.com>
Source record: 45686

On Feb 21, 9:28 am, Eric <reply.in.gr...@nospam.no> wrote:
> Any of you have any experience with the Butternut HF-9V with TBR-160S
> 160-meter add-on, when mounted as a ground plane with the base elevated
> to, say, 20 or 30 feet?
>
> I'm wondering how that will work with four ground plane radials as
> contrasted with ground-mounting and an extensive buried radial system.

Most likely the buried radial system would be quite a bit better.
>
> I have the ideal place to mount one, about 25 feet in elevation at the
> base, and can string two radials for 160, three radials for 80, and four
> radials for 40, tilted down a little (but not the 35 degrees of downward
> tilt that I read somewhere is the ideal downward tilt for a ground plane
> to raise the feedpoint impedance to 50 ohms).

The problem for 160 is the antenna is still real low in height as far
as
wavelength. To have *good* performance with an elevated GP and 4
radials,
you really want the base at least 1/4 wave up. Less will work, but the
number
of radials required to maintain the same performance skyrockets...
>
> I'm hoping that those radials will also be enough for operation on 20
> meters... it would be difficult (but not impossible) to also string four
> more radials for 20 meters.

It might work, but it would do quite a bit better with extra 20m
radials.
If the radials are not resonant for the band in use, they won't work
very
well, and decoupling will usually be poor. You can use 3/4 wave
radials,
so if any of those low band radials come out to 3/4 wave on a higher
band,
they will work ok. But 80 or 40 meter radials won't quite work out for
that.
>
> Ground mounting this antenna with an extensive buried radial system would
> be very difficult (but not quite impossible if it would REALLY make the
> difference).
>
> What are my chances for good success working DX with this setup and about
> 70 watts of power?

Fairly lackluster unless the band is super quiet.
>
> Would it be worth the extra effort to try to get the base of the antenna
> up to 40 feet rather than 25 feet?

Yes and no... Will help 40 a lot. 80 some.. 160, not a whole heck of a
lot..
40 ft is still low in terms of wavelength on 160.
Say you had a ground mount with 60 radials.. To equal that ground loss
with
four radials will require the antenna to be at about 1/4 wave height.
At 1/8 wave up, you would probably need at least 30-40 to equal the
same performance. And 1/8 wave up on 160m is about 60-70 ft... :(
At 25 ft up, it might as well be on the ground as far as the number
of
radials needed for 160m. 20 meters would be just fine at that height
though using just 4 radials.
MK

1623. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 17:32:13 UTC
From: RST Engineering <jim@rstengineering.com>
Message-ID: <Hm%Ch.15$FF3.805917@news.sisna.com>
Source record: 45689

What is the cost to upgrade from 3.0.45?

Jim

> Roy Lewallen wrote:

>> EZNEC is now able to run under Linux using the wine emulator. EZNEC
>> version 4.0.34 (the current version) or later is required.

1624. Re: Field strength - S plane summation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 17:43:14 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45dc8094$0$28159$4c368faf@roadrunner.com>
Source record: 45687

"Owen Duffy" <none@no.where> wrote in message
news:Xns98DD5AEC6A32Fnonenowhere@61.9.191.5...
>
> I am looking for reference information for summation of field strength
> measurements in x, z and z planes to the so called s-plane summation.
>
> Does anyone have any pointers?
>
> Thanks
> Owen

The only time I have ever heard reference to this it had to deal with measureing the field strength of the far field beam of a radar antenna. Its been a while but I am pretty sure it had something to do with checking out a polarizer for proper operation when it was switched from linear to circular..

Jimmie

1625. Re: Butternut HF-9V as elevated-feed groundplane

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 17:56:19 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <eri144oqk1@aioe.org>
Source record: 45688

>> Would it be worth the extra effort to try to get the base of the antenna
>> up to 40 feet rather than 25 feet?
>
>nm5k@wt.net>
>
> Yes and no... Will help 40 a lot. 80 some.. 160, not a whole heck of a
> lot.. 40 ft is still low in terms of wavelength on 160. Say you had a
> ground mount with 60 radials.. To equal that ground loss with
> four radials will require the antenna to be at about 1/4 wave height.

I know of commercial AM broadcast stations using 6-8, ~1/4-wave radials elevated less than 20 feet over (rocky) ground, with an antenna system radiation efficiency meeting the FCC minimum for broadcast station use.

Also this quoted conclusion hasn't been supported by the NEC evaluations of L.B. Cebik as given in the paper linked below. Figure 16 in that paper shows that the gain of a vertical radiator is within tenths of a decibel of its peak maximum value with four radials each 1/4-wave long, when the whole system is elevated only 0.075 wavelengths above the earth (about 41 feet at 1.8 MHz).

http://www.cebik.com/fdim/fdim4.html

RF

1626. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 19:26:15 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12tp76o3hr5ld70@corp.supernews.com>
Source record: 45690

Recompiling Fortran code which has no interaction with the user other
than getting text input from one file and writing text output to another
is a vastly different problem than re-writing a 60,000 line Visual Basic
interactive graphical user interface in another language then
recompiling for Linux while retaining full functionality of all
features. The difference between the two problems seems to escape a lot
of people, but problems do always look easier to solve when it's someone
else's job to solve them.

Roy Lewallen, W7EL

J. B. Wood wrote:
> In article <12tnpo655jure73@corp.supernews.com>, Roy Lewallen
> <w7el@eznec.com> wrote:
>
>> Cebu_Charlie wrote:
>>> great Roy, but do us all a favor and port it out to linux so we dont have to
>>> play with wine to use it.
>> I'm sure you're a cool guy and all, but I'm not about to spend a couple
>> of years of full time to do you a favor so you won't have to fool with
>> wine. Sometimes it's just a tough world.
>>
>> Roy Lewallen, W7EL
>
> Hello, Roy, and all. I have used a g77-compiled version of NEC-4 on a
> Linux platform and it worked fine. The GNU compiler works with FORTRAN-77
> source code as well as C. I assume a g77 compilation of the NEC-2 source
> code would also work. Of course this is just number-crunching NEC that
> does not provide the other bells and whistles of EZNEC. Sincerely, and
> 73s from N4GGO,
>
> John Wood (Code 5550) e-mail: wood@itd.nrl.navy.mil
> Naval Research Laboratory
> 4555 Overlook Avenue, SW
> Washington, DC 20375-5337

1627. Mobile antenna Placement

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 19:50:52 UTC
From: David <davidwall@intergate.com>
Message-ID: <12tp8m6c41drb62@corp.supernews.com>
Source record: 45691

What is the minimum distance for a 11 meter antenna and a 10 meter antenna--both mobile?

Fred Wall
NF8W

1628. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 20:40:43 UTC
From: RST Engineering <jim@rstengineering.com>
Message-ID: <q72Dh.32$jy3.414993@news.sisna.com>
Source record: 45692

Amen.

Jim

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:12tp76o3hr5ld70@corp.supernews.com...

but problems do always look easier to solve when it's someone
> else's job to solve them.

>
> Roy Lewallen, W7EL

1629. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 20:51:37 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12tpc6q6qijqg2d@corp.supernews.com>
Source record: 45693

art wrote:
> Some time ago the many pseudo expert on antennas on this
> thread PooHoo.d the idea that Static fields and electromechanical
> fields
> were connected. . .

What's an "electromechanical field"? An electrical field acted upon by the Coriolis effect?

Roy Lewallen, W7EL

1630. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 21:58:44 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <erifak$10n2$1@f04n12.cac.psu.edu>
Source record: 45694

art wrote:
> On 21 Feb, 12:03, "art" <aun...@insightbb.com> wrote:
>> Some time ago the many pseudo expert on antennas on this
>> thread PooHoo.d the idea that Static fields and electromechanical
>> fields
>> were connected. Any body can go thru the archives of a few weeks ago
>> to find out who they were. Some have also argued with me over skin
>> depth
>> but after the two latest "deep" threads that I posted I realise that
>> there are
>> more "pseudo" experts than I thought, Some obviously never got out of
>> high
>> school. Pretty much everybody scorned the idea that antennas could be
>> made better than the yagi because all was known let alone a completely
>> new
>> line of designs which were not made up of parassitic elements let
>> alone of
>> mainly resonant elements in cluster form for choice of polarity. I was
>> called
>> a lot of bad names plus all the put up or shut up by people who
>> wouldn't
>> understand it if I did supply the information.A day or so ago I
>> supplied all
>> the information albiet in an unprofessional way, on the web for all
>> to rebut,
>> especially the so called experts on this newsgroup, but where did they
>> hide
>> themselves when the evidence of Gaussian antenna connections was
>> placed
>> in front of them?
>> Where are the experts who refuted the idea of a revelutionary design
>> series?
>> On one of the threads I gave the web page such that anybody could
>> swipe
>> at me or apologise only to find that this group is not about antennas
>> it is about
>> having arguements for arguments sake. Anybody can go to Google and
>> type
>> the above thread title in to see the background to which I have been
>> criticised but the
>> fact is that if it isnt already in a book then it can't be true, at
>> least for amateurs.
>> Gentlemen I am sharing with the amateur community my findings on a new
>> breed of antennas but it seems that antenna interest has taken a

>> downswing
>> when at this point in time there is so much interest in other
>> polarities to what
>> the amateurs do not use. As I stated earlier I placed the page on
>> this newsgroup
>> \and other readers can get to it if they use this thread title in
>> google but if guitar
>> music is what you are looking for then by all means stick around for
>> somebody
>> to argue with or get in touch with AUSTRALIA to set up a water
>> experiment
>> And my all means bury your head in the sand regarding the connection
>> between
>> electrostatic fields and electromagnetic fields and yes David you can
>> start up
>> your diatribe all over again on static fields having now enunciated
>> that the
>> Corriolis force is ficticious.. Regards less of what you say yabout
>> what you
>> do in life and the antenna work you have accomplished in the company
>> of high
>> antenna experts as well as the gaurdian of an antenna testing range
>> you are NOT an expert.
>> Regards
>> Art Unwin
>
> Roy that is the sort of posting I would expect from the likes of you.
> When everything comes to light you are going to look a real fool,
> possibly in your next lifetime to
> Always looking for something to smart off about rather than putting on
> a thinking cap. And I would remind you about skin depth where you are
> screwed up. When you see 1/e in a formula
> then you should immediately think of half life which is skin depth in
> this case, Remember you cried about me using the term "decay". Waffle
> all you want about your Eznec on this newsgroup but you are still
> operating in the dark ages in the search of money. You sure would get
> upset if people smarted off on your Eznec thread about your
> advertising methods and or achievements . True I make errors when I
> type
> but I would rather you save your comments to those in a wheel chair or
> with other afflictions to raise a laugh to get attention. When you get
> to the after life there will be many who have been cured that you will
> have to answer to face to face

Hey Art,

I'm no expert, but I can hardly read your thread. Wrapping problems,
and apparently only one paragraph per long, long post makes for very
difficult to read stuff.

Perhaps if you opened things up a bit it might help the dummies like me?

- 73 de Mike KB3EIA -

1631. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 22:21:12 UTC
From: "n3ox.dan@gmail.com" <n3ox.dan@gmail.com>
Message-ID: <1172096472.365154.114820@m58g2000cwm.googlegroups.com>
Source record: 45695

Art,

I looked at your webpage at

http://home.insightbb.com/~aunwin/index.htm

I don't understand how you claim that all three elements in your cluster are resonant given that the drive impedance of two of them is highly reactive.

Your antenna appears to be a fairly mediocre weird yagi.

You can continue to write science fiction about how radiation is caused by particles ejected from the conducting material and their curling action about the element, or whatever it is you're talking about. Have fun. Sorry if my pseudo-self is going to keep pseudo-thinking that your antenna is more or less a pseudo-two-element yagi.

Dan

1632. Re: Butternut HF-9V as elevated-feed groundplane

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-21 23:54:49 UTC
From: nm5k@wt.net
Message-ID: <1172102089.797522.7440@s48g2000cws.googlegroups.com>
Source record: 45696

On Feb 21, 11:56 am, "Richard Fry" <r...@adams.net> wrote:
> >> Would it be worth the extra effort to try to get the base of the antenna
> >> up to 40 feet rather than 25 feet?
>
> >n...@wt.net>
>
> > Yes and no... Will help 40 a lot. 80 some.. 160, not a whole heck of a
> > lot.. 40 ft is still low in terms of wavelength on 160. Say you had a
> > ground mount with 60 radials.. To equal that ground loss with
> > four radials will require the antenna to be at about 1/4 wave height.
>
> ----------
>
> I know of commercial AM broadcast stations using 6-8, ~1/4-wave radials
> elevated less than 20 feet over (rocky) ground, with an antenna system
> radiation efficiency meeting the FCC minimum for broadcast station use.

How does that minimum compare to the usual 120 or so radials on the
ground?

>
> Also this quoted conclusion hasn't been supported by the NEC evaluations of
> L.B. Cebik as given in the paper linked below. Figure 16 in that paper
> shows that the gain of a vertical radiator is within tenths of a decibel of
> its peak maximum value with four radials each 1/4-wave long, when the whole
> system is elevated only 0.075 wavelengths above the earth (about 41 feet at
> 1.8 MHz).

Well, a model can say one thing, and the real world performance
another.
I'm not saying it wouldn't radiate. It would. But it's not going to be
any world
beater for dx. For sure, it won't be living up to it's full
potential.
Four elevated resonant radials at 40 ft are better than 4 ground mount
radials, but
at that height you really need quite a few more if you want to equal a
stout
ground mount setup. If you have 60 radials on the ground, you need
about
20-30 at 1/8 wave up to equal the same appx ground loss. And 1/8 wave
on
160 is about 60 ft or more.
When I had a 40 meter ground plane at 1/4 wave up, "four sloping
radials"

I tried using it lowered to about 1/8 wave after working on it, and I had the mast
down. I tried it for a night. It didn't work near as well as when it was fully up to 1/4
wave when working most anyone. VK was probably almost 2 S units down from my
usual report, just using that crude estimate to compare. It was noticable for sure.
If you can get up to a 1/4 wave, and have at least 4 radials, then it is pretty good.
And even that is not quite optimum, 10 would be better. It's close enough though...
I've read of quite a few low band ops trying verticals, with low elevated radials, with
usually a low amount. Most of them end up scrapping it after a few nights of #$%&,
and laying out 30-60 ground radials. Most claim it woke the antenna up.
I'm a great fan of elevated verticals on the low bands. The one I had on 40 was very
stout. But I don't recommend them low to the ground with only a few radials, unless
you are ready to accept the quite noticable hit in performance.
That's what can give the verticals a bad name..
You would probably be better off setting up a good mobile antenna on a large truck and running
coax to it. :/ No joke.
But it wouldn't hurt anything to try out what he proposes.. If it doesn't pan out, he can
always go back and lay the wire down. It would be much better than not operating at all.
On 160, a lot will depend on the noise level.. Some nights a weaker signal will do ok,
other nights, it's teeth grinding torture... On the low bands, I don't like to throw away power to the
ground, that could otherwise be radiated if I can avoid it. Sometimes it's hard to avoid
with some locations, restrictions, etc..
It's not that I try to discourage running less than optimum verticals, I just hate to see
people try them, and then end up thinking most all verticals perform about the same. If they
scrimp in some way, either with height, or number, they will lose some performance.
MK

1633. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 00:01:22 UTC
From: nm5k@wt.net
Message-ID: <1172102482.642160.85520@k78g2000cwa.googlegroups.com>
Source record: 45697

On Feb 21, 2:03 pm, "art" <aun...@insightbb.com> wrote:
>Any body can go thru the archives of a few weeks ago
> to find out who they were.
> Regards
> Art Unwin

My cat has mittens.
MK

1634. Re: Field strength - S plane summation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 00:04:20 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12tpng510pvr140@corp.supernews.com>
Source record: 45698

It's not clear what the objective is. NEC and EZNEC have the ability to sum the power from the field at all calculated points. This is used in its "average gain" calculation which reports the ratio of total power in the field to power applied to the array. (NEC, but not EZNEC, also applies another factor of two when evaluating a system over a ground plane.) You can extract this total power value by multiplying the reported average gain by the power from the sources (and the additional factor of two if necessary).

I don't know if this is the end result you're after, but it sounds like something in the right direction. You could of course analyze an antenna with two orthogonal elevation plots and an azimuth plot to generate data for three orthogonal planes, then sum them manually or with a simple program. I have no idea what the meaning or use of the resulting number might be, though.

Roy Lewallen, W7EL

Owen Duffy wrote:
>
> Roy, to kick it along a little...
>
> The technique calls for making sets of measurements with the antenna in
> three orthogonal orientations and summing the z, y and z plane values to
> an "s plane" value to represent maximum field strength. I think the
> summation that is typically used is the square root of the sum of the
> squares.
>
> The technique suits automated measurement where a series of perhaps
> hundreds of measurements at different frequencies are made, the antenna
> is manually changed, and the series repeated etc. Software is then used
> to process the logged measurements.
>
> Clearly there is an issue about the temporaral nature of separate
> measurements in each plane at a given frequency.
>
> I was interested in any standards or regulatory "procedures" that may
> exist that describe / mandate such technique. Most procedures that I
> have found just call for orienting the antenna for maximum response
> rather than the x,z,z trick.
>
> I would like to understand its application better to for a view about
> the appropriateness to particular applications. I suspect its main value
> is in automated EMC data capture.
>

> I am still on the BPL measurement tram!
>
> Owen

1635. Re: ibeams? skyscraper grounds?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 00:10:28 UTC
From: ml <m@di.net>
Message-ID: <m-AAEBEA.19102321022007@news.verizon.net>
Source record: 45699

In article <tqydnep1364gQUTYnZ2dnUVZ_t-mnZ2d@comcast.com>,
Jake Brodsky <ab3a@cNo0mScPaAsMt.net> wrote:

> ml wrote:
> > so how do the pro's do it??
>
> The steel structure of the sky scraper is one of the best grounds you
> could have. It is effectively a Faraday shield around everything.
>
> You ought to find out where the ground connections for the existing
> lighting rods are and use that. If there are no lightning rods around
> (shudder) find some structural steel close to your antenna, and bug
> (clamp) on to it. I would also suggest following an electrical panel
> ground around to see where its ground is. They too ought to be on
> building steel.
>
> Good Luck!
>
> Jake Brodsky
> Amateur Radio Station AB3A

hate to show my ignorance, but are the ibeams really 'ground'?
usually i've seen them either sitting on concreate squares or on
larger concreate foundation wall like things so i always figured
they'd be rather isolated from ground beside what little connecitivity
was in the concreate itself which i know would carry a lightning
strike, if hit but not the other way around ie higher resistance
so i ponder

same for the electrical pannel ground to be attached to the building
steel ??

i dunno

1636. Re: Field strength - S plane summation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 00:13:40 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98DF723737D1Anonenowhere@61.9.191.5>
Source record: 45700

Roy Lewallen <w7el@eznec.com> wrote in news:12tpng510pvr140
@corp.supernews.com:

> It's not clear what the objective is. NEC and EZNEC have the ability to

This is about measurement in the field of emission field strengths, and techniques for coming up with a single number representing the emission field strength on a particular frequency at a particular location.

Owen

1637. Re: Butternut HF-9V as elevated-feed groundplane

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 00:21:25 UTC
From: W4WNT <w4wnt@carolina.rr.com>
Message-ID: <45dce209$0$24778$4c368faf@roadrunner.com>
Source record: 45701

Check out ON4UN's book on Low Band DXing. He does address elevated radials.
Certainly less than the 120 buried radials that commercial radio stations
have used.

Bill, W4WNT

"Eric" <reply.in.group@nospam.no> wrote in message
news:pan.2007.02.21.15.28.01.976806@nospam.no...
>
> Any of you have any experience with the Butternut HF-9V with TBR-160S
> 160-meter add-on, when mounted as a ground plane with the base elevated
> to, say, 20 or 30 feet?
>
> I'm wondering how that will work with four ground plane radials as
> contrasted with ground-mounting and an extensive buried radial system.
>
> I have the ideal place to mount one, about 25 feet in elevation at the
> base, and can string two radials for 160, three radials for 80, and four
> radials for 40, tilted down a little (but not the 35 degrees of downward
> tilt that I read somewhere is the ideal downward tilt for a ground plane
> to raise the feedpoint impedance to 50 ohms).
>
> I'm hoping that those radials will also be enough for operation on 20
> meters... it would be difficult (but not impossible) to also string four
> more radials for 20 meters.
>
> Ground mounting this antenna with an extensive buried radial system would
> be very difficult (but not quite impossible if it would REALLY make the
> difference).
>
> What are my chances for good success working DX with this setup and about
> 70 watts of power?
>
> Would it be worth the extra effort to try to get the base of the antenna
> up to 40 feet rather than 25 feet?
>
> Thanks...
>

1638. Re: Mobile antenna Placement

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 00:53:43 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <12tpqctgv591f5e@corp.supernews.com>
Source record: 45702

David wrote:
> What is the minimum distance for a 11 meter antenna and a 10 meter
> antenna--both mobile?
>
> Fred Wall
> NF8W
>
>
Half a wave length....
Dave WD9BDZ

1639. Re: Field strength - S plane summation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 01:11:55 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98DF7C17421CAnonenowhere@61.9.191.5>
Source record: 45703

"Frank" <ve6cbdeletethis@andthis.telus.net> wrote in
news:a5%Ch.98609$Fd.82750@edtnps90:

>
> "chuck" <nospam@nospam.org> wrote in message
> news:1172069249_16813@sp6iad.superfeed.net...
>> Owen Duffy wrote:
>>> Roy Lewallen <w7el@eznec.com> wrote in
>>> news:12tnq9kpu52brdc@corp.supernews.com:
>>>> Maybe the lack of responses is because of the obscurity of the
>>>> "s-plane summation". I've never heard of it, and a web search
>>>> brought only one or two possible hits from publications I'd have to
>>>> buy in order to view. Any principle with that low a profile on the
>>>> web is pretty esoteric.
>>>> Roy Lewallen, W7EL
>>>>
>>>
>>> Roy, to kick it along a little...
>>>
>>> The technique calls for making sets of measurements with the antenna
>>> in three orthogonal orientations and summing the z, y and z plane
>>> values to an "s plane" value to represent maximum field strength. I
>>> think the summation that is typically used is the square root of the
>>> sum of the squares. The technique suits automated measurement where
>>> a series of perhaps
>>> hundreds of measurements at different frequencies are made, the
>>> antenna is manually changed, and the series repeated etc. Software
>>> is then used to process the logged measurements. Clearly there is an
>>> issue about the temporaral nature of separate
>>> measurements in each plane at a given frequency.
>>
>> Well, if the field is changing in an unknown way, measurements at x,
>> y, and z axes at different times would be meaningless of course.
>>>
>>> I was interested in any standards or regulatory "procedures" that
>>> may exist that describe / mandate such technique. Most procedures
>>> that I have found just call for orienting the antenna for maximum
>>> response rather than the x,z,z trick.
>> Calculation of the resultant for a static field is not really a
>> trick. In the absence of a triaxial instrument, that may be the only
>> practical technique available.
>>
>>> I would like to understand its application better to for a view
>>> about the appropriateness to particular applications. I suspect its

>>> main value is in automated EMC data capture.
>>
>> You are talking about simply calculating the resultant of three
>> orthogonal vectors. Not an esoteric technique. Its main value is in
>> making a measurement without a triaxial instrument. Or,
>> alternatively, positioning a single-axis instrument for maximum
>> reading and then measuring the position coordinates of the
>> instrument's axis.
>>
>> Many triaxial instruments have three orthogonal probes and calculate
>> and display the resultant automatically. Three orthogonal
>> measurements separated in time and requiring separate calculation of
>> the resultant is a move away from automation and accuracy, I would
>> think.
>>
>> You might search instead for discussions on measuring static magnetic
>> fields with single-axis gaussmeters. Inexpensive gaussmeters are
>> commonly used in this manner. I get ~350K results in a google search
>> on "triaxial field measurement."
>
> Owen,
>
> Where, I guess, "S" is the Poynting vector? I have made attempts at
> estimating
> the TRP from a NEC output file -- including the ground wave. The
> results appear to be reasonably correct, but have no means of
> verifying the results. If I am on the right track I can send you my
> Excel spread sheet clearly showing
> the method I used. I did the analysis for Reg in order to compute the
> true radiation resistance of a ground mounted monopole. I have a
> MathCAD 7 document, which also shows the method I used, and is
> probably easier to interpret.
>

Thanks Frank, it is more about summation of field strength measurements in the real world to a single figure representing max field strength (in whatever orientation) at that location and frequency.

I was hoping I might find procedures specified by regulatory authorities for measurement of such... but searching hasn't turned up much.

Owen

1640. Re: Field strength - S plane summation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 01:20:02 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12tpru33ce2h5ba@corp.supernews.com>
Source record: 45704

Owen Duffy wrote:
> Roy Lewallen <w7el@eznec.com> wrote in news:12tpng510pvr140
> @corp.supernews.com:
>
>> It's not clear what the objective is. NEC and EZNEC have the ability to
>
> This is about measurement in the field of emission field strengths, and
> techniques for coming up with a single number representing the emission
> field strength on a particular frequency at a particular location.

I understand that, but "representing" in what way -- an average, weighted average, RMS, probability density, something else? And what would it mean? Is it supposed to tell how much interference will be created for the overall community? Will an antenna with a narrow beam pointing straight up give the same number as one with a narrow beam pointing horizontally, or are the data for the axes weighted differently?

This is a means of data reduction, in which the result has less information than the original data. 3D field strength data *does* represent the emission field strength, but any summation and consequent reduction represents less information than this.

I'm not saying that industries or the regulatory agencies won't use something like this to "prove" whatever they need to prove -- but it should undergo some critical scrutiny to see just what its meaning really is.

After all, half the children in the schools are below average!

Roy Lewallen, W7EL

1641. Re: Mobile antenna Placement

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 01:21:37 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12tps11n020180f@corp.supernews.com>
Source record: 45705

David G. Nagel wrote:
> David wrote:
>> What is the minimum distance for a 11 meter antenna and a 10 meter
>> antenna--both mobile?
>>
>> Fred Wall
>> NF8W
>>
> Half a wave length....
> Dave WD9BDZ

That's a positive and unqualified response. So I'm curious -- how did you arrive at that figure?

Roy Lewallen, W7EL

1642. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 01:34:28 UTC
From: Nate Bargmann <n0nb.DO.NOT.SPAM@ME.networksplus.net>
Message-ID: <fMednXUGsce5bkHYnZ2dnUVZ_s_inZ2d@bluevalley.net>
Source record: 45706

On Wed, 21 Feb 2007 15:58:38 +0000, John Ferrell wrote:

> I would like to run my windows and dos software on my Linux machine
> with NTFS support, attached to my LAN. I want to be able to install &
> delete hardware and software with processes that behave in a
> consistent manner. I should be able to use my PIC programmers and my
> ham radio software with out tinkering.

I'm sure you understand this, but others may not realize that Linux is not, nor was ever intended to be a drop-in replacement for Windows of any vintage. It is intended as a freely available Unix work-alike although many efforts have resulted in some good ability to run Windows software through emulation.

> Until that happens with Linux I am locked into an XP machine and a
> Win 98 machine in the configuration. I don't want to discourage the
> Linux community but at this time it is best suited to the business
> user where a few applications on a number of systems will get the job
> done.

It's not ever going to happen in that manner. Linux is its own entity and does that very well, just like the Mac is its own entity. There are similarities between all systems, but again, Linux is not nor was ever intended as a bug-for-bug replacement of Windows capable of running Windows software unmodified. A lot of people, including myself, use Linux as our desktop and are quite satisfied with no Windows in sight.

I'm sorry if you were led to believe that Linux is a software compatible replacement for Windows. It's not.

73, de Nate >>

--

"The optimist proclaims that we live in the best of all possible worlds,
the pessimist fears this is true."

1643. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 01:38:15 UTC
From: Nate Bargmann <n0nb.DO.NOT.SPAM@ME.networksplus.net>
Message-ID: <fMednXQGsceaaUHYnZ2dnUVZ_s_inZ2d@bluevalley.net>
Source record: 45707

On Tue, 20 Feb 2007 22:30:29 -0800, Roy Lewallen wrote:

> Cebu_Charlie wrote:
>>
>> great Roy, but do us all a favor and port it out to linux so we dont have
to
>> play with wine to use it.
>
> I'm sure you're a cool guy and all, but I'm not about to spend a couple
> of years of full time to do you a favor so you won't have to fool with
> wine. Sometimes it's just a tough world.

Understood, Roy.

Besides being an emulator/program loader, Wine also has winelib which is intended as a way to recompile Windows applications for Linux (and other Free Unix systems like BSD, etc.) so they can run natively. This would avoid a complete porting effort.

73, de Nate >>

--

"The optimist proclaims that we live in the best of all possible worlds,
the pessimist fears this is true."

1644. Re: Mobile antenna Placement

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 01:43:14 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <12tpt9p8bmca3ba@corp.supernews.com>
Source record: 45708

Roy Lewallen wrote:
> David G. Nagel wrote:
>> David wrote:
>>> What is the minimum distance for a 11 meter antenna and a 10 meter
>>> antenna--both mobile?
>>>
>>> Fred Wall
>>> NF8W
>>>
>> Half a wave length....
>> Dave WD9BDZ
>
> That's a positive and unqualified response. So I'm curious -- how did
> you arrive at that figure?
>
> Roy Lewallen, W7EL
Just recently looked it up in the ARRL 2006 Handbook.

Dave

1645. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 02:24:15 UTC
From: Mike Coslo <mcoslo@youknow.comcast.net>
Message-ID: <Xns98DED9BE5D1C3mcoslocomcastnet@216.196.97.136>
Source record: 45709

jimp@specsol.spam.sux.com wrote in news:tolra4-da.ln1@mail.specsol.com:

> Firing tables for long range artillery have corrections for the
> effect.

Cool - I didn't know that! It does stand to reason, giving the distances and velocities involved.

- 73 de Mike KB3EIA -

1646. Re: Mobile antenna Placement

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 02:43:46 UTC
From: jimlux@earthlink.net
Message-ID: <1172112226.053977.250340@v45g2000cwv.googlegroups.com>
Source record: 45710

> >>> What is the minimum distance for a 11 meter antenna and a 10 meter
> >>> antenna--both mobile?

> >>> Fred Wall
> >>> NF8W

> >> Half a wave length....
> >> Dave WD9BDZ

> > That's a positive and unqualified response. So I'm curious -- how did
> > you arrive at that figure?
> > Roy Lewallen, W7EL

> Just recently looked it up in the ARRL 2006 Handbook.

> Dave

One might ask, minimum for what? Coupling between antennas so that the receiver of one radio isn't destroyed by the other? That would depend on the power outputs and the receiver input power limit. Interaction so that the pattern isn't affected? Aside from patterns on mobile installations not being particularly normal anyway, it would depend on what's connected to the feedpoint of the "parasitic" antenna. And, is that a free space half wavelength or far enough that the phase of the near field has flipped 180 degrees?

And, as a practical matter, taking a sort of average, half a wavelength is about 5 1/4 meters or 17-18 ft. That's a fair distance apart for most cars.

So, let's surmise some practical details and try and help Fred out.. Say he wants to avoid putting more than 1 Volt RMS into the receiver, and he wants to use 100W on his 10m rig. Let's not worry about tuning precisely or grotty details of the car.. just 2 vertical monopoles 2.5 m long, 2 meters apart, with a 50 ohm load on one, and the source on the other.

With 100W (about 60Volts and about 1.7 A into the 36 ohm Z), you'll get 24 volts across the 50 ohm load. That'll probably cook it. Even if you ran 1 Watt, you'd get about 2.4 V... So 2m is a bit close if you want to run 100W.

1647. Re: Field strength - S plane summation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 02:53:12 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98DF8D4387CCCnonenowhere@61.9.191.5>
Source record: 45711

Roy Lewallen <w7el@eznec.com> wrote in
news:12tpru33ce2h5ba@corp.supernews.com:

> Owen Duffy wrote:
>> Roy Lewallen <w7el@eznec.com> wrote in news:12tpng510pvr140
>> @corp.supernews.com:
>>
>>> It's not clear what the objective is. NEC and EZNEC have the ability
>>> to
>>
>> This is about measurement in the field of emission field strengths,
>> and techniques for coming up with a single number representing the
>> emission field strength on a particular frequency at a particular
>> location.
>
> I understand that, but "representing" in what way -- an average,
> weighted average, RMS, probability density, something else? And what
> would it mean? Is it supposed to tell how much interference will be
> created for the overall community? Will an antenna with a narrow beam
> pointing straight up give the same number as one with a narrow beam
> pointing horizontally, or are the data for the axes weighted
> differently?

Typically, it would the a set of measurements reduced to a descriptor of centrality and variability, eg median and percentile or inter quartile range or whatever.

I think it is intended to equate to the field strength that would be measured using a linearly polarised antenna oriented for maximum pickup.

>
> This is a means of data reduction, in which the result has less
> information than the original data. 3D field strength data *does*
> represent the emission field strength, but any summation and
> consequent reduction represents less information than this.
>
> I'm not saying that industries or the regulatory agencies won't use
> something like this to "prove" whatever they need to prove -- but it
> should undergo some critical scrutiny to see just what its meaning
> really is.

The question comes up in a context of we amateurs measuring and documenting background noise levels, and whether the z, y, z -> S is better than just swinging a loop for maximum response and recording the measurement.

I am of the view that the three dimensional measurement is really a technique suited to automated measurement of a large set of frequencies with and instrument that has a single plane antenna that it cannot re-orient, and whilst it addresses that issue, it is unnecessary complication for a hand held loop that can be maximised.

But, my opinons are not very important, I am interested in any formal testing procedures, and the opions of other knowledgeable and experience practitioners like yourself Roy.

>
> After all, half the children in the schools are below average!

Not necessarily, it depends on the population distribution, doesn't it? Exactly half would be less than the median, provided there were an odd number of children.

Pickiness over averages aside, your comments are appreciated Roy.

Owen

1648. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 03:21:57 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <d03qt2p7ul8cm569bg0nedqg39ueklbhb3@4ax.com>
Source record: 45712

On Wed, 21 Feb 2007 19:34:28 -0600, Nate Bargmann
<n0nb.DO.NOT.SPAM@ME.networksplus.net> wrote:

>On Wed, 21 Feb 2007 15:58:38 +0000, John Ferrell wrote:
>
>> I would like to run my windows and dos software on my Linux machine
>> with NTFS support, attached to my LAN. I want to be able to install &
>> delete hardware and software with processes that behave in a
>> consistent manner. I should be able to use my PIC programmers and my
>> ham radio software with out tinkering.
>
>I'm sure you understand this, but others may not realize that Linux is not,
>nor was ever intended to be a drop-in replacement for Windows of any
>vintage. It is intended as a freely available Unix work-alike although many
>efforts have resulted in some good ability to run Windows software through
>emulation.
>
>> Until that happens with Linux I am locked into an XP machine and a
>> Win 98 machine in the configuration. I don't want to discourage the
>> Linux community but at this time it is best suited to the business
>> user where a few applications on a number of systems will get the job
>> done.
>
>It's not ever going to happen in that manner. Linux is its own entity and
>does that very well, just like the Mac is its own entity. There are
>similarities between all systems, but again, Linux is not nor was ever
>intended as a bug-for-bug replacement of Windows capable of running Windows
>software unmodified. A lot of people, including myself, use Linux as our
>desktop and are quite satisfied with no Windows in sight.
>
>I'm sorry if you were led to believe that Linux is a software compatible
>replacement for Windows. It's not.
>
>73, de Nate >>
I did not mean to be critical of Linux, I just could not restrain the
urge to expose my wish list!

John Ferrell W8CCW

1649. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 03:33:40 UTC
From: Frank's <frank599@nojunkmailplease.telus.net>
Message-ID: <oa8Dh.124553$Oa.48610@edtnps82>
Source record: 45713

> Art,
>
> I looked at your webpage at
>
> http://home.insightbb.com/~aunwin/index.htm
>
> I don't understand how you claim that all three elements in your
> cluster are resonant given that the drive impedance of two of them is
> highly reactive.
>
> Your antenna appears to be a fairly mediocre weird yagi.
>
> You can continue to write science fiction about how radiation is
> caused by particles ejected from the conducting material and their
> curling action about the element, or whatever it is you're talking
> about. Have fun. Sorry if my pseudo-self is going to keep pseudo-
> thinking that your antenna is more or less a pseudo-two-element yagi.
>
> Dan

The structure, as shown on the web site, has the following parameters:

Gain at 10 deg. elevation -- 10.2 dBi
F/B ratio -- 5.5 dB
Input impedance -- 126 + j 171.

Ball park guess 2 element beam at the same elevation.
Driven element 28", reflector, 29.5", and element spacing 7".
Elements 0.2" dia. aluminum:

Gain at 10 deg. elevation -- 12.3 dBi
F/B ratio -- 12 dB
Input impedance -- 35 + j 38

All above simulations using NEC above a perfectly conducting ground.

Regards,

Frank

1650. Re: Field strength - S plane summation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 05:44:50 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1172123090.468560.296530@l53g2000cwa.googlegroups.com>
Source record: 45714

On Feb 21, 12:43 pm, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
> "Owen Duffy" <n...@no.where> wrote in message
>
> news:Xns98DD5AEC6A32Fnonenowhere@61.9.191.5...
>
>
>
> > I am looking for reference information for summation of field strength
> > measurements in x, z and z planes to the so called s-plane summation.
>
> > Does anyone have any pointers?
>
> > Thanks
> > Owen
>
> The only time I have ever heard reference to this it had to deal with
> measureing the field strength of the far field beam of a radar antenna. Its
> been a while but I am pretty sure it had something to do with checking out a
> polarizer for proper operation when it was switched from linear to
> circular..
>
> Jimmie

Also pretty sure the S was refered to as SIGMA, maybe this will help.

Jimmie

1651. I Built the 10m Sleeve Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 06:16:52 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <rzaDh.5599$7d1.3036@newsfe12.phx>
Source record: 45715

It was a bust. <:-(

I used copper pipe -- 1-inch for the bottom quarter-wave element and 1/2-inch for the upper quarter-wave element. The elements are 8 feet, 1 5/8 inches long and at the feed point, the space between the elements is about three inches.

I put a piece of thickwall PVC inside the lower element as an insulator (per Cecil's advice) and slid RG-8 through the PVC to the feed point. I attached the coax shield to the 1-inch pipe and the center conductor to the 1/2-inch pipe.

This afternoon, a ham pal of mine used his MFJ antenna analyzer (model?) to test the sleeve. The VSWR was never better than 2.8:1 and exceeded 3:1 over much of the intended range of operation. He suggested than we pull the coax out and reconnect it as a more conventional dipole. Good idea. The VSWR dropped to a 1.3:1 best and didn't exceed 1.5:1 over the entire 10m band. As long as I keep the coax a few inches from the lower dipole element, everything's fine. Oh ... don't lean it up against the orange tree, either.

I think we might have extracted more information with his analyzer had we not been getting close to being in the dark. If the antenna is inductive, feeding it through a cap might pull the VSWR down to 1:1 at best. I know from my J-poles that this is the case -- not sure if it applies to copper pipe dipoles.

I have very few ideas for correcting the original sleeve design. Feeding one or both elements through capacitors comes to mind. Resizing would not seem to be appropriate, since the poor VSWR of the sleeve was still better at 10m than anywhere else.

73,
"Sal"
(really KD6VKW, anxiously awaiting Saturday morning, to present my CSCE's at the local VE session.)

1652. Re: Field strength - S plane summation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 06:38:31 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12tqej81j7cb317@corp.supernews.com>
Source record: 45716

Owen Duffy wrote:
> Roy Lewallen <w7el@eznec.com> wrote in
> news:12tpru33ce2h5ba@corp.supernews.com:
>
>> Owen Duffy wrote:
> . . .
>> After all, half the children in the schools are below average!
>
> Not necessarily, it depends on the population distribution, doesn't it?
> Exactly half would be less than the median, provided there were an odd
> number of children.
> . . .

And right you are -- I stand corrected.

Guess I was blinded by thinking of the statistician who drowned crossing
a creek which had an average depth of only three feet.

Roy Lewallen, W7EL

1653. tuned vertical vs center loaded ant

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 06:40:11 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns98DEE6B63F8F0spectrumhogstarbandn@198.186.192.196>
Source record: 45717

I have a general question regarding the pro's and con's of two types of antennas to be used for fixed station operation from a motorhome.

Is there any efficiency advantage between using a super sized Texas bugcatcher type center loaded antenna about 18 feet tall, vs, a vertical pole about 23' tall that is tuned with either a manual, or automatic antenna tuner?

Either antenna would be mounted in same location, and use my best connection to the under-chassis as ground point for feed.

My primary operations are on 80M and 40M. Vertical is mandatory due to certain limited space parking situations.

Ed K7AAT

1654. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 06:45:40 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12tqf0l43drb3c@corp.supernews.com>
Source record: 45718

Nate Bargmann wrote:
>
> Understood, Roy.
>
> Besides being an emulator/program loader, Wine also has winelib which is
> intended as a way to recompile Windows applications for Linux (and other Free
> Unix systems like BSD, etc.) so they can run natively. This would avoid a
> complete porting effort.

Wow, I didn't know anything could compile Visual Basic 6 code for any operating system environment except Windows. How well does it handle Windows API calls? EZNEC uses many, many of them. What does it do about functions in COM and ActiveX files? Does it recompile those too? What about third party software in the form of COM or ActiveX files, which can't be recompiled due to lack of source code? Does it successfully substitute for Windows Registry operations?

Roy Lewallen, W7EL

1655. Re: I Built the 10m Sleeve Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 07:04:40 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45dd3c6a$0$28137$4c368faf@roadrunner.com>
Source record: 45719

"Sal M. Onella" <salmonella@food.poisoning.org> wrote in message
news:rzaDh.5599$7d1.3036@newsfe12.phx...
> It was a bust. <:-(
>
> I used copper pipe -- 1-inch for the bottom quarter-wave element and
> 1/2-inch for the upper quarter-wave element. The elements are 8 feet, 1
> 5/8
> inches long and at the feed point, the space between the elements is about
> three inches.
>
> I put a piece of thickwall PVC inside the lower element as an insulator
> (per
> Cecil's advice) and slid RG-8 through the PVC to the feed point. I
> attached
> the coax shield to the 1-inch pipe and the center conductor to the
> 1/2-inch
> pipe.
>
> This afternoon, a ham pal of mine used his MFJ antenna analyzer (model?)
> to
> test the sleeve. The VSWR was never better than 2.8:1 and exceeded 3:1
> over
> much of the intended range of operation. He suggested than we pull the
> coax
> out and reconnect it as a more conventional dipole. Good idea. The VSWR
> dropped to a 1.3:1 best and didn't exceed 1.5:1 over the entire 10m band.
> As long as I keep the coax a few inches from the lower dipole element,
> everything's fine. Oh ... don't lean it up against the orange tree,
> either.
>
> I think we might have extracted more information with his analyzer had we
> not been getting close to being in the dark. If the antenna is inductive,
> feeding it through a cap might pull the VSWR down to 1:1 at best. I know
> from my J-poles that this is the case -- not sure if it applies to copper
> pipe dipoles.
>
> I have very few ideas for correcting the original sleeve design. Feeding
> one
> or both elements through capacitors comes to mind. Resizing would not
> seem
> to be appropriate, since the poor VSWR of the sleeve was still better at
> 10m
> than anywhere else.
>

> 73,
> "Sal"
> (really KD6VKW, anxiously awaiting Saturday morning, to present my CSCE's
> at
> the local VE session.)
>
>
Ive built a couple of these and from my experience the bottom pipe is not large enough, maybe 2.5 inches using rg58 coax. PVC may not be the best insulator for this either. Styrofoam is very good. Even then the lower section will have to be somewhat shorter than you would expect. Since you are experimenting try some RG58 with your existing antenna and mkae the change from PVC to styrofoam making the changes one at a time so you can see the individual effects. Also sweep the antena to find out its actuall resoant frequency.
Jimmie

1656. Re: Field strength - S plane summation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 07:36:24 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98DFBD46DE3C5nonenowhere@61.9.191.5>
Source record: 45720

Roy Lewallen <w7el@eznec.com> wrote in news:12tqej81j7cb317
@corp.supernews.com:

> Owen Duffy wrote:
>> Roy Lewallen <w7el@eznec.com> wrote in
>> news:12tpru33ce2h5ba@corp.supernews.com:
>>
> Guess I was blinded by thinking of the statistician who drowned crossing
> a creek which had an average depth of only three feet.

Thanks Roy, I must remember that. It is a salutory reminder that the value
of an average (or a median for that matter) may be limited.

Owen

1657. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 07:47:39 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <mbeqt2tfvb1ea3pgjtle43ccjud2u0v94t@4ax.com>
Source record: 45721
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

On Tue, 20 Feb 2007 14:04:19 GMT, NoSpam@daqarta.com (Bob Masta)
wrote:

>On Mon, 19 Feb 2007 10:34:50 -0800, Richard Clark <kb7qhc@comcast.net>
>wrote:
>
>>On Mon, 19 Feb 2007 14:06:30 GMT, NoSpam@daqarta.com (Bob Masta)
>>wrote:
>>
>>>FFT size is 1024 points, so you won't be able to use
>>>this for tuning your guitar, if that's what you had in mind.
>>
>>Hi Bob,
>>
>>Why not? 1024 points (bins) has enough resolution to shake out every
>>note on a Hawaiian slide guitar. The only care is selecting the
>>sampling rate and most FFT packages should be able to resolve
>>exceedingly fine.
>>
>
>The problem is that the line resolution of an FFT is the sample
>rate divided by the number of time points. So with 44100 Hz
>sample rate and 1024 points you get a bit over 43 Hz per line.
>So the first non-DC spectral line would be 43 Hz, which is about
>a low F on a bass guitar, and the very next line would be the F
>an octave above that... you'd miss an entire octave!

Hi Bob,

What you describe here, and that which followed, is a problem of
either hardware (I design my own) or a perception of Fourier
techniques that is constrained to common applications.

The trick is one that is encountered quite commonly with RF designers
(and those Hams that actually practice the craft instead of being
appliance operators) - it is called mixing. Or to describe it with
more precision (as an audio crowd has a restricted meaning for the
term "mixing") heterodyning or modulating/demodulating. Simply put,
the data channel is pre-processed by multiplying it with a reference
cosine before being passed onto the FFT. (Although this sounds like
windowing, it is not.) Of course, the output of the FFT has to have
its units recast. In the old days, this was called "zooming" or an
arbitrary view of a single frequency encompassed by a span of far
higher resolution than that obtained from a simple transform. I would

quickly point out that the simple transform is still performed (same bin interval, same bin count), but it has been augmented.

This technique, plus a waterfall display, is useful in tracing down mechanical problems in journals, bearing races (with bearing run-out or ball defect) and bad gear meshes. It also relates to Hank's desire to test individual construction components in the guitar as all of these problems relate to a subtle data inflection that can be destructive in machinery, or discordant in music. The zoom feature can reveal these defects with remarkable resolution. As I said, the FFT as originally described can differentiate every note of an Hawaiian slide guitar. Perhaps I should have added the proviso: provided you use a synchronized tracking generator for mixing. However, given this can be done digitally (no one needs a hardware oscillator), no change in hardware is necessary. All the data that is needed is already there.

> www.daqarta.com
by the way, this seems to be a dead link. (later) I take that back, but it took a lot of retries over the span of an hour.

Further, it seems you have a lot of what I mention above covered in your pages, by parts, but none of them encompass the whole of "zooming."

And for your page on windowing, drop me an email if you would like to see some pascal routines embodying some very tight windows. These came from my time with HP whose chief engineer soon after departed for a chair at some eastern university.

73's
Richard Clark, KB7QHC

1658. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 08:09:56 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <f4jqt29tb2h4oflrvdq54lvhdvn27qnr2g@4ax.com>
Source record: 45722

On Thu, 22 Feb 2007 03:33:40 GMT, "Frank's"
<frank599@nojunkmailplease.telus.net> wrote:

>Gain at 10 deg. elevation -- 10.2 dBi
>
>Gain at 10 deg. elevation -- 12.3 dBi

Hi Frank,

Consistent with past experience with Art's designs, I threw away
2/3rds of it (OK 2 wires) and got 3 dB more gain. Do we blame Gauss
for the original poor performance? Does this validate Art's concept
of static electromechanical waves?

Art, if this is a typo (electromechanical waves), then how many other
typos inhabit your descriptions that corrupt your truths that come out
so tarnished? If we have to sit through another rendition of Hearts
and Flowers about us kicking cripples, stealing from blind newsboys,
defrauding widows, and getting our rewards taken away from us in an
after-life; then maybe you should get a season ticket to the new
moderated group where those soap opera tunes can be sung in their
castrati choir.

73's
Richard Clark, KB7QHC

1659. Re: Butternut HF-9V as elevated-feed groundplane

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 11:35:47 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <erjv6k$4sc$1@aioe.org>
Source record: 45723

>> I know of commercial AM broadcast stations using 6-8, ~1/4-wave radials
>> elevated less than 20 feet over (rocky) ground, with an antenna system
>> radiation efficiency meeting the FCC minimum for broadcast station use.

<nm5k@wt.net> wrote
> How does that minimum compare to the usual 120 or so radials
> on the ground?

Here are the minimum h-plane, r.m.s. fields required by the FCC for commercial AM broadcast stations of the various classes at 1 km, for 1 kW of applied power.

1) Class A: 362 mV/m
2) Class B: 282 mV/m
3) Class C: 241 mV/m

That value for a typical 1/4-wave vertical monopole with 120 buried radials each at least 1/4-wavelength is about 306 mV/m (regardless of frequency and the ground characteristics at the antenna site).

The theoretical maximum h-plane r.m.s. field at 1 km from a perfect 1/4-wave monopole over a perfect, flat ground plane is about 313 mV/m for 1 kW of applied power.

RF

1660. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 13:00:04 UTC
From: Jon Kåre Hellan LA4RT <dev@null.com>
Message-ID: <1mzm765ovf.fsf@persaunet.uninett.no>
Source record: 45724

Roy Lewallen <w7el@eznec.com> writes:

> David Ryeburn wrote:
> > That's great news. Now does anyone know whether it will run under
> > CrossOver (the CodeWeavers implementation of WINE for Intel Macs)?
> > That would give me an excuse for upgrading from a year 2001 G4
> > PowerPC Macintosh to a year 2007 Intel Macintosh. Mac OS X is to a
> > large extent based on the BSD variety of UNIX.
>
> The demo program is free, at http://eznec.com. While there's a small
> possibility that the full program would fail on a system that can run
> the demo, it's not likely. So anybody wanting to know about a
> particular system should just download the demo and try it.
>
> I know that all EZNEC program types have been run successfully on Macs
> for many years using the SoftWindows emulator.
>
> Ironically, the change to EZNEC which made it able to run on Linux was
> made in order to make it work under Microsoft Vista.

OK. So the demo at http://www.eznec.com/DemoEXE/EZWDemo40Inst.exe
which I downloaded at 2007-02-22 12:43 UTC includes those latest
changes? If so, I have to report that it would not run on either of
Ubuntu Dapper (April 2006 release) or Ubuntu Edgy (October 2006).

In both cases, I removed wine and its config files from my system,
removed my .wine directory and did a fresh install of wine before
installing the EZNEC demo.

With Dapper, I got "EZNEC can't be run on a network from a
workstation". I wasn't, but the home directory is network mounted
using NFS. The wine pacakge was wine_0.9.9-0ubuntu2_i386.deb.

With Edgy, I got "Run-time error '13': Type mismatch. The wine pacakge
was wine_0.9.22-0ubuntu3_i386.deb.

I'll try Debian Sid later. They have wine 0.9.30.

Please don't interpret this as a complaint. Rather, take it as the
beginning of a compatibility list. And I'm still hoping that the demo
I tested was out of date :-)

73
LA4RT Jon, Trondheim, Norway

1661. Re: tuned vertical vs center loaded ant

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 13:09:27 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1172149767.678568.115020@q2g2000cwa.googlegroups.com>
Source record: 45725

Ed
With a decent top hat, the bottom fed 24 foot will outplay the shorter antenna... For this installation the SGC auto tuner should work satisfactorily... I would go this route over the Bug Catcher, myself...

Consider some roll out radials clamped to the ground tap on the antenna feed for when you are able to lay wires across the ground - like after midnight... This will make a major improvement...

denny

1662. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 13:10:01 UTC
From: Jon Kåre Hellan LA4RT <dev@null.com>
Message-ID: <1mvehu5oeu.fsf@persaunet.uninett.no>
Source record: 45576

Roy Lewallen <w7el@eznec.com> writes:

> Nate Bargmann wrote:
> > Understood, Roy.
> > Besides being an emulator/program loader, Wine also has winelib
> > which is
> > intended as a way to recompile Windows applications for Linux (and other Free
> > Unix systems like BSD, etc.) so they can run natively. This would avoid a
> > complete porting effort.
>
> Wow, I didn't know anything could compile Visual Basic 6 code for any
> operating system environment except Windows.

I believe winelib is for C. Which certainly looks like a showstopper
in your case.

> How well does it handle Windows API calls? EZNEC uses many, many of
> them.

About as well as the corresponding version of wine, presumably.

> What does it do
> about functions in COM and ActiveX files? Does it recompile those
> too?

I can't see how it could do that.

> What about third party software in the form of COM or ActiveX files,
> which can't be recompiled due to lack of source code?

Rhetorical question?

> Does it successfully substitute for Windows Registry operations?

I'm sure it tries to, but I've never tested.

The Mono guys (.NET for Linux & friends) just announced support for
Visual Basic.NET. But I this is probably too different from old
fashioned Visual Basic to be of much help.

73
LA4RT Jon

1663. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 13:18:15 UTC
From: "Harold E. Johnson" <W4ZCB@mchsi.com>
Message-ID: <rKgDh.8213$PD2.6670@attbi_s22>
Source record: 45577

```
>> Firing tables for long range artillery have corrections for the
>> effect.
>
> Cool - I didn't know that! It does stand to reason, giving the distances
> and velocities involved.
>
> - 73 de Mike KB3EIA -
```

As do ICBM's. Coreolis is alive and well and real!

W4ZCB

1664. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 13:27:24 UTC
From: Bob Miller <NOSPAM@neosoft.com>
Message-ID: <9f6rt257r8kcl52aan8t6ssh8kdvjog7h9@4ax.com>
Source record: 45578

On Tue, 20 Feb 2007 20:16:27 -0800, David Ryeburn <ryeburn@sfu.caz>
wrote:

...

>
>Ironically if I were to get an Intel Mac, one of the programs I could no
>longer use is the lean, mean 1992 Mac version of MS Word 5.1a, still
>working nicely after 15 years on my year 2001 computer. This program
>runs faster and better under Classic (i.e. Mac OS 9) within Mac OS X
>than it ever did in the old days. Two layers of emulation are going on
>here -- OS X is emulating OS 9, and the PowerPC version of OS 9 is
>emulating a 680x0 CPU on a PPC chip (G5, G4, G3, or earlier) -- Word 5
>was written before the days of the PPC chips. Classic is not readily
>available for Intel Macs (there are semi-satisfactory hacks which make
>it sort of work).
>
>David, ex-W8EZE

I remember Word v. 5; now, if you could get Wordstar 3.3 to run on a
Mac, that'd be something :-)

bob
k5qwg

1665. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 14:19:22 UTC
From: NoSpam@daqarta.com
Message-ID: <45dd9e1d.2492124@news.sysmatrix.net>
Source record: 45579
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

On Wed, 21 Feb 2007 23:47:39 -0800, Richard Clark <kb7qhc@comcast.net>
wrote:

>On Tue, 20 Feb 2007 14:04:19 GMT, NoSpam@daqarta.com (Bob Masta)
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>>On Mon, 19 Feb 2007 10:34:50 -0800, Richard Clark <kb7qhc@comcast.net>
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>>>On Mon, 19 Feb 2007 14:06:30 GMT, NoSpam@daqarta.com (Bob Masta)
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>>>>FFT size is 1024 points, so you won't be able to use
>>>>this for tuning your guitar, if that's what you had in mind.
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>>>Hi Bob,
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>>>Why not? 1024 points (bins) has enough resolution to shake out every
>>>note on a Hawaiian slide guitar. The only care is selecting the
>>>sampling rate and most FFT packages should be able to resolve
>>>exceedingly fine.
>>>
>>
>>The problem is that the line resolution of an FFT is the sample
>>rate divided by the number of time points. So with 44100 Hz
>>sample rate and 1024 points you get a bit over 43 Hz per line.
>>So the first non-DC spectral line would be 43 Hz, which is about
>>a low F on a bass guitar, and the very next line would be the F
>>an octave above that... you'd miss an entire octave!
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>either hardware (I design my own) or a perception of Fourier
>techniques that is constrained to common applications.
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>The trick is one that is encountered quite commonly with RF designers
>(and those Hams that actually practice the craft instead of being
>appliance operators) - it is called mixing. Or to describe it with
>more precision (as an audio crowd has a restricted meaning for the
>term "mixing") heterodyning or modulating/demodulating. Simply put,
>the data channel is pre-processed by multiplying it with a reference
>cosine before being passed onto the FFT. (Although this sounds like

>windowing, it is not.) Of course, the output of the FFT has to have
>its units recast. In the old days, this was called "zooming" or an
>arbitrary view of a single frequency encompassed by a span of far
>higher resolution than that obtained from a simple transform. I would
>quickly point out that the simple transform is still performed (same
>bin interval, same bin count), but it has been augmented.
>
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>mechanical problems in journals, bearing races (with bearing run-out
>or ball defect) and bad gear meshes. It also relates to Hank's desire
>to test individual construction components in the guitar as all of
>these problems relate to a subtle data inflection that can be
>destructive in machinery, or discordant in music. The zoom feature
>can reveal these defects with remarkable resolution. As I said, the
>FFT as originally described can differentiate every note of an
>Hawaiian slide guitar. Perhaps I should have added the proviso:
>provided you use a synchronized tracking generator for mixing.
>However, given this can be done digitally (no one needs a hardware
>oscillator), no change in hardware is necessary. All the data that is
>needed is already there.
>
>> www.daqarta.com
>by the way, this seems to be a dead link. (later) I take that back,
>but it took a lot of retries over the span of an hour.
>
>Further, it seems you have a lot of what I mention above covered in
>your pages, by parts, but none of them encompass the whole of
>"zooming."
>
>And for your page on windowing, drop me an email if you would like to
>see some pascal routines embodying some very tight windows. These
>came from my time with HP whose chief engineer soon after departed for
>a chair at some eastern university.
>
>73's
>Richard Clark, KB7QHC

Richard:

Thanks for your detailed post. I am aware of the "zoom"
approach, but have not implemented it yet. The cosine
multiplication down to baseband is the easy part; the part
that has put me off is the pesky decimating filter.

For others reading this, the basic idea of the zoom FFT is that
if you want to "zoom in on" some frequency region at
higher resolution, you multiply the incoming signal by the
center of the desired range. From that old high school
trig formula for the product of sinusoids, you get a bunch of
sum and difference components. So the center of the
target band ends up at 0 Hz since you multiplied it by a

sinusoid at the center frequency, and all the rest of
the original spectrum is now spreading out on either
side of 0. Now, if you low-pass filter this mess you can
re-sample it at a much lower frequency. The filter has
to be set so there is nothing of significance above half
of the new sample rate, just as for the orignal ADC (or
you get aliasing errors).

Then you take an FFT of the same size (1024 or whatever)
samples, but at the new lower sample rate. If the new rate is
1/100 of the original, the resolution of the spectrum is improved
x100. Another way to think about this is that if you only wanted
to zoom in on the low end of the spectrum, you wouldn't need to
do the cosine multiply, filter, or resampling... you could just reduce
the base sample rate to 1/100 (if your sound card permitted, and had
its anti-alias filters set for that) and get exactly the same results.

Note that this gives exactly the same resolution as an FFT that is
x100 larger, where you only get to see 1/100 of the whole spectrum.
Also note that an x100 increase in resolution takes x100 increase
in sample time, so you must insure that the signal is stable over that
interval or you will get spectral peak smearing... there is no free
lunch here! This is no problem for Richard's examples of bearings
and gear meshes, but I'd expect troubles with most music since
it is so dynamic.

Anyway, back to my original lament: The low-pass filtering and
resampling would be quite inefficient if done by conventional
approaches, but there are apparently some elegant solutions
that do both functions in one block, reusing it over and over
to get successive halvings of the sample rate. My problem is
that I have only seen this described in theoretical terms with
simple block diagrams, leaving the exact coefficients, etc, as
"an excercise for the reader". Searching the Web I find that
others are apparently as left out in the cold by this as I am,
and there is no example code, hints, or tips to be found.

So, until this particular reader either gets struck by a flash
of insight or takes the time to read up on this enough to
get a whole lot smarter, the zoom FFT is on a back burner.

(Richard, I'll Email you about those window routines...
many thanks for the offer!)

Best regards,

Bob Masta

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1666. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 14:27:03 UTC
From: Wes <n7ws@yahoo.com>
Message-ID: <1172154422.908965.326310@h3g2000cwc.googlegroups.com>
Source record: 45580

On Feb 21, 2:15 pm, "art" <aun...@insightbb.com> wrote:

>
> Roy that is the sort of posting I would expect from the likes of you.
> When everything comes to light you are going to look a real fool,
> possibly in your next lifetime...

[snip]

At least Roy is going to wait a while. You on the other hand....

1667. Re: I Built the 10m Sleeve Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 15:19:40 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <gwiDh.151$M65.16@newssvr21.news.prodigy.net>
Source record: 45581

Sal M. Onella wrote:
> I have very few ideas for correcting the original sleeve design.

What are the resonant frequencies and feedpoint
resistances for the two types of feeds?

There's no rule that says the antenna must be
50 ohms at resonance. A 2.8:1 SWR could just be
an indication that the feedpoint impedance at
resonance is 18 + j0 ohms.

Did you do anything to choke the common-mode
currents on the feedline? If not, those currents
can upset the SWR meter reading.
--
73, Cecil, http://www.qsl.net/w5dxp

1668. AM band Field strength predicton?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 15:24:23 UTC
From: MRW <mr.whatever@gmail.com>
Message-ID: <1172157863.405886.316750@v45g2000cwv.googlegroups.com>
Source record: 45582

Hello.

I took some measurements of an AM broadcast from multiple points up to about half a mile from the transmitter. The transmitter was supposed to be operating at 20W. I don't know what kind of pattern the AM antenna had, but can I just use the field strength readings that I got to predict how far the signal can go out? I only was able to measure 3 points, but I want to know if that is sufficient to make an estimate under the same conditions.

If so, how do I go about starting this? Are there any formulas? Also, on average AM receivers, what would be considered a minimum field strength value that would yield an audible sound?

I also read that frequencxies less than 2MHz rely on surface waves. Is there a site that I can visit that will give me an idea on how to take this into account given that there are different ground characteristics? Thanks!

1669. News Flash: Henry Eats Teflon... film at 11

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 15:30:30 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1172158230.837270.17610@l53g2000cwa.googlegroups.com>
Source record: 45583

Well, I am at it again... Came up with a new idea for the tuneable elements of an antenna matcher while awake at 3AM...(I think it it was the tomato sauce)
After thinking about it for a few days I cobbled up the device... Put up a half wave, end fed, 20 meter vertical and attached said device... Tuned it up with the antenna analyzer - nice 1:1... Put power to it with the MK-V... Nice and flat across the band... Fired up the Henry (which has a bad track record of eating things that are fed to it)... Tuned it up and it was idling along at 700-800 watts and everything seemed fine, soooo put the lash to it (4100 volts at 0.800 amps)... OOPs!

Say did you know that teflon contains carbon black? I mean lots of carbon, like thick clouds of it?... Hmm, apparently the RF voltage across a tapped coil (think autotransformer) exceeded the 7000 volts the teflon was supposed to withstand... Well, we dissected the parts... The metal is salvageable and I have more teflon.. I will double the thickness for the next test... As we were turning out the lights and leaving I looked back at the Henry... I could swear the plate meter winked at me...

denny / k8do

1670. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 15:36:37 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <9MiDh.154$M65.106@newssvr21.news.prodigy.net>
Source record: 45584

John Smith I wrote:
> I know of NO ONE who claims to know FOR CERTAIN, EXACTLY why, this
> happens or is able to offer conclusive proof ...

Here's what I was taught. In the Northern Hemisphere,
the Northernmost point in a body of water at rest is
moving slower than the Southernmost point. Consider
that the ocean water at the poles travels pi*zero miles
every 24 hours while the water at the equator travels
pi*8000 miles, i.e. about 1000 miles per hour. The extra
velocity of the Southernmost molecules is what gives the
counter-clockwise rotation of a fluid in the Northern
Hemisphere. In the Southern Hemisphere, the Southernmost
molecules are moving the fastest resulting in a clockwise
rotation.
--
73, Cecil, http://www.qsl.net/w5dxp

1671. Re: I Built the 10m Sleeve Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 15:37:44 UTC
From: nm5k@wt.net
Message-ID: <1172158664.931173.219050@q2g2000cwa.googlegroups.com>
Source record: 45585

On Feb 22, 12:16 am, "Sal M. Onella" <salmone...@food.poisoning.org>
wrote:
> It was a bust. <:-(

They can be quirky..And the decoupling is pretty critical. I always
preferred
a base fed half wave for those reasons. You still need to decouple for
best
performance, but there are no "coax in the way" issues, etc.. I use a
simple
"gamma loop" feed. IE: single turn coil, and a cap if needed.
Sometimes
you don't need the cap, but if you do, 30-50 pf is about the usual
value for
10m. I make those from a short length of coax.. I'm basically copying
the
feed system of the usual cushcraft ringos.. BTW, cushcraft sells a 10m
ringo if one doesn't want to build one, or have the tubing.
MK

1672. Re: AM band Field strength predicton?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 15:58:53 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <erkejv$a1c$1@aioe.org>
Source record: 45587

"MRW" >
> I took some measurements of an AM broadcast from multiple points up to
> about half a mile from the transmitter. The transmitter was supposed
> to be operating at 20W. I don't know what kind of pattern the AM
> antenna had, but can I just use the field strength readings that I got
> to predict how far the signal can go out? I only was able to measure 3
> points, but I want to know if that is sufficient to make an estimate
> under the same conditions.

An estimate is possible, but assumptions will need to be made. If you can post the readings you got, the path lengths, and the general location for the transmit site I can give you some idea about that.

Of course if you can post the call letters of the station then the FCC data for that station will show they should be.

> If so, how do I go about starting this? Are there any formulas? Also,
> on average AM receivers, what would be considered a minimum field
> strength value that would yield an audible sound?

> I also read that frequencxies less than 2MHz rely on surface waves. Is
> there a site that I can visit that will give me an idea on how to take
> this into account given that there are different ground
> characteristics? Thanks!

The FCC publishes charts that may be used for this purpose. As for minimum usable daytime field for a typical, cheap indoor receiver in an urban, residential area, a value of 1 or 2 mV/m typically is needed.

RF http://rfry.org

1673. Re: Field strength - S plane summation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 16:25:24 UTC
From: Bill Ogden <wogden@attglobal.net>
Message-ID: <2UiDh.9$8w5.6@newsfe12.lga>
Source record: 45586

>
> After all, half the children in the schools are below average!
>
No, no, no, never. Just ask the parents, the school boards, the principals, and the kids. At least 95% are above average. Using a 4-point system (A=4 and so forth) they graduate with averages above 4.0 and with multiple valedictorians (so no one will be hurt).

Bill - W2WO

1674. Re: Mobile antenna Placement

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 16:32:31 UTC
From: David <davidwall@intergate.com>
Message-ID: <12trhd6d9mbuo45@corp.supernews.com>
Source record: 45588

Thank you for the specs...i am concerned about the radiation pattern of the
"driven antenna" or the antenna of the radio I am using at that moment...i
will never use both at the same time. I am looking to make them as
omnidirectional as possible. I seem to remember somthing about a firgure 8
configuration. (I used to know this stuff, but I have forgotten it.)
Note: there is a half-wave two meter antenna present as well.
<jimlux@earthlink.net> wrote in message
news:1172112226.053977.250340@v45g2000cwv.googlegroups.com...
>> >>> What is the minimum distance for a 11 meter antenna and a 10 meter
>> >>> antenna--both mobile?
>
>> >>> Fred Wall
>> >>> NF8W
>
>> >> Half a wave length....
>> >> Dave WD9BDZ
>
>> > That's a positive and unqualified response. So I'm curious -- how did
>> > you arrive at that figure?
>> > Roy Lewallen, W7EL
>
>> Just recently looked it up in the ARRL 2006 Handbook.
>
>> Dave
>
> One might ask, minimum for what? Coupling between antennas so that
> the receiver of one radio isn't destroyed by the other? That would
> depend on the power outputs and the receiver input power limit.
> Interaction so that the pattern isn't affected? Aside from patterns
> on mobile installations not being particularly normal anyway, it would
> depend on what's connected to the feedpoint of the "parasitic"
> antenna. And, is that a free space half wavelength or far enough that
> the phase of the near field has flipped 180 degrees?
>
> And, as a practical matter, taking a sort of average, half a
> wavelength is about 5 1/4 meters or 17-18 ft. That's a fair distance
> apart for most cars.
>
>
> So, let's surmise some practical details and try and help Fred out..
> Say he wants to avoid putting more than 1 Volt RMS into the receiver,
> and he wants to use 100W on his 10m rig. Let's not worry about tuning
> precisely or grotty details of the car.. just 2 vertical monopoles 2.5
> m long, 2 meters apart, with a 50 ohm load on one, and the source on

> the other.
>
> With 100W (about 60Volts and about 1.7 A into the 36 ohm Z), you'll
> get 24 volts across the 50 ohm load. That'll probably cook it. Even
> if you ran 1 Watt, you'd get about 2.4 V... So 2m is a bit close if
> you want to run 100W.
>

1675. Re: AM band Field strength predicton?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 16:55:07 UTC
From: MRW <mr.whatever@gmail.com>
Message-ID: <1172163307.315486.276240@v45g2000cwv.googlegroups.com>
Source record: 45589

On Feb 22, 10:58 am, "Richard Fry" <r...@adams.net> wrote:
> An estimate is possible, but assumptions will need to be made. If you can
> post the readings you got, the path lengths, and the general location for
> the transmit site I can give you some idea about that.
>
> Of course if you can post the call letters of the station then the FCC data
> for that station will show they should be.

The readings that I got were 3.1 mV/m at 15 meters away. 1 mV/m at
0.32 km away. Finally, 0.71 mV/m at 0.80 km away. We traveled a
straight path that was parallel to the direction of the antenna. It's
not an FCC station, but my professor got permission to test it briefly
at 1.79MHz. I don't know the exact area that we were located, but it
is somewhere east of Magdalena, NM.

> The FCC publishes charts that may be used for this purpose. As for minimum
> usable daytime field for a typical, cheap indoor receiver in an urban,
> residential area, a value of 1 or 2 mV/m typically is needed.
>
> RF http://rfry.org

Thanks! I was curious about AM stations at one time and looked up some
FCC data. I noticed that some stations have lower power output during
night time compared to daytime. For example, one station had 1 kW
during daytime and decreased it to 300W (I think) during night time.
Does that indicate that night time propagation is better?

1676. Re: ibeams? skyscraper grounds?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 17:11:05 UTC
From: Jake Brodsky <ab3a@cNo0mScPaAsMt.net>
Message-ID: <gICdnYOzidc3U0DYnZ2dnUVZ_oernZ2d@comcast.com>
Source record: 45590

ml wrote:
> In article <tqydnep1364gQUTYnZ2dnUVZ_t-mnZ2d@comcast.com>,
> Jake Brodsky <ab3a@cNo0mScPaAsMt.net> wrote:
>
>> ml wrote:
>>> so how do the pro's do it??
>> The steel structure of the sky scraper is one of the best grounds you
>> could have. It is effectively a Faraday shield around everything.
>>
>> You ought to find out where the ground connections for the existing
>> lighting rods are and use that. If there are no lightning rods around
>> (shudder) find some structural steel close to your antenna, and bug
>> (clamp) on to it. I would also suggest following an electrical panel
>> ground around to see where its ground is. They too ought to be on
>> building steel.
>>
>> Good Luck!
>>
>> Jake Brodsky
>> Amateur Radio Station AB3A
>
> hate to show my ignorance, but are the ibeams really 'ground'?
> usually i've seen them either sitting on concreate squares or on
> larger concreate foundation wall like things so i always figured
> they'd be rather isolated from ground beside what little connecitivity
> was in the concreate itself which i know would carry a lightning
> strike, if hit but not the other way around ie higher resistance
> so i ponder
>
> same for the electrical pannel ground to be attached to the building
> steel ??
>
> i dunno

If the building steel weren't grounded, you'd have serious damage every time a thunderstorm came along. The building would get struck by lightning and then it would have to make a path to ground SOMEHOW. Often, static charges could build up just from wind blowing past a building. Can you imagine the static discharge of a whole building against some poor slob who happens to touch it by accident? It would be deadly...

In any case, most building standards I've heard of do require building steel to be grounded.

Jake Brodsky
Amateur Radio Station AB3A

1677. Re: AM band Field strength predicton?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 17:20:28 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns98DF5F02FEA6Cdoldridgsprintca@64.59.135.159>
Source record: 45591

"MRW" <mr.whatever@gmail.com> wrote in
news:1172163307.315486.276240@v45g2000cwv.googlegroups.com:

> On Feb 22, 10:58 am, "Richard Fry" <r...@adams.net> wrote:
>> An estimate is possible, but assumptions will need to be made. If
>> you can post the readings you got, the path lengths, and the general
>> location for the transmit site I can give you some idea about that.
>>
>> Of course if you can post the call letters of the station then the
>> FCC data for that station will show they should be.
>
> The readings that I got were 3.1 mV/m at 15 meters away. 1 mV/m at
> 0.32 km away. Finally, 0.71 mV/m at 0.80 km away. We traveled a
> straight path that was parallel to the direction of the antenna. It's
> not an FCC station, but my professor got permission to test it briefly
> at 1.79MHz. I don't know the exact area that we were located, but it
> is somewhere east of Magdalena, NM.
>
>> The FCC publishes charts that may be used for this purpose. As for
>> minimum usable daytime field for a typical, cheap indoor receiver in
>> an urban, residential area, a value of 1 or 2 mV/m typically is
>> needed.
>>
>> RF http://rfry.org
>
> Thanks! I was curious about AM stations at one time and looked up some
> FCC data. I noticed that some stations have lower power output during
> night time compared to daytime. For example, one station had 1 kW
> during daytime and decreased it to 300W (I think) during night time.
> Does that indicate that night time propagation is better?

Night propagation is complicated by the existence of a strong sky-wave
reflection from the ionosphere's E and F layers. In the daytime, the D
layer absorbs emissions at these angles. Hence the need to reduce power
at night to avoid interference with more distant stations' ground wave
coverage.

--
Dave Oldridge+
ICQ 1800667

1678. Re: AM band Field strength predicton?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 18:07:35 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <erkm58$rf2$1@aioe.org>
Source record: 45592

> "MRW"
>> The readings that I got were 3.1 mV/m at 15 meters away. 1 mV/m at
>> 0.32 km away. Finally, 0.71 mV/m at 0.80 km away. We traveled a
>> straight path that was parallel to the direction of the antenna. It's
>> not an FCC station, but my professor got permission to test it briefly
>> at 1.79MHz. I don't know the exact area that we were located, but it
>> is somewhere east of Magdalena, NM.

Your description resembles a "Part 15" type installation more than the broadcast system of your first post. Here are some general statements about how a compliant Part 15 AM system might perform.

Antenna engineering textbooks, NEC calculations, and thousands of field strength measurements made in the broadcast industry over the last 75+ years show that the maximum field strength in the horizontal plane that is produced by a vertical, 1/4-wave monopole with 1 kW of applied power over an almost perfectly conducting, flat ground plane is about 300 millivolts/meter (mV/m) at a radius of 1 km (0.62 miles).

A legal Part 15 AM tx that was 100% efficient, and used with the above antenna system would generate a field at 1 km that would be reduced by the square root of the power difference, or to a field of 3 mV/m in this case.

But a 3-meter, ground-mounted Part 15 antenna system is only about 1% as efficient as a 1/4-wave broadcast radiator system. So instead of radiating 100 mW, the Part 15 antenna system radiates around 1 mW. That leads to a further reduction in the field at 1 km by the square root of 100, bringing it to about 300 microvolts/meter (ï¿½V/m).

Note that all of these fields assume an almost perfectly-conducting ground over the propagation path. Typical ground conditions are far from perfect, so the fields at 1 km would not be even this high.

By broadcast standards, a 300 ï¿½V/m field is very marginal in providing a usable signal to a typical, cheap AM receiver located inside a home. And every doubling of the distance decreases the received field by more than 50% (including ground losses).

From this information it can be seen that claims of "legal" Part 15 AM coverage extending for a radius of 2, 3 and 4 miles cannot be realistic, unless the system is not meeting Part 15 limits.

RF

1679. Re: Field strength - S plane summation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 19:55:41 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ossrt25jfeiobjg6ho60e7n0nhtuq2p9bn@4ax.com>
Source record: 45593

On Thu, 22 Feb 2007 02:53:12 GMT, Owen Duffy <none@no.where> wrote:

>I am of the view that the three dimensional measurement is really a
>technique suited to automated measurement of a large set of frequencies
>with and instrument that has a single plane antenna that it cannot re-
>orient, and whilst it addresses that issue, it is unnecessary
>complication for a hand held loop that can be maximised.

Hi Owen,

It sounds like you want a Black Body Absorber.

You might want to take your lead from that if you are building
instrumentation (the purpose of your data reduction).

Presumably you would also want it to be isotropic in sensitivity. If
my speculations are correct, the simplest method would be caloric
based, but the trick would be to get it to occupy a volume of space
AND present 377 Ohms; but then how would you shade if from the sun
(another notable field presence that would innundate your detector);
or if done at night, how would you cope with the infinite heat sink in
nearly half the field of view? Most caloric methods employ a bridge
configuration that balances out these disturbances.

So, the simplest method is not very simple at all. Compare it to the
more difficult methods and you may wish for it after-all.

73's
Richard Clark, KB7QHC

1680. Re: AM band Field strength predicton?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 20:10:43 UTC
From: MRW <mr.whatever@gmail.com>
Message-ID: <1172175043.208738.10720@v33g2000cwv.googlegroups.com>
Source record: 45594

On Feb 22, 1:07 pm, "Richard Fry" <r...@adams.net> wrote:
> Your description resembles a "Part 15" type installation more than the
> broadcast system of your first post. Here are some general statements about
> how a compliant Part 15 AM system might perform.

Don't know much about "Part 15" is that something that I can find in
the CFR 47? http://www.access.gpo.gov/nara/cfr/cfr-table-search.html

> Antenna engineering textbooks, NEC calculations, and thousands of field
> strength measurements made in the broadcast industry over the last 75+ years
> show that the maximum field strength in the horizontal plane that is
> produced by a vertical, 1/4-wave monopole with 1 kW of applied power over an
> almost perfectly conducting, flat ground plane is about 300 millivolts/meter
> (mV/m) at a radius of 1 km (0.62 miles).
>
> A legal Part 15 AM tx that was 100% efficient, and used with the above
> antenna system would generate a field at 1 km that would be reduced by the
> square root of the power difference, or to a field of 3 mV/m in this case.

How did you get 3 mV/m? I tried 300 mV/m / (sqrt(1kW - 20W)).

> But a 3-meter, ground-mounted Part 15 antenna system is only about 1% as
> efficient as a 1/4-wave broadcast radiator system. So instead of radiating
> 100 mW, the Part 15 antenna system radiates around 1 mW. That leads to a
> further reduction in the field at 1 km by the square root of 100, bringing
> it to about 300 microvolts/meter (µV/m).
>
> Note that all of these fields assume an almost perfectly-conducting ground
> over the propagation path. Typical ground conditions are far from perfect,
> so the fields at 1 km would not be even this high.

Are there any existing resources that talk about how much attenuation
can each ground type contribute?

> By broadcast standards, a 300 µV/m field is very marginal in providing a
> usable signal to a typical, cheap AM receiver located inside a home. And
> every doubling of the distance decreases the received field by more than 50%
> (including ground losses).
>
> From this information it can be seen that claims of "legal" Part 15 AM
> coverage extending for a radius of 2, 3 and 4 miles cannot be realistic,
> unless the system is not meeting Part 15 limits.
>
> RF

Thanks, Richard!

I don't have the experience background, yet. But in your opinion, is a field strength of 1mV/m the absolute minimum for decent AM reception? Also, is the fact that AM more prone to interference the reason why its field strength requirements are higher than FM?

1681. Shielded loop operation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 20:23:49 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E04B3F3A791nonenowhere@61.9.191.5>
Source record: 45595

G'day all,

I am trying to work through the magical claims that are made of shielded loops. My interest in mainly their use for field strength measurement, but understanding them in a general sense is the place to start.

I have not found a detailed description of operation in my text books. The ARRL does contain information, but it is inconsistent and IMHO sometimes just plain wrong.

I have drafted an article with a proposed explanation of the operation of a small single turn untuned shielded receiving loop. The article is at http://www.vk1od.net/shieldedloop/index.htm .

Am I on the wrong tram?

Comments appreciated.

Owen

1682. Re: AM band Field strength predicton?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 20:43:04 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <erkv8p$h3s$1@aioe.org>
Source record: 45596

"MRW"
>How did you get 3 mV/m? I tried 300 mV/m / (sqrt(1kW - 20W)).

Other things equal, the far field varies by the square root of the power change.
If 1 kW into a given antenna system produces 300 mV/m at 1 km, then 0.1 W into that same system produces SQRT(0.1W / 1000W) x 300 mV/m at 1 km, which is 3 mV/m.

>Are there any existing resources that talk about how much attenuation
>can each ground type contribute?

The FCC charts probably are the best resource. Surface wave propagation losses are dependent on frequency as well as ground conditions.

>I don't have the experience background, yet. But in your opinion, is a
>field strength of 1mV/m the absolute minimum for decent AM reception?
>Also, is the fact that AM more prone to interference the reason why its
>field strength requirements are higher than FM?

A good AM receiver in the absence of natural/man-made interference can produce useful (but not highly "competitive") performance in fields of less than 100 ï¿½V/m.

At a given value of received field strength, an FM broadcast is received with less noise than AM because of the lower noise level at VHF frequencies, and due to the ability of an FM receiver to the reject the a-m noise that is present.

RF

1683. Re: Good sound card & software ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 20:44:56 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3dvrt2tovf661lg5fd1v1bje52j177rnfb@4ax.com>
Source record: 45598
Cross-posted to:
rec.audio.opinion,rec.audio.pro,rec.radio.amateur.homebrew,rec.radio.amateur.antenna,comp.sys.ibm.pc.soundcard.tech

On Thu, 22 Feb 2007 14:19:22 GMT, NoSpam@daqarta.com (Bob Masta)
wrote:

>My problem is
>that I have only seen this described in theoretical terms with
>simple block diagrams, leaving the exact coefficients, etc, as
>"an excercise for the reader".

Hi Bob,

What you want to resource here are the printed materials available
(then) from the manufacturers of analyzers in the time span of 1980 to
1986 or so. Those would include Analog Devices or Hewlett Packard,
both of which had superb application notes that went to considerable
detail. The academic treatments of that era were mostly semester
based fluff introducing concepts, and not many at that. Industry was
the best source for actually grasping the concepts and implementing
the details. Soon after this period saw the introduction of DSP which
is a silicon processor equivalent of the IIR or FIR math (resource
Texas Instruments from that slightly later era for this discussion).

You did quite well in describing the "zoom" process. This hallmark of
the Real Time Audio Analyzers designed by HP 20 years ago was a long
time in coming. They had a 16 member design team working with a
million lines of Pascal code. It took them 5 years to develop the
product in contrast to the HP design cycle of 18 months. They also
had to design their own Pascal compiler.

I would recommend for reading those works from the Program Manager
Nick Pendergrass (Google: "nick pendergrass" fft).

73's
Richard Clark, KB7QHC

1684. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 20:46:31 UTC
From: Allodoxaphobia <bit-bucket@config.com>
Message-ID: <slrnets097.2u2b.bit-bucket@shell.config.com>
Source record: 45597

On Thu, 22 Feb 2007 07:27:24 -0600, Bob Miller wrote:
> On Tue, 20 Feb 2007 20:16:27 -0800, David Ryeburn <ryeburn@sfu.caz>
> wrote:
>
> ...
>
>>
>>Ironically if I were to get an Intel Mac, one of the programs I could no
>>longer use is the lean, mean 1992 Mac version of MS Word 5.1a, still
>>working nicely after 15 years on my year 2001 computer. This program
>>runs faster and better under Classic (i.e. Mac OS 9) within Mac OS X
>>than it ever did in the old days. Two layers of emulation are going on
>>here -- OS X is emulating OS 9, and the PowerPC version of OS 9 is
>>emulating a 680x0 CPU on a PPC chip (G5, G4, G3, or earlier) -- Word 5
>>was written before the days of the PPC chips. Classic is not readily
>>available for Intel Macs (there are semi-satisfactory hacks which make
>>it sort of work).
>
> I remember Word v. 5; now, if you could get Wordstar 3.3 to run on a
> Mac, that'd be something :-)

I have WordStar 6.0 running on linux (under dosemu.) The last time I
ran WordStar in a micro$oft environment was probably around 1991.
That's when I cut over to OS/2. Starting around 2002, I started making
the transition to linux. All linux now. I keep the OS2 box for
nostalgia.

73
Jonesy
--
Marvin L Jones | jonz | W3DHJ | linux
38.24N 104.55W | @ config.com | Jonesy | OS/2
*** Killfiling google posts: <http://jonz.net/ng.htm>

1685. Re: AM band Field strength predicton?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 20:52:07 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1172177527.513675.143440@v33g2000cwv.googlegroups.com>
Source record: 45599

On Feb 22, 12:10 pm, "MRW" <mr.whate...@gmail.com> wrote:
> On Feb 22, 1:07 pm, "Richard Fry" <r...@adams.net> wrote:
>
> > Your description resembles a "Part 15" type installation more than the
> > broadcast system of your first post. Here are some general statements about
> > how a compliant Part 15 AM system might perform.
>
> Don't know much about "Part 15" is that something that I can find in
> the CFR 47?http://www.access.gpo.gov/nara/cfr/cfr-table-search.html
>
> > Antenna engineering textbooks, NEC calculations, and thousands of field
> > strength measurements made in the broadcast industry over the last 75+ years
> > show that the maximum field strength in the horizontal plane that is
> > produced by a vertical, 1/4-wave monopole with 1 kW of applied power over an
> > almost perfectly conducting, flat ground plane is about 300 millivolts/meter
> > (mV/m) at a radius of 1 km (0.62 miles).
>
> > A legal Part 15 AM tx that was 100% efficient, and used with the above
> > antenna system would generate a field at 1 km that would be reduced by the
> > square root of the power difference, or to a field of 3 mV/m in this case.
>
> How did you get 3 mV/m? I tried 300 mV/m / (sqrt(1kW - 20W)).
>
> > But a 3-meter, ground-mounted Part 15 antenna system is only about 1% as
> > efficient as a 1/4-wave broadcast radiator system. So instead of radiating
> > 100 mW, the Part 15 antenna system radiates around 1 mW. That leads to a
> > further reduction in the field at 1 km by the square root of 100, bringing
> > it to about 300 microvolts/meter (µV/m).
>
> > Note that all of these fields assume an almost perfectly-conducting ground
> > over the propagation path. Typical ground conditions are far from perfect,
> > so the fields at 1 km would not be even this high.
>
> Are there any existing resources that talk about how much attenuation
> can each ground type contribute?
>
> > By broadcast standards, a 300 µV/m field is very marginal in providing a
> > usable signal to a typical, cheap AM receiver located inside a home. And
> > every doubling of the distance decreases the received field by more than 50%
> > (including ground losses).
>
> > From this information it can be seen that claims of "legal" Part 15 AM
> > coverage extending for a radius of 2, 3 and 4 miles cannot be realistic,
> > unless the system is not meeting Part 15 limits.

>
> > RF
>
> Thanks, Richard!
>
> I don't have the experience background, yet. But in your opinion, is a
> field strength of 1mV/m the absolute minimum for decent AM reception?
> Also, is the fact that AM more prone to interference the reason why
> its field strength requirements are higher than FM?

With regard just to your last question, atmospheric (mainly from lightening around the world), galactic, and typical man-made noise are all much higher--40dB or more, usually--at 1MHz than at 100MHz. You need signals above the noise for practical communications. (Bandwidths also enter into the picture, but I believe the noise is the key issue.)

Cheers,
Tom

1686. Re: Shielded loop operation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 20:59:14 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <op0st2dm75ipsbgenfnja45c5bh7qsoks8@4ax.com>
Source record: 45600

On Thu, 22 Feb 2007 20:23:49 GMT, Owen Duffy <none@no.where> wrote:

>Comments appreciated.
>
Reading:
the note "capacitance from shield to conductor is uniform around
circumference. The capacitance from the inner of the outer
conductor to the outer of the inner conductor acts entirely inside
the transmission line and has no effect on the external balance of
the loop. The conditions on the inside of the loop outer conductor
are isolated from the outside of the conductor due to skin effect
as described above.

I would add a precautionary that the isolation is not complete. There
are many instances of this in small signal designs that fail for this
very reason. I am not sure what you are saying and what you are
repeating because there is no close quote in your commentary.

73's
Richard Clark, KB7QHC

1687. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 21:05:49 UTC
From: Frank's <frank599@nojunkmailplease.telus.net>
Message-ID: <NAnDh.99475$Fd.11860@edtnps90>
Source record: 45601

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:f4jqt29tb2h4oflrvdq54lvhdvn27qnr2g@4ax.com...
> On Thu, 22 Feb 2007 03:33:40 GMT, "Frank's"
> <frank599@nojunkmailplease.telus.net> wrote:
>
>>Gain at 10 deg. elevation -- 10.2 dBi
>>
>>Gain at 10 deg. elevation -- 12.3 dBi
>
> Hi Frank,
>
> Consistent with past experience with Art's designs, I threw away
> 2/3rds of it (OK 2 wires) and got 3 dB more gain. Do we blame Gauss
> for the original poor performance? Does this validate Art's concept
> of static electromechanical waves?
>
> Art, if this is a typo (electromechanical waves), then how many other
> typos inhabit your descriptions that corrupt your truths that come out
> so tarnished? If we have to sit through another rendition of Hearts
> and Flowers about us kicking cripples, stealing from blind newsboys,
> defrauding widows, and getting our rewards taken away from us in an
> after-life; then maybe you should get a season ticket to the new
> moderated group where those soap opera tunes can be sung in their
> castrati choir.
>
> 73's
> Richard Clark, KB7QHC

Hi Richard, I was not really serious, but at least wanted to demonstrate
that a simple 2 element array outperformed the fictitious antenna which
must be machined to within +/- 1 micro-inch. I assume it is some kind
of joke, and particularly liked the description of orbiting helium nuclei;
also the presence of beta particles. The elements must be partially
radio-active.

73,

Frank (VE6CB)

1688. Re: Shielded loop operation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 21:14:51 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E053E6675F2nonenowhere@61.9.191.5>
Source record: 45602

Richard Clark <kb7qhc@comcast.net> wrote in
news:op0st2dm75ipsbgenfnja45c5bh7qsoks8@4ax.com:

> On Thu, 22 Feb 2007 20:23:49 GMT, Owen Duffy <none@no.where> wrote:
>
>>Comments appreciated.
>>
> Reading:
> the note "capacitance from shield to conductor is uniform around
> circumference. The capacitance from the inner of the outer
> conductor to the outer of the inner conductor acts entirely inside
> the transmission line and has no effect on the external balance of
> the loop. The conditions on the inside of the loop outer conductor
> are isolated from the outside of the conductor due to skin effect
> as described above.
>
> I would add a precautionary that the isolation is not complete. There
> are many instances of this in small signal designs that fail for this
> very reason. I am not sure what you are saying and what you are
> repeating because there is no close quote in your commentary.

Sorry about the lost closing quote. Here is the offending paragraph with
the quote fixed and a fuller reference:

====
Another figure in the ARRL Antenna Handbook 18th Edition, p5-6 Fig&#65533;8
contains the note "capacitance from shield to conductor is uniform around
circumference". The capacitance from the inner of the outer conductor to
the outer of the inner conductor acts entirely inside the transmission
line and has no effect on the external balance of the loop. The
conditions on the inside of the loop outer conductor are isolated from
the outside of the conductor due to skin effect as described above.
====

Does that clarify it. It is not the greatest bit of prose, but is it
clear enough?

Re the effectiveness of skin effect in isolating the inner and outer, I
agree that it isn't perfect, and less perfect in the case of braid than
for a solid tube. However, even through braid leakage is small relative
to the coupling through the gap as I describe, so the error in
simplification seems small to me.

Thanks Richard.

Owen

1689. Re: AM band Field strength predicton?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 21:46:24 UTC
From: MRW <mr.whatever@gmail.com>
Message-ID: <1172180784.343685.215150@p10g2000cwp.googlegroups.com>
Source record: 45603

On Feb 22, 3:43 pm, "Richard Fry" <r...@adams.net> wrote:
> Other things equal, the far field varies by the square root of the power
> change.
> If 1 kW into a given antenna system produces 300 mV/m at 1 km, then 0.1 W
> into that same system produces SQRT(0.1W / 1000W) x 300 mV/m at 1 km,
> which is 3 mV/m.

So in terms of the 20W test, this value at 1km would be 42.4 mV/m? If
so, how would I translate this value to another distance (e.g. 0.4 km
away)? I'm assuming that it would be greater than 42.4mV/m.

> A good AM receiver in the absence of natural/man-made interference can
> produce useful (but not highly "competitive") performance in fields of less
> than 100 µV/m.

Would a typically AM receiver be able to pick up signals 50 uV/m in
field strength? I'm assuming that it wouldn't since the components in
the AM receiver have noise levels probably close to this, huh?

1690. Re: AM band Field strength predicton?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 21:48:55 UTC
From: MRW <mr.whatever@gmail.com>
Message-ID: <1172180935.406535.161070@k78g2000cwa.googlegroups.com>
Source record: 45604

On Feb 22, 3:52 pm, "K7ITM" <k...@msn.com> wrote:
> With regard just to your last question, atmospheric (mainly from
> lightening around the world), galactic, and typical man-made noise are
> all much higher--40dB or more, usually--at 1MHz than at 100MHz. You
> need signals above the noise for practical communications.
> (Bandwidths also enter into the picture, but I believe the noise is
> the key issue.)
>
> Cheers,
> Tom

Thanks, Tom! I did not know about this noise factor in this lower
frequency range. In a way, if I were operating at 100MHz using AM,
then I should be able to work with lower field strength values?

1691. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 22:10:59 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12ts57kfhgs4v84@corp.supernews.com>
Source record: 45605

Thanks for the info. Since there's apparently no version control or "standard" version of Linux or wine, I guess it's not really appropriate to claim that "EZNEC runs on Linux using wine". My statement was based on a single report, from someone using wine 0.9.2 with linux kernel 2.4.20-42.9. But even no two Windows installations are the same, so I'm sure this is true for Linux also.

I've never purposefully set out to make EZNEC run under Linux -- the market is much too small to justify any but the most minimal of effort. The current state is, as I said, a result of a change made to make it work under Vista, plus one small change to get around an apparent wine bug (it handles the Windows API call WaitForInputIdle incorrectly). I'll continue to make very minor changes if necessary to accommodate various bugs in wine, but nothing major I'm afraid.

Roy Lewallen, W7EL

Jon Kï¿½re Hellan LA4RT wrote:
>
> OK. So the demo at http://www.eznec.com/DemoEXE/EZWDemo40Inst.exe
> which I downloaded at 2007-02-22 12:43 UTC includes those latest
> changes? If so, I have to report that it would not run on either of
> Ubuntu Dapper (April 2006 release) or Ubuntu Edgy (October 2006).
>
> In both cases, I removed wine and its config files from my system,
> removed my .wine directory and did a fresh install of wine before
> installing the EZNEC demo.
>
> With Dapper, I got "EZNEC can't be run on a network from a
> workstation". I wasn't, but the home directory is network mounted
> using NFS. The wine pacakge was wine_0.9.9-0ubuntu2_i386.deb.
>
> With Edgy, I got "Run-time error '13': Type mismatch. The wine pacakge
> was wine_0.9.22-0ubuntu3_i386.deb.
>
> I'll try Debian Sid later. They have wine 0.9.30.
>
> Please don't interpret this as a complaint. Rather, take it as the
> beginning of a compatibility list. And I'm still hoping that the demo
> I tested was out of date :-)
>
> 73
> LA4RT Jon, Trondheim, Norway

1692. 60m mobile operation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 22:19:04 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <sFoDh.262$M65.0@newssvr21.news.prodigy.net>
Source record: 45606

60m operation is limited to 50w pep relative to a
1/2WL dipole. Since a typical 60m mobile antenna
would be much less than 50% efficient, seems it
would it be OK to run an IC-706 at its normal 100
watt output level. Am I reading the rules right?
--
73, Cecil, http://www.qsl.net/w5dxp

1693. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 22:27:24 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <gn1st2tdcrmp1uon6v1uvf20985gk70h5l@4ax.com>
Source record: 45607

On Thu, 22 Feb 2007 21:05:49 GMT, "Frank's"
<frank599@nojunkmailplease.telus.net> wrote:

>Hi Richard, I was not really serious

Hi Frank,

Neither is Art - only passionate.

His being convinced is one thing, but it does nothing to convince others - except for possibly two more like him on Golgotha. Inevitably whenever anyone like these two try to chime in, Art pounds more nails into them.

Art, you can certainly name your critics, and you aren't shy to enumerate huge lists either. Can you name one poster who can explain your web page here? It would certainly make for a fresh change - like the polar cap expanding back out or the Greenland glaciers returning.

Problem here is Art offers this as "PROOF." I note that no one has bothered to point out that proofs necessarily have a premise to be proven. When we have to dig for the premise, does it become OUR proof? Or does the original author then expand his chest and proudly proclaim "That is what I meant to say!"

When I examine the page at its most fundamental facts, namely that described as "THREE ELEMENT GAUSSIAN CLUSTERED RADIATING ARRAY" I find that the picture of the elements is not the same as those described as the elements. A simple glance reveals the two at the top of the illustration are orthogonal to the X axis, reviewing the coordinates proves none are. There is a proof for all that is easily demonstrated.

When I review the claims of "drive impedance" I find element 1 claims to be resonant at 200 MHz when it is only 5 or 6 inches long. It doesn't take computer analysis to destroy that proof. It doesn't work if the length is in inches, feet, meters, centimeters, yards, chains, rods, or any "usual" form of linear measurement.

These being technical details, appropriate for discussion in a technical forum, they will sit cold on the table while flagons of passionate wine are splashed around filling cups of remorse against our failure to acknowledge genius.

73's
Richard Clark, KB7QHC

1694. Re: 60m mobile operation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 22:35:43 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E0619BC8B95nonenowhere@61.9.191.5>
Source record: 45608

Cecil Moore <mycall@hotmail.com> wrote in news:sFoDh.262$M65.0
@newssvr21.news.prodigy.net:

> 60m operation is limited to 50w pep relative to a
> 1/2WL dipole. Since a typical 60m mobile antenna
> would be much less than 50% efficient, seems it
> would it be OK to run an IC-706 at its normal 100
> watt output level. Am I reading the rules right?

What are the actual words used in the rules?

If this is based on ERP, and uses the term Effective Radiated Power to mean relative to a dipole (rather than say, EIRP), then the ERP would be calculated from transmitter power output and antenna gain wrt a dipole, or

ERP = TxPower*AntennaDirectivity/DipoleDirectivity*Efficiency.

So the terms you left out were AntennaDirectivity and DipoleDirectivity, but I should think that most HF whips would have Directivity lower than a dipole, so you may be ok.

Owen

1695. Re: 60m mobile operation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 22:36:47 UTC
From: chuck <nospam@nospam.org>
Message-ID: <1172183871_5705@sp6iad.superfeed.net>
Source record: 45609

Cecil Moore wrote:
> 60m operation is limited to 50w pep relative to a
> 1/2WL dipole. Since a typical 60m mobile antenna
> would be much less than 50% efficient, seems it
> would it be OK to run an IC-706 at its normal 100
> watt output level. Am I reading the rules right?

I think your interpretation is correct, but the key is:

"A half-wave dipole antenna will be presumed to have a gain of 0 dBd.
Licensees using other antennas must maintain in their station records
either manufacturer data on the antenna gain or calculations of the
antenna gain."

Meaning you probably need to keep an EZNEC printout in your glove
compartment. ;-)

Chuck

-----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

1696. "Noise" antenna for MFJ-1026 "Noise Canceling Signal Enhancer"

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 22:56:45 UTC
From: Eric <reply.in.group@nospam.no>
Message-ID: <pan.2007.02.22.22.56.42.943428@nospam.no>
Source record: 45610

I have the MFJ-1026 what they grandly call a "Deluxe Noise Canceling Signal Enhancer" (as contrasted with the plain old non-deluxe version, I guess).

The main station antenna is a 160-meter inverted vee up about 40 feet and fed with ladder line, used on all bands 160-10. The noise antenna is an 80-meter dipole up about 20 feet, fed with coax, and oriented about 60 degrees off of the plane of the inverted vee.

There are times when the noise canceler works really well, and other times when it works hardly at all. I know that when you get noise from all directions, there isn't much an active noise canceling device can do about it. Still, I'm wondering if there is something I can do to make it work better.

Is there another kind of noise antenna that I could use that would work better a larger percentage of the time?

Someone told me that an active receiving antenna (a relatively short whip with a preamp that's mounted at the antenna) could work better, but I'd need something that's broadband through the 160-10 meter range that wouldn't have to be tuned.

Any suggestions? Thanks...

1697. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 23:01:48 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <erl7kr$o0e$1@news.service.uci.edu>
Source record: 45612

Richard Clark wrote:
> On Thu, 22 Feb 2007 21:05:49 GMT, "Frank's"
> <frank599@nojunkmailplease.telus.net> wrote:
>
>
>>Hi Richard, I was not really serious
>
>
> Hi Frank,
>
> Neither is Art - only passionate.
>
> His being convinced is one thing, but it does nothing to convince
> others - except for possibly two more like him on Golgotha. Inevitably
> whenever anyone like these two try to chime in, Art pounds more nails
> into them.
>
> Art, you can certainly name your critics, and you aren't shy to
> enumerate huge lists either. Can you name one poster who can explain
> your web page here? It would certainly make for a fresh change - like
> the polar cap expanding back out or the Greenland glaciers returning.
>
> Problem here is Art offers this as "PROOF." I note that no one has
> bothered to point out that proofs necessarily have a premise to be
> proven. When we have to dig for the premise, does it become OUR
> proof? Or does the original author then expand his chest and proudly
> proclaim "That is what I meant to say!"
>
> When I examine the page at its most fundamental facts, namely that
> described as "THREE ELEMENT GAUSSIAN CLUSTERED RADIATING ARRAY" I find
> that the picture of the elements is not the same as those described as
> the elements. A simple glance reveals the two at the top of the
> illustration are orthogonal to the X axis, reviewing the coordinates
> proves none are. There is a proof for all that is easily
> demonstrated.
>
> When I review the claims of "drive impedance" I find element 1 claims
> to be resonant at 200 MHz when it is only 5 or 6 inches long. It
> doesn't take computer analysis to destroy that proof. It doesn't work
> if the length is in inches, feet, meters, centimeters, yards, chains,
> rods, or any "usual" form of linear measurement.
>
> These being technical details, appropriate for discussion in a
> technical forum, they will sit cold on the table while flagons of

> passionate wine are splashed around filling cups of remorse against
> our failure to acknowledge genius.

It is your failure to acknowledge what it actually is that is most remarkable. A visit to Art's website tells the story. Little more need be said, for that would quite literally be kicking the crippled man. Consider what John Bradford had to say, Richard.

73, ac6xg

1698. Random-length loop antenna for 160-40?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 23:08:09 UTC
From: Eric <reply.in.group@nospam.no>
Message-ID: <pan.2007.02.22.23.08.06.786556@nospam.no>
Source record: 45611

I just took a little survey out in the back yard, with a thought towards putting up a loop antenna as large as I can and feeding it with ladder line and an autotuner.

It looks like what I can probably do is manage about 250 feet in length and about 50 feet between front and back, so that it goes nominally 250 feet by 50 feet by 250 feet by 50 feet, and will be fed at about the 100-foot point in one of the 250-foot legs.

In fact, the loop will be really irregularly shaped, but on average the 250x50 dimensions will probably be not too far off.

The whole thing will be up about 25 feet off the ground (that's about as high as I can reach with my extension ladder and I really don't have any practical way to get it up any higher).

The plan would be to use it mostly for NVIS work on 160 through 40 meters, though if it'll tune up on the higher bands I'll probably use it there too, from time to time, for whatever good it will do.

What do you all think of my chances of being successful with this antenna vs. my current 180-foot-long ladder-line-fed inverted vee?

Any truth to the story that "closed" antennas like a loop or a folded dipole are less noise-susceptible that plain two-legged dipoles?

1699. Re: Trimming 2m 5/8 wave antenna for 156 mhz ???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 23:32:59 UTC
From: BNB Sound <jon@bnbsound.com>
Message-ID: <1172187179.823562.215820@v33g2000cwv.googlegroups.com>
Source record: 45613
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

On Feb 17, 12:41 pm, "James" <jnipper...@nospamfdn.com> wrote:
> Hello ! I just bought a 2m Hamstick antenna at the Orlando Hamfest, the
> model 9100. I would like to trim this antenna for 156 mhz, for marine
> use on my boat. Can someone tell me "about" how much I should shorten the
> whip to achieve this ? Remember, this is the 5/8 wave antenna with a loaded
> base.
>
> Thank you very much !!
>
> 73 de Jim K4PYT

5/8 wave on 156 MHz is 47.3 inches (rounding). Seems like whipping up
one of the classic SO-239 connector ground plane antennas out of some
brazing rods would be a super cheap way to do it, then you don't have
to worry about counterpoise and you haven't taken more than about $10
out of the antenna fund.

Jon
KC2PNF

1700. Re: tuned vertical vs center loaded ant

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 23:38:56 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <tr9st2hvgvkak4pdh0r3k5d2j9b33o8qv1@4ax.com>
Source record: 45614

On 22 Feb 2007 05:09:27 -0800, "Denny" <k8do@mailblocks.com> wrote:

>
>
>Ed
>With a decent top hat, the bottom fed 24 foot will outplay the shorter
>antenna... For this installation the SGC auto tuner should work
>satisfactorily... I would go this route over the Bug Catcher,
>myself...
>
>Consider some roll out radials clamped to the ground tap on the
>antenna feed for when you are able to lay wires across the ground -
>like after midnight... This will make a major improvement...
>
>denny

Hi Ed,

I agree with Denny 100%. Any loss in a tuner feeding the 24 ft vertical will be less than that in the Bug Catcher. The major loss in the Bug Catcher is due to the resistance caused by the turn-to-turn capacitance that makes the inductance resonant at some frequency not too much higher than that that at the operating frequency. See the resistance vs frequency curve of a parallel LC circuit, where you'll see that the value of resistance is maximum at resonance, which is not what you want at anywhere near the operating frequency.

Walt, W2DU

1701. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-22 23:59:45 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <V7qDh.35$wz1.23@newsfe12.lga>
Source record: 45615

I can't wait for the fractal version of this marvel Goosian whatever!

I inputed it into medioker AZNEC and com-puter it is still running in cirkles, it is different from the published discloser by the enlightined autor, but that is to bee expected if one does not get the brilliant idea. Oh weel!

73 Bada Bum

1702. Re: Very deep question regarding true polarization

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 00:23:09 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <tocst2ddnc82tprlcc4gt81to4dhtl8pri@4ax.com>
Source record: 45616

On Sun, 18 Feb 2007 14:47:46 -0600, "Mike Lucas" <w5chr@bellsouth.net> wrote:

>
>"art" <aunwin@insightbb.com> wrote >>
>big snip
>> Wimpie I do like your style of debate even where some statements
>> appear lacking in thought.
>big snip
>> Back to the subject. So in summation Faradays rotation is a subject of
>> equilibrium and in
>> his case refers to cosmic and where "curl " is a derivative thereof
>> with respect to earth, which as you state will be shown in the E and H
>> vector format. Hopefully you can follow all that and prove it for
>> yourself with a vertical radiator design.
>> Best Regards
>> Art
>>
> Art: I have been working on my closed_mindedness, and feel that I will
>make
>significant improvement if you will provide me with enough hard data to
>build a version of your magnificent antenna.
>1. Has a physical version of your antenna been constructed?
>2. I have sworn off of EZNEC, so I would need a copy of your antenna
> model, in any commercially available computor (sic) program format..
>3. I have access to aluminum in plate, tube, or foil form. Would I need
> anything else?
>4. What would be the best way to feed the array, so as to prevent
>intermodial
> dirfraction?
>5. I can mount the main elements on some Milford trunnions that I have saved
> for just such a project. Do you think that bipolar status is attainable?
>
>Glad to see you doing so well.
>
>Mike W5CHR
>Memphis
>
Mike, you stated above that you have sworn off EZNEC. Will you please explain
what has occurred that would possibly cause you to make such a horrendous
decision? I use EZNEC all the time. What am I missing?

Walt, W2DU

1703. ar3500 ebay relist ebay took it off again

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 00:27:56 UTC
From: welcome to nightmare <nightmare@us-ham.com>
Message-ID: <gyqDh.106$PV3.1603@ursa-nb00s0.nbnet.nb.ca>
Source record: 45617

I had to relist ebay took it off again. damn
>
http://cgi.ebay.com/10-METER-HAM-RADIO-BY-CLEARCHANNEL-100-WATTS_W0QQitemZ140088548276QQihZ004QQcategoryZ4674QQssPageNameZWDVWQQrdZ1QQcmdZViewItem

>
> Its me speedster2006 I had to change my Ebay name because ebay threaten
> to ban me for good this time.
> You know i sell alot of 10 meter radios for 11 meter use.
>
> I put the Ebay name in my wifes name safire2007 for this auction
>
> thanks Harold

1704. Re: 60m mobile operation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 00:29:11 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <rzqDh.5497$JI.5143@newsread3.news.pas.earthlink.net>
Source record: 45618

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:sFoDh.262$M65.0@newssvr21.news.prodigy.net...
> 60m operation is limited to 50w pep relative to a
> 1/2WL dipole. Since a typical 60m mobile antenna
> would be much less than 50% efficient, seems it
> would it be OK to run an IC-706 at its normal 100
> watt output level. Am I reading the rules right?
> --
> 73, Cecil, http://www.qsl.net/w5dxp

That is the way I see it. The 1/2 wave dipole would be the 0 db refferance point. I doubt any practical antenna on a car would be anywhere near 50% of a dipole.
YOu seem more able than most to calculate the number of db below the dipole so you can calculate the ammount of power you would have to run to get up to the same level of the 1/2 wave dipole. I am not sure even the legal limit of 1500 watts would get you there with some antennas. Maybe the 1500 watt rule does not apply on this band if you have a very poor antenna.

1705. Aluminium for antenna design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 00:41:49 UTC
From: Lex-Lutor <lutor-lexBEZ-ovoga@post.t-com.hr>
Message-ID: <erlde7sio1@ss408.t-com.hr>
Source record: 45620

What will be the best material for log-periodic antenna design, my idea is to build LP-ant. for 14-30 MHz but it must stay alive at wind over 120 mPh. Wellding and machine work is not problem bigest problem is to select good Aluminium?

Maybe AA6082 or AA6061 something elese ?

Thanks for any help or info ?

1706. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 00:41:50 UTC
From: Nate Bargmann <n0nb.DO.NOT.SPAM@ME.networksplus.net>
Message-ID: <EtOdnWYX27fTpUPYnZ2dnUVZ_ujinZ2d@bluevalley.net>
Source record: 45619

On Thu, 22 Feb 2007 03:21:57 +0000, John Ferrell wrote:

> I did not mean to be critical of Linux, I just could not restrain the
> urge to expose my wish list!

That's fine. I was just trying to clarify the position of Linux in relation to Windows. I'm afraid that at times those of us that do advocate Linux are not as clear about it as we should be. It would be fantastic if there was some magic OS that ran everything. Wait a minute! Linux is almost there! ;-)

I have played with WinDRM and some of the Antenna book software with Wine. I have also used Morse Runner with Wine and it's great fun.

73, de Nate >>

--

"The optimist proclaims that we live in the best of all possible worlds,
the pessimist fears this is true."

1707. Now that CW is gone there will be more ham to non-ham conflicts.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 01:16:20 UTC
From: Retard Invasion <goodbye.H@m.radio>
Message-ID: <EfrDh.5508$JI.4666@newsread3.news.pas.earthlink.net>
Source record: 45621

The code hating losers were too stupid and lazy to learn and use CW,
they're also probably going to be too stupid and lazy to solve TVI
and interference problems with their neigbhors. There will be more
amateur to amateur and amateur to non-amateur conflicts. Hams will look
bad and the FCC will regulate the service more because of all the retards
we let have HF privledges. CQ Breaker, CQ Breaker.

Welcome to CB everybody.

1708. Re: Aluminium for antenna design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 01:31:40 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1172194300.701536.83590@a75g2000cwd.googlegroups.com>
Source record: 45622

On Feb 22, 7:41 pm, "Lex-Lutor" <lutor-lexBEZ-ov...@post.t-com.hr>
wrote:
> What will be the best material for log-periodic antenna design, my idea is
> to build LP-ant. for 14-30 MHz but it must stay alive at wind over 120 mPh.
> Wellding and machine work is not problem bigest problem is to select good
> Aluminium?
>
> Maybe AA6082 or AA6061 something elese ?
>
> Thanks for any help or info ?

aluminum double boom, fiberglass elements, just a thought.

Jimmie

1709. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 01:33:04 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <45de444b$0$21251$39cecf19@news.twtelecom.net>
Source record: 45623

Roy Lewallen wrote:

> Thanks for the info. Since there's apparently no version control or
> "standard" version of Linux or wine, I guess it's not really appropriate
> to claim that "EZNEC runs on Linux using wine". My statement was based
> on a single report, from someone using wine 0.9.2 with linux kernel
> 2.4.20-42.9. But even no two Windows installations are the same, so I'm
> sure this is true for Linux also.

Good clue there Roy. The -42.9 would probably indicate that it is Redhat or Redhat clone. I don't think anyone else uses that extended kernel numbering format. The official kernels are almost always x.y.z, with the rare special minor fix as x.y.z.a. The 42.9 signifies the Redhat patch set applied, which often has nothing to do with official releases, or sometimes it upgrades one kernel partially or completely to another, unspecified, kernel. Redhat kernels are very confusing, misleading, and have there own special bugs. This 2.4.20-42.9 may actually mostly be 2.4.27, 7 versions newer. But you'll never know.

The "standard" in Linux is actually the kernel itself. The distributions are the packages that surround the kernel. This includes the desktop and all the other software that comes with the distribution you install. Kind of like the VW bug engine and chassis and tons of parts kits available. Except Redhat insists on changing random parts on the engine, boring a 1600 out to 1950, and still calling it a 1.6 liter.

Before I am attacked, I am NOT running down Redhat here. I use Fedora Core 6 at work, and am quite happy with it. As a desktop. As a server platform however, their silly kernel numbering system often makes it very hard to know how their kernel features map to the Linux standard kernels. And when I need to be sure a piece of hardware such as a particular SATA controller or SCSI RAID is supported, I am forced to build a new kernel from scratch from a standard kernel source release. Not hard, just a pain that would be alleviated by Redhat sticking to the rules the rest of the distros (most) stick to.

tom
K0TAR

1710. Re: tuned vertical vs center loaded ant

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 01:50:27 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns98DFB59B3AD2Dspectrumhogstarbandn@198.186.192.196>
Source record: 45624

> I agree with Denny 100%. Any loss in a tuner feeding the 24 ft
> vertical will be less than that in the Bug Catcher. The major loss in
> the Bug Catcher is due to the resistance caused by the turn-to-turn
> capacitance that makes the inductance resonant at some frequency not
> too much higher than that that at the operating frequency. See the
> resistance vs frequency curve of a parallel LC circuit, where you'll
> see that the value of resistance is maximum at resonance, which is not
> what you want at anywhere near the operating frequency.
>
> Walt, W2DU
>

Well, I was considering constructions a rather large coil that
should have a Q of 1000, or so..... but I see your point, anyway.
Thank you, Cecil and Denny.

I am tending toward a vertical with a Tuner, now.

Ed K7AAT

1711. Re: Another deep question regarding the universe

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 01:58:33 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1172195913.306550.18540@s48g2000cws.googlegroups.com>
Source record: 45625

On Feb 22, 10:36 am, Cecil Moore <myc...@hotmail.com> wrote:
> John Smith I wrote:
> > I know of NO ONE who claims to know FOR CERTAIN, EXACTLY why, this
> > happens or is able to offer conclusive proof ...
>
> Here's what I was taught. In the Northern Hemisphere,
> the Northernmost point in a body of water at rest is
> moving slower than the Southernmost point. Consider
> that the ocean water at the poles travels pi*zero miles
> every 24 hours while the water at the equator travels
> pi*8000 miles, i.e. about 1000 miles per hour. The extra
> velocity of the Southernmost molecules is what gives the
> counter-clockwise rotation of a fluid in the Northern
> Hemisphere. In the Southern Hemisphere, the Southernmost
> molecules are moving the fastest resulting in a clockwise
> rotation.
> --
> 73, Cecil,http://www.qsl.net/w5dxp

Sounds about like what my HS physics teacher told me, works great for
hurricains doesnt do a thing for toilet drains .(|:))

1712. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 02:34:38 UTC
From: blueyhi5s@yahoo.com.au
Message-ID: <1172198078.691619.214320@a75g2000cwd.googlegroups.com>
Source record: 45526

On Feb 22, 3:01 pm, Jim Kelley <jwkel...@uci.edu> wrote:

> It is your failure to acknowledge what it actually is that is most
> remarkable. A visit to Art's website tells the story. Little more
> need be said, for that would quite literally be kicking the crippled
> man. Consider what John Bradford had to say, Richard.
>
> 73, ac6xg

Jim
Apart from John Bradford's words your post was a bit too
cryptic for me, could you elaborate

Derek

1713. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 03:47:49 UTC
From: craigm <none@domain.invalid>
Message-ID: <4ttDh.1$Fg6.92251@news.sisna.com>
Source record: 45527

art wrote:

> Frank, choose your friends! Alpha and Beta were the first two letters
> of the alphabet,

But nucleus and electron would be much clearer to the reader.

> I do not wish to represent myself as a physicist.

Don't worry, you don't.

It is clear you don't know how electricity flows in a material.

Your example of the balls on the string is wrong. You state that under high magnification the middle balls do not move. If this were to be true there can be no energy transferred from one end to the other. This is a simple example of elastic collisions and conservation of momentum. High school physics covers this material.

Your concept of electrons leaving the surface and returning at anything other than significantly elevated temperatures is fantasy.

You make the extention of Gauss' law to include time. However, from what I know, Gauss' law applies to electroSTATICS. If this can extended to include time, and you are the first to observe this, then some sort of rigorous proof would be appropriate.

You might want to look at a basic book on electromechanics. You need a better grasp of the fundamentals

> On
> the multi decimal figures they are computor derived
> and I do not feel it to be my place to manipulate figures. On the
> ficticious three element beam it was clearly laid out as a sample that
> in no way was an extension of a Yagi beamm where all elements were
> resonant and not planar or parasitic in form.
> Tt clearly laid out the polarity of the gains mentioned which by the
> way you did not do. In fact I don't know what you did or where your
> figures originated from. The sample beam was drawn up purely to
> demonstrate the dexterity of positions plus the multi resonance and it
> was accompanied by the process from whence the dimensions came from,
> which this group in its entirety stated as implausable some weeks ago.
> As an adder I gave swr curves together with gain curves to demonstrate
> the absense of parasitics
> which for a yagi demands choices of desirebles (there is a whole
> chaptor in the ARRL handbook about this problem.) As an aside I also
> included in the array an element which was not only at an angle

> relative to that around it but also of a length unrelated to a half
> wave length. Now you obviously are not aware of the vagrances of
> antennas otherwise you would not have replied like you did with an
> example missing details of measurement, phase and to any point that
> perhaps you were trying to make. I could have drawn a high gain
> antenna of half the length of a yagi with the same gain but that would
> have strayed from what I was trying to emphasise i.e. an advance in
> science..

To advance science, you would need to provide your evidence in a manner that could be validated by those knowlegable in the fields of physics and electrodynamics. However, looking at the first half of your page, there is nothing but analogies that are not applicable to the concept you try to present. Actually the facts you try to present are just plain wrong.

> You are obviously out of touch with respect to antennas by
> what you write
> as are others who are declaring their lack of knoweledge by what they
> say. What goes around comes around and you will notice that nobody has
> faulted the theory espoused for the array other than your word of
> ficticious which you never explained.

What theory? Your starting point contains so many misperceptions that nothing points in a direction that would lead a reader to believe whatever follows.

You require 'equilibrium' to satisfy your concept at every step of the way. However an antenna is driven from a transmitter. This input energy would tend to eliminate any state of equilibrium. Your initial statement of moving charges in a material and applying Gauss' law and requiring equilibrium doesn't work. If the charges are moving, where is the equilibrium? (You also never define equilibrium therefore any assertion of equilibrium is meaningless. Nobody can tell what you are talking about.)

> Give me something for the record
> please.Do you have a high school diploma?

I do.

> Art
> Art

Now, I could be wrong, but from my understanding of engineering, I think there are serious problems with what you propose.

craigm

1714. Best antenna to cover 500 khz to 999 mhz?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 04:09:29 UTC
From: Michel Morin <ve2cjw@hotmail.com>
Message-ID: <OQtDh.2085$F85.342955@weber.videotron.net>
Source record: 45533

Would a 100 feet dipole cover the whole band between broadcast AM and 999 mhz or would I have to split the range somehow? Is is better to use a dipole for up to about 50 mhz and a discone for the rest? I am looking for an omnidirectional pattern. Thanks.
Mike.

1715. Antenna to cover AM broadcast to 999 mhz?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 04:15:22 UTC
From: ve2cjw <ve2cjw@videotron.ca>
Message-ID: <1172204119.314906.84820@a75g2000cwd.googlegroups.com>
Source record: 45528

What would be the best combination to cover that frequency range in
receive only? Would a 100 feet dipole with a discone cover it? Any
other suggestions? Thanks.
Mike.

1716. Re: Shielded loop operation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 04:16:41 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1172204201.914401.191060@j27g2000cwj.googlegroups.com>
Source record: 45529

On Feb 22, 12:23 pm, Owen Duffy <n...@no.where> wrote:
> G'day all,
>
> I am trying to work through the magical claims that are made of shielded
> loops. My interest in mainly their use for field strength measurement,
> but understanding them in a general sense is the place to start.
>
> I have not found a detailed description of operation in my text books.
> The ARRL does contain information, but it is inconsistent and IMHO
> sometimes just plain wrong.
>
> I have drafted an article with a proposed explanation of the operation
> of a small single turn untuned shielded receiving loop. The article is
athttp://www.vk1od.net/shieldedloop/index.htm.
>
> Am I on the wrong tram?
>
> Comments appreciated.
>
> Owen

Hi Owen,

I have no time at the moment to read your draft, but I can tell you that there is a very good qualitative explanation in King, Mimno and Wing, "Transmission Lines, Antennas and Waveguides." I have a PDF of the antennas chapter... I also know that in Johnson and Jasik there's a corresponding explanation with a bit more detail. In a nutshell, in the so-called shielded loop antenna, the antenna is the outer surface of the outer conductor, and the feedpoint is the gap in this conductor. The center conductor is merely a transmission line to conduct the signal from the feedpoint to where it is used. It is balance that yields the "magical properties," and it is possible to build an antenna with good balance without making the loop out of coaxial cable. The magical properties are generally taken to be rejection of nearby electric fields (not electromagnetic fields), and a symmetrical pattern.

Cheers,
Tom

1717. Re: AM band Field strength predicton?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 04:21:38 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1172204498.747073.7270@k78g2000cwa.googlegroups.com>
Source record: 45530

On Feb 22, 1:48 pm, "MRW" <mr.whate...@gmail.com> wrote:
> On Feb 22, 3:52 pm, "K7ITM" <k...@msn.com> wrote:
>
> > With regard just to your last question, atmospheric (mainly from
> > lightening around the world), galactic, and typical man-made noise are
> > all much higher--40dB or more, usually--at 1MHz than at 100MHz. You
> > need signals above the noise for practical communications.
> > (Bandwidths also enter into the picture, but I believe the noise is
> > the key issue.)
>
> > Cheers,
> > Tom
>
> Thanks, Tom! I did not know about this noise factor in this lower
> frequency range. In a way, if I were operating at 100MHz using AM,
> then I should be able to work with lower field strength values?

Yes, to be sure. It's interesting to note that communications in the aviation band above 108MHz is, AFAIK, still all AM. The nav signals are different but voice communications are AM there.

The "noise" chapter of Sams' "Reference Data for Engineers" has some info on noise versus frequency, from various sources; included are a map of usual atmospheric noise levels around the world, and I believe sky-maps of galactic noise. You can also find some of that on the web.

Cheers,
Tom

1718. Re: AM band Field strength predicton?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 04:32:34 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E09E1BC5621nonenowhere@61.9.191.5>
Source record: 45531

"K7ITM" <k7itm@msn.com> wrote in news:1172204498.747073.7270
@k78g2000cwa.googlegroups.com:

> The "noise" chapter of Sams' "Reference Data for Engineers" has some
> info on noise versus frequency, from various sources; included are a
> map of usual atmospheric noise levels around the world, and I believe
> sky-maps of galactic noise. You can also find some of that on the
> web.

A more up to date source of expected ambient noise levels is ITU-R
Recommendation P.372-8. I have summarised some of the info from that
document for HF frequencies at http://www.vk1od.net/fsm/FSAmbientNoise.htm
.

Owen

1719. Re: I Built the 10m Sleeve Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 05:14:12 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <EKuDh.24900$pe4.4787@newsfe06.phx>
Source record: 45532

"Jimmie D" <GFENDER@carolina.rr.com> wrote in message
news:45dd3c6a$0$28137$4c368faf@roadrunner.com...
>

< snip >

> Ive built a couple of these and from my experience the bottom pipe is not
> large enough, maybe 2.5 inches using rg58 coax. PVC may not be the best
> insulator for this either. Styrofoam is very good. Even then the lower
> section will have to be somewhat shorter than you would expect. Since you
> are experimenting try some RG58 with your existing antenna and mkae the
> change from PVC to styrofoam making the changes one at a time so you can
see
> the individual effects. Also sweep the antena to find out its actuall
> resoant frequency.
> Jimmie

TKS. I will try both of those approaches. BTW, The PVC wasn't chosen for
its electrical characteristics. I used it only as a physical separator to
prevent arc-over. Styrofoam, eh?

The analyzer permitted sweeping, albeit manually. The resonant freq is
where it ought to be and it tests OK with the coax out of the lower section.

1720. Re: I Built the 10m Sleeve Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 05:28:52 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <pYuDh.42736$1H5.38670@newsfe16.phx>
Source record: 45534

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:gwiDh.151$M65.16@newssvr21.news.prodigy.net...
> Sal M. Onella wrote:
> > I have very few ideas for correcting the original sleeve design.
>
> What are the resonant frequencies and feedpoint
> resistances for the two types of feeds?

I will need to re-borrow my buddy and his analyzer. We just took readings
but no notes. (Yes, I know better.)

> There's no rule that says the antenna must be
> 50 ohms at resonance. A 2.8:1 SWR could just be
> an indication that the feedpoint impedance at
> resonance is 18 + j0 ohms.

Agree. However, the venerable Kenwood TS-120 says to keep the VSWR under
1.5:1. So, my first attempt is a bad antenna for the intended purpose.
>
> Did you do anything to choke the common-mode
> currents on the feedline? If not, those currents
> can upset the SWR meter reading.

No. That was careless of me. Four turns of the coax if I remember
correctly from an earlier discussion here. Thus, the first attempt may not
be a bad antenna but a bad measurement.

1721. Re: I Built the 10m Sleeve Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 05:40:48 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <A7vDh.42739$1H5.11470@newsfe16.phx>
Source record: 45535

<nm5k@wt.net> wrote in message
news:1172158664.931173.219050@q2g2000cwa.googlegroups.com...
> On Feb 22, 12:16 am, "Sal M. Onella" <salmone...@food.poisoning.org>
> wrote:
> > It was a bust. <:-(
>
> They can be quirky..And the decoupling is pretty critical. I always
> preferred
> a base fed half wave for those reasons. You still need to decouple for
> best
> performance, but there are no "coax in the way" issues, etc.. I use a
> simple
> "gamma loop" feed. IE: single turn coil, and a cap if needed.
> Sometimes
> you don't need the cap, but if you do, 30-50 pf is about the usual
> value for
> 10m. I make those from a short length of coax.. I'm basically copying
> the
> feed system of the usual cushcraft ringos.. BTW, cushcraft sells a 10m
> ringo if one doesn't want to build one, or have the tubing.

I will try decoupling and also try that feed.

I have several commercial antennas but I tend toward building them myelf. I learned the hard way about the three types of copper pipe, K, L, & M. Until I got home and hit google.com, I didn't know to shop for the more economical Type M and paid premium $$$ for Type L. I don't want to think what Type K would have cost.

"Sal"

1722. Re: Antenna to cover AM broadcast to 999 mhz?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 07:10:35 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <cl4tt2pou5c522iibsjv42ot9rrdccm6o2@4ax.com>
Source record: 45536

On 22 Feb 2007 20:15:22 -0800, "ve2cjw" <ve2cjw@videotron.ca> wrote:

>What would be the best combination to cover that frequency range in
>receive only?

A different antenna every octave: 11 antennas.

>Would a 100 feet dipole with a discone cover it?

No.

>Any
>other suggestions?

See above. You could reasonably expect to skip the first 4 antennas
to cover the lowest frequencies.

73's
Richard Clark, KB7QHC

1723. Re: tuned vertical vs center loaded ant

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 09:11:52 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <sVWjLrCY$q3FFAiL@ifwtech.co.uk>
Source record: 45537

Walter Maxwell wrote:
>On 22 Feb 2007 05:09:27 -0800, "Denny" <k8do@mailblocks.com> wrote:
>
>>
>>
>>Ed
>>With a decent top hat, the bottom fed 24 foot will outplay the shorter
>>antenna... For this installation the SGC auto tuner should work
>>satisfactorily... I would go this route over the Bug Catcher,
>>myself...
>>
>>Consider some roll out radials clamped to the ground tap on the
>>antenna feed for when you are able to lay wires across the ground -
>>like after midnight... This will make a major improvement...
>>
>>denny
>
>Hi Ed,
>
>I agree with Denny 100%. Any loss in a tuner feeding the 24 ft vertical will be
>less than that in the Bug Catcher.

I'm not so sure. A 24ft vertical is about 0.18 wavelengths at 7MHz, and about 0.09wl at 3.5MHz. It will require a large series inductance to resonate it at 3.5MHz, and will also require some series inductance for 7MHz.

That inductance must be provided by either an external loading coil or by the auto-tuner. The question is: which will have the smaller loss, a large and well designed external coil, or the tiddly little toroids inside an auto-tuner?

>The major loss in the Bug Catcher is due to
>the resistance caused by the turn-to-turn capacitance that makes the inductance
>resonant at some frequency not too much higher than that that at the operating
>frequency. See the resistance vs frequency curve of a parallel LC
>circuit, where
>you'll see that the value of resistance is maximum at resonance, which is not
>what you want at anywhere near the operating frequency.

Fair enough, but a loading coil doesn't always have to be built that way. This one has no requirement to catch bugs at 60mph.

I would suggest the 24ft vertical and auto-tuner by all means, but use a well constructed outboard coil to provide the major part of the loading, and leave the auto-tuner to handle whatever impedances result.

Without analysing it in detail, it would probably be best to load the whole thing to resonate just above 4MHz. At 7MHz the feedpoint impedance would then be considerably inductive, but the tuner can probably deal with that more efficiently than if it was asked to provide all the loading inductance itself.

Another alternative, avoiding the auto-tuner completely and therefore much less expensive, would be EI7BA's homebrew version of the Butternut HF2:
http://ireland.iol.ie/~bravo/80&40mVertic.htm

But whatever you choose, it's got to have "radials, radials, radials", exactly as Denny says.

In your situation you can never come anywhere near the optimum number and length of radials, so simply aim for as many and as long as you can. On the ground or just below the surface, whatever lengths you can practically manage will be fine.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

1724. Re: Random-length loop antenna for 160-40?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 11:40:30 UTC
From: KC1DI <kc1di-qrp@roadrunner.com>
Message-ID: <45ded2a3$0$5732$4c368faf@roadrunner.com>
Source record: 45538

Eric wrote:
> I just took a little survey out in the back yard, with a thought towards
> putting up a loop antenna as large as I can and feeding it with ladder
> line and an autotuner.
>
> It looks like what I can probably do is manage about 250 feet in length
> and about 50 feet between front and back, so that it goes nominally 250
> feet by 50 feet by 250 feet by 50 feet, and will be fed at about the
> 100-foot point in one of the 250-foot legs.
>
> In fact, the loop will be really irregularly shaped, but on average the
> 250x50 dimensions will probably be not too far off.
>
> The whole thing will be up about 25 feet off the ground (that's about as
> high as I can reach with my extension ladder and I really don't have any
> practical way to get it up any higher).
>
> The plan would be to use it mostly for NVIS work on 160 through 40 meters,
> though if it'll tune up on the higher bands I'll probably use it there
> too, from time to time, for whatever good it will do.
>
> What do you all think of my chances of being successful with this antenna
> vs. my current 180-foot-long ladder-line-fed inverted vee?
>
> Any truth to the story that "closed" antennas like a loop or a folded
> dipole are less noise-susceptible that plain two-legged dipoles?
>

Hi ,
I think you'd like the loop , Though it is about 250 short for good
efficiency on 160M I run a 256 foot 80M loop here fed with home made
open wire line works great.
try it and enjoy.
73 Dave kc1di

1725. Re: 60m mobile operation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 11:53:42 UTC
From: Dave <W1MCE@comcast.net>
Message-ID: <DdGdnVJZBqtdSEPYnZ2dnUVZ_qrinZ2d@comcast.com>
Source record: 45539

YES! You are reading the rules correctly.

There are many 60 meter mobiles running 300 to 400 watts into a 10% efficient antenna relative to a 1/2 wavelength dipole.

Get on 60, It;s is a great band.

Cecil Moore wrote:
> 60m operation is limited to 50w pep relative to a
> 1/2WL dipole. Since a typical 60m mobile antenna
> would be much less than 50% efficient, seems it
> would it be OK to run an IC-706 at its normal 100
> watt output level. Am I reading the rules right?

1726. Re: ar3500 ebay relist ebay took it off again

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 11:55:48 UTC
From: Dave <W1MCE@comcast.net>
Message-ID: <DdGdnU1ZBqujS0PYnZ2dnUVZ_qrinZ2d@comcast.com>
Source record: 45540

You are still trying to circumvent the law!!!

Next will be a fine and quite possibly I'll see you in a professional environment.

/s/ DD

welcome to nightmare wrote:

> I had to relist ebay took it off again. damn
> >
> http://cgi.ebay.com/10-METER-HAM-RADIO-BY-CLEARCHANNEL-100-WATTS_W0QQitemZ140088548276QQihZ004QQcategoryZ4674QQssPageNameZWDVWQQrdZ1QQcmdZViewItem
>
>
>
> >
> > Its me speedster2006 I had to change my Ebay name because ebay threaten
> > to ban me for good this time.
> > You know i sell alot of 10 meter radios for 11 meter use.
> >
> > I put the Ebay name in my wifes name safire2007 for this auction
> >
> > thanks Harold

1727. Re: ar3500 ebay relist ebay took it off again

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 12:00:55 UTC
From: Dave <noone@nowhere.com>
Message-ID: <XHADh.32362$2w.16475@trndny09>
Source record: 45541

"welcome to nightmare" <nightmare@us-ham.com> wrote in message
news:gyqDh.106$PV3.1603@ursa-nb00s0.nbnet.nb.ca...
>I had to relist ebay took it off again. damn
> >
> http://cgi.ebay.com/10-METER-HAM-RADIO-BY-CLEARCHANNEL-100-WATTS_W0QQitemZ140088548276QQ
ihZ004QQcategoryZ4674QQssPageNameZWDVWQQrdZ1QQcmdZViewItem
>
>
> >
> > Its me speedster2006 I had to change my Ebay name because ebay threaten
> > to ban me for good this time.
> > You know i sell alot of 10 meter radios for 11 meter use.
> >
> > I put the Ebay name in my wifes name safire2007 for this auction
> >
> > thanks Harold

and every time you put it on here bragging about your sale it will come off
again!

1728. Radiosisma

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 12:01:07 UTC
From: radiosisma <vecchiobuck@libero.it>
Message-ID: <1172232067.053179.144480@m58g2000cwm.googlegroups.com>
Source record: 45542

Hi to all!!! If you want to listen new italian bands u can follow this
link : www.radiosisma.org or follow the address www.arcimero.blogspot.com.
See u , Rock on

1729. Re: 60m mobile operation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 12:06:42 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <7LOdnae7v69PRUPYnZ2dnUVZ_rTinZ2d@bright.net>
Source record: 45543

So, hows does an armchair operator (one who doesn't have $10K worth of test equipment) determine the efficiency of the antenna?

Scott
N0EDV

Dave wrote:

> YES! You are reading the rules correctly.
>
> There are many 60 meter mobiles running 300 to 400 watts into a 10%
> efficient antenna relative to a 1/2 wavelength dipole.
>
> Get on 60, It;s is a great band.
>
> Cecil Moore wrote:
>
>> 60m operation is limited to 50w pep relative to a
>> 1/2WL dipole. Since a typical 60m mobile antenna
>> would be much less than 50% efficient, seems it
>> would it be OK to run an IC-706 at its normal 100
>> watt output level. Am I reading the rules right?
>
>

1730. Re: Aluminium for antenna design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 12:09:33 UTC
From: Dave <noone@nowhere.com>
Message-ID: <1QADh.12868$aM.9623@trndny03>
Source record: 45544

the normal alloys used in the states are 6061-t6 or 6061-t832(i think that is the right heat treatment number for the other one... t6 is more common i believe). and don't weld, use swaged or telescoping joints, welding destroys the heat treatment effects and allows for dissassembly when needed. use decent all stainless steel hardware and liberal applications of anti-oxidant compounds on all joints.

"Lex-Lutor" <lutor-lexBEZ-ovoga@post.t-com.hr> wrote in message news:erlde7sio1@ss408.t-com.hr...
> What will be the best material for log-periodic antenna design, my idea is
> to build LP-ant. for 14-30 MHz but it must stay alive at wind over 120
> mPh.
> Wellding and machine work is not problem bigest problem is to select good
> Aluminium?
>
> Maybe AA6082 or AA6061 something elese ?
>
> Thanks for any help or info ?
>
>

1731. Re: tuned vertical vs center loaded ant

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 13:35:54 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1172237754.071625.314560@v33g2000cwv.googlegroups.com>
Source record: 45545

The devil is in the details... Note that I included the words, "decent
top hat"...
For 40 it should pull the vertical close to resonance...
For 80 I would not argue with your prescription for an outboard
loading coil to help the tuner efficiency...

BTW Ed, a coil Q of 1000 is going to be very tough to hit... If you
do get it please share the details...

denny / k8do

1732. Re: 60m mobile operation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 14:30:47 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <rUCDh.2296$re4.1031@newssvr12.news.prodigy.net>
Source record: 45546

Scott wrote:
> So, hows does an armchair operator (one who doesn't have $10K worth of
> test equipment) determine the efficiency of the antenna?

Radiation resistance/Feedpoint resistance?
--
73, Cecil http://www.w5dxp.com

1733. Re: 60m mobile operation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 14:47:32 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1172242052.235514.114550@h3g2000cwc.googlegroups.com>
Source record: 45547

On Feb 23, 7:06 am, Scott <acepi...@bloomer.net> wrote:
> So, hows does an armchair operator (one who doesn't have $10K worth of
> test equipment) determine the efficiency of the antenna?
>
> Scott
> N0EDV
>
>
>
> Dave wrote:
> > YES! You are reading the rules correctly.
>
> > There are many 60 meter mobiles running 300 to 400 watts into a 10%
> > efficient antenna relative to a 1/2 wavelength dipole.
>
> > Get on 60, It;s is a great band.
>
> > Cecil Moore wrote:
>
> >> 60m operation is limited to 50w pep relative to a
> >> 1/2WL dipole. Since a typical 60m mobile antenna
> >> would be much less than 50% efficient, seems it
> >> would it be OK to run an IC-706 at its normal 100
> >> watt output level. Am I reading the rules right?- Hide quoted text -
>
> - Show quoted text -

Hmmm, one could go to Terman, et. al... Lots of heavy math... ughhhh
One could ask the mobile whip manufacturer what the relative gain of
his product is - On second thought that's unlikely to get an answer
other than 42... (See: HitchHikers Guide To the galaxy)

Or one could do the bone simple, farm boy stupid, yet amazingly
effective method of comparing the relative length of the mobile whip
to a quarter wave vertical...
First, the quarter wave vertical is half the length of a dipole so you
immediately have a multiplier of 2...
(Awwww right you nit pickers, DOWN! - Yes I know about vertical-P
loss compared to horizontal-P, but I'm farm boy simple for this one)
Assume the 1/4 Lambda vertical is 45 feet (rough number, I'm a farm
boy, remember) and the whip is 8 feet... Then 45/8 = 5.6 ratio...
So 2 times 5.6 = 11.2 ratio so far...
Therefore 11.2 times 50w = 284 watts...

Now the efficiency of a mobile whip that is just over 20% tall (of a quarter wave) is roughly 8%-10% (swag) Lets call it 10% for rough numbers therefore we can expand the 284 watts by dividing 0.1 into it... or 2840 watts.... Which will make your IC-706 sweat a bit...

OK nitpickers, have fun...

denny / k8do

1734. Re: Antenna to cover AM broadcast to 999 mhz?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 15:54:13 UTC
From: chuck <nospam@nospam.org>
Message-ID: <1172246120_7653@sp6iad.superfeed.net>
Source record: 45548

ve2cjw wrote:
> What would be the best combination to cover that frequency range in
> receive only? Would a 100 feet dipole with a discone cover it? Any
> other suggestions? Thanks.
> Mike.
>

Kind of like asking what is the best combination of qualities in a pet.

Depends on what you mean by "cover" and "best".

If you mean better than no antenna at all, then the dipole would
probably work, although it will be very directional at the higher
frequencies, and depending on the impedances involved, its response will
not be uniform across your target spectrum.

A vhf/uhf discone would be omnidirectional, but you said nothing about
the importance of directionality (in either the vertical or horizontal
planes) or of gain.

You have not mentioned whether any devices might be inserted between the
antenna and the receiver to effect a reasonable impedance match.

Inexpensive scanners often use a single (active) antenna to cover that
kind of range. In which parameters do you seek to improve on simple
scanner antennas? Sensitivity? Bandwidth? Directionality? Local noise
rejection?

Chuck
NT3G

-----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

1735. Re: Now that CW is gone there will be more ham to non-ham conflicts.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 16:15:04 UTC
From: richardharrison@webtv.net
Message-ID: <1576-45DF1308-61@storefull-3255.bay.webtv.net>
Source record: 45549

(Retard Invasion) wrote:
"Welcome to CB everybody."

This is, I hope, the last gasp of a defeated pro-coder.

Victory took a long time, as telegraph became obsolete with the invention of the telephone.

CB is different from amateur radio. CB can be used in business. Rules prevent use of amateur radio in business.

Amateur radio allows more transmitted power than CB, but messages are mostly restricted by the rules to insignificance, with a few defined exceptions.

Amateur radio is not the same as CB, despite "Retard Invasion`s" invitation.

Plenty of bright people never bothered to master Morse code, while plenty of bright people and retards did.

Amateur radio is a hobby for people who like radio with or without code.

Best regards, Richard Harrison, KB5WZI

1736. Re: tuned vertical vs center loaded ant

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 16:57:01 UTC
From: nm5k@wt.net
Message-ID: <1172249821.302996.273910@m58g2000cwm.googlegroups.com>
Source record: 45550

On Feb 23, 3:11 am, Ian White GM3SEK <gm3...@ifwtech.co.uk> wrote:

> I'm not so sure. A 24ft vertical is about 0.18 wavelengths at 7MHz, and
> about 0.09wl at 3.5MHz. It will require a large series inductance to
> resonate it at 3.5MHz, and will also require some series inductance for
> 7MHz.
>
> That inductance must be provided by either an external loading coil or
> by the auto-tuner. The question is: which will have the smaller loss, a
> large and well designed external coil, or the tiddly little toroids
> inside an auto-tuner?

I was kind of thinking the same way.. In general, I would usually
prefer
the larger coil, even with it's problems.
I think a larger part is the top loading, if used.. If no top loading
were used
for the 24 ft whip, I could see it being a toss if the loading coil in
the tuner
was small and rinky dink. It could easily lose to the center fed if
the tuner
is poor.
But then you also should consider current distribution through the
whip.
Can make quite a difference. If the 24 ft whip was fed with a tuner,
and
no hat was used, max current will be at the tuner coil.. Not really a
good thing.
But adding the hat will greatly improve current distribution through
the
whip, and pretty much cure that problem, assuming the hat is large
enough.
If no hat is used, I would always prefer a center loading coil. Mainly
for
current distribution reasons. But also cuz many tuners are overly
lossy
when used in such a manner. Note comparisons with a tuner fed whip on
a
car, vs a good center load antenna. In the average case, the tuner
fed
whip will be about 12 db down according to the mobile "shootouts".
As far as coil Q, 1000 is going to be pretty optimistic... 300 + -
would be
more easily obtainable.. And thats a pretty decent coil.

If ground radials are ignored, ground loss could easily swamp the coil
loss.
Of the two losses, I'd be more worried about ground, than coil loss.
But thats just my 29 cents worth...
MK

1737. Re: Shielded loop operation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 17:07:33 UTC
From: nm5k@wt.net
Message-ID: <1172250453.557570.63940@s48g2000cws.googlegroups.com>
Source record: 45551

On Feb 22, 10:16 pm, "K7ITM" <k...@msn.com> wrote:

> I have no time at the moment to read your draft, but I can tell you
> that there is a very good qualitative explanation in King, Mimno and
> Wing, "Transmission Lines, Antennas and Waveguides." I have a PDF of
> the antennas chapter... I also know that in Johnson and Jasik there's
> a corresponding explanation with a bit more detail. In a nutshell, in
> the so-called shielded loop antenna, the antenna is the outer surface
> of the outer conductor, and the feedpoint is the gap in this
> conductor. The center conductor is merely a transmission line to
> conduct the signal from the feedpoint to where it is used. It is
> balance that yields the "magical properties," and it is possible to
> build an antenna with good balance without making the loop out of
> coaxial cable. The magical properties are generally taken to be
> rejection of nearby electric fields (not electromagnetic fields), and
> a symmetrical pattern.
>
> Cheers,
> Tom

I agree. There are no magic properties to a shielded loop. All the
design
does is to ensure balance. I've done careful tests comparing a
shielded
loop, vs a good unshielded loop. I could not tell a lick of
difference.
It's all in the balance. An unshielded loop can be just as good, if
the balance is good. And thats not hard to achieve. If I really
thought
shielded loops were better, I would use them. But I don't, so I
don't.
I have a 44 per inch side unshielded loop right next to me. "5 turns"
It's my best loop of the bunch I have tried, and it's the one I stuck
with. BTW, I have also tested using shielded loops as the "coupling"
loop. Again, not a lick of difference being both versions of mine were
well balanced.
MK

1738. Re: 60m mobile operation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 19:24:50 UTC
From: Dave <W1MCE@comcast.net>
Message-ID: <5OSdnRCFMIYfokLYnZ2dnUVZ_tCtnZ2d@comcast.com>
Source record: 45552

Scott wrote:

> So, hows does an armchair operator (one who doesn't have $10K worth of
> test equipment) determine the efficiency of the antenna?
>
> Scott
> N0EDV
>
SNIPPED

There are two easy methods and one rule of thumb method that will get you into the ballpark.

1) As Cecil replied, divide the radiation resistance by the feedpoint resistance. EZNEC will give a reasonable value for radiation resistance and an MFJ 259B [~$250] will give a measure of the feedpoint resistance.

2) A freeware program, mobile antenna, will also calculate the efficiency.

3) [Rule of thumb] The gain is proportional to the effective aperture in square wavelengths. So, as mentioned in another reply, approximately, the ratio of length of the mobile antenna [~8 feet] to the length of a 1/2 wavelength antenna for 60 meters [~93 feet] yields 8.6% efficiency. So, 100 watts from an IC-706 [series] yields ~9 watts effective radiated power. Conclusion, 50 watts ERP on 60 meters with a 9% efficient antenna would require 555 watts into the antenna.

/s/ DD

1739. Re: Aluminium for antenna design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 19:26:22 UTC
From: Dave <W1MCE@comcast.net>
Message-ID: <5OSdnROFMIZCokLYnZ2dnUVZ_tDinZ2d@comcast.com>
Source record: 45553

Keep it flexible. Flexible elements have less wind resistance.

Lex-Lutor wrote:

> What will be the best material for log-periodic antenna design, my idea is
> to build LP-ant. for 14-30 MHz but it must stay alive at wind over 120 mPh.
> Wellding and machine work is not problem bigest problem is to select good
> Aluminium?
>
> Maybe AA6082 or AA6061 something elese ?
>
> Thanks for any help or info ?
>
>

1740. Re: tuned vertical vs center loaded ant

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 19:35:44 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns98E0761737530spectrumhogstarbandn@198.186.192.196>
Source record: 45554

>
> The devil is in the details... Note that I included the words, "decent
> top hat"...
> For 40 it should pull the vertical close to resonance...
> For 80 I would not argue with your prescription for an outboard
> loading coil to help the tuner efficiency...
>
> BTW Ed, a coil Q of 1000 is going to be very tough to hit... If you
> do get it please share the details...
>

Well, I may have stretched the Q factor a bit.... but in looking at
the following site, I would suppose its possible....

http://www.texasbugcatcher.com/cata/tbcspec.htm#6inch

scroll down until you view the #680 coil and read his text below.
That is what I had in mind if building a center loaded vertical. I
would not use a top hat in my case.

Per other comments in this thread, I see that perhaps I may get best
performance by using a combination of center loaded for 4MHz and using a
tuner for 40... and maybe 60. I'm really not interested in any other
bands.

As for radials, remember, even though intended for fixed station
use only, this is still a mobile antenna, and my RV parking situation
in many crowded spaces will preclude the layout of radials of any
significance.

Thanks for all the "food for thought" on this.

Ed K7AAT

1741. Cushcraft question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 20:15:40 UTC
From: papandreo <nospamtome@nospam.be>
Message-ID: <MXHDh.24798$ey2.275588@phobos.telenet-ops.be>
Source record: 45555

Is it true that Cushcraft stop the production of ham antennas?
I heart this story earlier this week on the band.

1742. Re: 60m mobile operation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 20:17:53 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E14A3D8BB0Dnonenowhere@61.9.191.5>
Source record: 45556

Dave <W1MCE@comcast.net> wrote in
news:5OSdnRCFMIYfokLYnZ2dnUVZ_tCtnZ2d@comcast.com:

...
> 3) [Rule of thumb] The gain is proportional to the effective aperture
> in square wavelengths. So, as mentioned in another reply,
> approximately, the ratio of length of the mobile antenna [~8 feet] to
> the length of a 1/2 wavelength antenna for 60 meters [~93 feet] yields
> 8.6% efficiency. So, 100 watts from an IC-706 [series] yields ~9 watts
> effective radiated power. Conclusion, 50 watts ERP on 60 meters with a
> 9% efficient antenna would require 555 watts into the antenna.
...

It certainly is ROT that in the general case, and in this case, that you
can run a tape measure over an antenna to calculate the aperture area and
in turn calculate gain.

Can you explain how your method deals with capturing the effects of a high
loss loading coil vs a low loss loading coil in such an antenna?

Owen

1743. Re: 60m mobile operation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 21:22:58 UTC
From: Dave <W1MCE@comcast.net>
Message-ID: <HZmdnaHP562sxkLYnZ2dnUVZ_sOknZ2d@comcast.com>
Source record: 45557

I'll rely on the calculation from the freeware program "Mobile Antenna". That program allows variation in coil designs to be specifically input as a variable.

If you have a better answer or method then please provide it.

The original post is basically asking if 100 watts can be run from a 706 in a 60 meter mobile. The answer is YES. Why? Because an eight feet long antenna is substantially less than the reference dipole. [Typically it is -10dBd].

/s/ DD, W1MCE

Owen Duffy wrote:
> Dave <W1MCE@comcast.net> wrote in
> news:5OSdnRCFMIYfokLYnZ2dnUVZ_tCtnZ2d@comcast.com:
>
> ...
>
>>3) [Rule of thumb] The gain is proportional to the effective aperture
>>in square wavelengths. So, as mentioned in another reply,
>>approximately, the ratio of length of the mobile antenna [~8 feet] to
>>the length of a 1/2 wavelength antenna for 60 meters [~93 feet] yields
>>8.6% efficiency. So, 100 watts from an IC-706 [series] yields ~9 watts
>>effective radiated power. Conclusion, 50 watts ERP on 60 meters with a
>>9% efficient antenna would require 555 watts into the antenna.
>
> ...
>
> It certainly is ROT that in the general case, and in this case, that you
> can run a tape measure over an antenna to calculate the aperture area and
> in turn calculate gain.
>
> Can you explain how your method deals with capturing the effects of a high
> loss loading coil vs a low loss loading coil in such an antenna?
>
> Owen

1744. Re: I Built the 10m Sleeve Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 21:36:08 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1172266568.868112.147430@k78g2000cwa.googlegroups.com>
Source record: 45558

On Feb 23, 12:40 am, "Sal M. Onella" <salmone...@food.poisoning.org>
wrote:
> <n...@wt.net> wrote in message
>
> news:1172158664.931173.219050@q2g2000cwa.googlegroups.com...
>
>
>
>
>
> > On Feb 22, 12:16 am, "Sal M. Onella" <salmone...@food.poisoning.org>
> > wrote:
> > > It was a bust. <:-(
>
> > They can be quirky..And the decoupling is pretty critical. I always
> > preferred
> > a base fed half wave for those reasons. You still need to decouple for
> > best
> > performance, but there are no "coax in the way" issues, etc.. I use a
> > simple
> > "gamma loop" feed. IE: single turn coil, and a cap if needed.
> > Sometimes
> > you don't need the cap, but if you do, 30-50 pf is about the usual
> > value for
> > 10m. I make those from a short length of coax.. I'm basically copying
> > the
> > feed system of the usual cushcraft ringos.. BTW, cushcraft sells a 10m
> > ringo if one doesn't want to build one, or have the tubing.
>
> I will try decoupling and also try that feed.
>
> I have several commercial antennas but I tend toward building them myelf. I
> learned the hard way about the three types of copper pipe, K, L, & M. Until
> I got home and hit google.com, I didn't know to shop for the more economical
> Type M and paid premium $$$ for Type L. I don't want to think what Type K
> would have cost.
>
> "Sal"- Hide quoted text -
>
> - Show quoted text -

Sal, I would like to know how it works with the PVC as I have tried it
on exactly this type of antenna and it worked horribly. Apparently the
PVC I was using has some really lousy dielectric qualities, This stuff

would melt in a microwave while other PVC pipes do not.. I understand that all PVC is not created equally and that some may be OK. To get mine to work I used larger pipe, smaller coax, and a different insulating material but my original was identical to your first attempt. Unfortunately for me I made all the changes at once and really dont know which fixed the problem except that the PVC was an issue. I am very interested in finding whether or not just adding the choke fixed the problem because this is also something I forgot to do on my intial attempt. Second attempt had one of those chokes from "Wireman" made of a length of coax and ferrite beads. One thing that concerned me even after the antenna was working is the the SWR appeared to be a little too good. It was 1.2:1 in the middle of 10 meters and never got ave 1.7:1 even at the band edges. I thought that this is a little too good to be true..

Jimmie

1745. Re: Cushcraft question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 21:43:31 UTC
From: Bert Hyman <bert@iphouse.com>
Message-ID: <Xns98E09FF7CFB74VeebleFetzer@127.0.0.1>
Source record: 45559

nospamtome@nospam.be (papandreo) wrote in
news:MXHDh.24798$ey2.275588@phobos.telenet-ops.be:

> Is it true that Cushcraft stop the production of ham antennas?
> I heart this story earlier this week on the band.

Nothing on their Web site

http://www.cushcraft.com/Amateur-Products.asp

--
Bert Hyman | St. Paul, MN | bert@iphouse.com

1746. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 23:07:32 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <UsKDh.49898$5j1.39895@bgtnsc04-news.ops.worldnet.att.net>
Source record: 45560

craigm wrote:
> art wrote:
>
>
>> Frank, choose your friends! Alpha and Beta were the first two letters
>> of the alphabet,
>
> But nucleus and electron would be much clearer to the reader.
>
>> I do not wish to represent myself as a physicist.
>
> Don't worry, you don't.
>
> It is clear you don't know how electricity flows in a material.
>
> Your example of the balls on the string is wrong. You state that under high
> magnification the middle balls do not move. If this were to be true there
> can be no energy transferred from one end to the other. This is a simple
> example of elastic collisions and conservation of momentum. High school
> physics covers this material.
>
> Your concept of electrons leaving the surface and returning at anything
> other than significantly elevated temperatures is fantasy.
>
> You make the extention of Gauss' law to include time. However, from what I
> know, Gauss' law applies to electroSTATICS. If this can extended to include
> time, and you are the first to observe this, then some sort of rigorous
> proof would be appropriate.
>
> You might want to look at a basic book on electromechanics. You need a
> better grasp of the fundamentals
>

This has been mildly, but sadly, amusing. However contorted the actual
antenna might be, the obvious problem is in the premise that somehow
Gauss' Law has been overlooked in the past.

To keep it simple, Gauss' Law is precisely one of the four standard
Maxwell Equations. Gauss' Law has been part of electromagnetics and
antenna theory for eons.

As for electromechanics, who knows?

73,
Gene

W4SZ

1747. Re: 60m mobile operation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-23 23:35:55 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E16BD098CE0nonenowhere@61.9.191.5>
Source record: 45561

Cecil Moore <mycall@hotmail.com> wrote in news:rUCDh.2296$re4.1031
@newssvr12.news.prodigy.net:

> Scott wrote:
>> So, hows does an armchair operator (one who doesn't have $10K worth of
>> test equipment) determine the efficiency of the antenna?

I am guessing that as an armchair operator, you would use a commercial
antenna.

Given your licence conditions on 60m, it would be very reasonable to ask
your supplier for a written statement (that you can file to fulfil your
licence obligations) of the gain of their antenna in installations like
yours so that you can calculate the maximum input power allowed. If that
is too hard, perhaps a written statement of the permitted maximum input
power for compliance with the licence.

Some of this in tounge in cheek, I just can't see antenna manufacturers
'fessing up to a range of gain figures for typical HF mobile antennas /
installations.

In time, the regulator will wise up to the challenge and specify things
more simply, eg if you use an antenna of less than 8' in length, you can
run up to 100W, otherwise up to 50W. That is more understandable to our
(eg VK) new six hour hams with their shack on their belt.

Owen

1748. Re: 60m mobile operation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 00:49:29 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <tYLDh.1066$jx3.361@newssvr25.news.prodigy.net>
Source record: 45562

Dave wrote:
> The original post is basically asking if 100 watts can be run from a 706
> in a 60 meter mobile. The answer is YES. Why? Because an eight feet long
> antenna is substantially less than the reference dipole. [Typically it
> is -10dBd].

For a 10' whip, EZNEC says the radiation resistance
on 60m would be ~1.3 ohms. Doubling that for center-
loading yields ~2.6 ohms. Dividing by an estimated
feedpoint resistance of 20 ohms gives an efficiency
of about 13%. Assuming an efficiency of about 90% for
a 1/2WL dipole, I should be able to run
50w*90/13 = 346w. 100 watts should certainly be
justifiable. Heck, I might even fire up my SG-500
at 300 watts. Now the next question. Is anyone using
60m?
--
73, Cecil http://www.w5dxp.com

1749. smith charts and network analyzer ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 01:12:48 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <isydnePz3e6PDELYnZ2dnUVZ_t6qnZ2d@comcast.com>
Source record: 45563

All,

This is a follow up to a dialog several months back on impedance measurements. The question relates to smith charts and an HP 8407a with a polar display. I was under the impression that the polar display and the smith chart were pretty closely related. In fact hp made smith chart overlays for the screens.

The smith chart predicts a variable capacitor connected across a source will be represented by an impedance semicircle in the capacitive domain, one of the points on the semicircle passes through the 50 ohm center. I would expect to be able to create this using the 8407.

The 8407 creates a circle around the outside edge of the display. It is a circle, however it does not pass through the center.

Why are these different? What above is incorrect?

thanks - Dan

1750. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 01:25:14 UTC
From: blueyhi5s@yahoo.com.au
Message-ID: <1172280314.626747.161850@q2g2000cwa.googlegroups.com>
Source record: 45564

On Feb 23, 3:07 pm, Gene Fuller <W4SZzzz...@att.net> wrote:
> craigm wrote:
> > art wrote:
>
> >> Frank, choose your friends! Alpha and Beta were the first two letters
> >> of the alphabet,
>
> > But nucleus and electron would be much clearer to the reader.
>
> >> I do not wish to represent myself as a physicist.
>
> > Don't worry, you don't.
>
> > It is clear you don't know how electricity flows in a material.
>
> > Your example of the balls on the string is wrong. You state that under high
> > magnification the middle balls do not move. If this were to be true there
> > can be no energy transferred from one end to the other. This is a simple
> > example of elastic collisions and conservation of momentum. High school
> > physics covers this material.
>
> > Your concept of electrons leaving the surface and returning at anything
> > other than significantly elevated temperatures is fantasy.
>
> > You make the extention of Gauss' law to include time. However, from what I
> > know, Gauss' law applies to electroSTATICS. If this can extended to include
> > time, and you are the first to observe this, then some sort of rigorous
> > proof would be appropriate.
>
> > You might want to look at a basic book on electromechanics. You need a
> > better grasp of the fundamentals
>
> This has been mildly, but sadly, amusing. However contorted the actual
> antenna might be, the obvious problem is in the premise that somehow
> Gauss' Law has been overlooked in the past.
>
> To keep it simple, Gauss' Law is precisely one of the four standard
> Maxwell Equations. Gauss' Law has been part of electromagnetics and
> antenna theory for eons.
>
> As for electromechanics, who knows?
>
> 73,
> Gene

> W4SZ

Every body knows that laws cannot be broken,but
nobody says they can't be bent.

Derek

1751. Re: smith charts and network analyzer ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 01:55:01 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E18366671D3nonenowhere@61.9.191.5>
Source record: 45565

dansawyeror <dansawyeror@comcast.net> wrote in
news:isydnePz3e6PDELYnZ2dnUVZ_t6qnZ2d@comcast.com:

> All,
>
> This is a follow up to a dialog several months back on impedance
> measurements. The question relates to smith charts and an HP 8407a with
> a polar display. I was under the impression that the polar display and
> the smith chart were pretty closely related. In fact hp made smith
chart
> overlays for the screens.
>
> The smith chart predicts a variable capacitor connected across a source
> will be represented by an impedance semicircle in the capacitive
domain,
> one of the points on the semicircle passes through the 50 ohm center. I
> would expect to be able to create this using the 8407.

The 50 ohm centre is on the R=50 circle and the X=0 arc (which is
infinitely large in radius, so it is the the diameter from R=0
R=infinity).

Sit down and plot a few values of Z00+jx on a Smith chart, aren't they
all on the outside edge of the chart (the R=0 circle).

Owen

1752. Re: smith charts and network analyzer ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 01:56:00 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E183911DF99nonenowhere@61.9.191.5>
Source record: 45566

Owen Duffy <none@no.where> wrote in news:Xns98E18366671D3nonenowhere@
61.9.191.5:

> Sit down and plot a few values of Z00+jx on a Smith chart, aren't they
> all on the outside edge of the chart (the R=0 circle).
>

That should read:

Sit down and plot a few values of Z=0+jx on a Smith chart, aren't they
all on the outside edge of the chart (the R=0 circle).

> Owen
>
>

1753. Re: smith charts and network analyzer ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 01:56:54 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <CXMDh.372$bb1.168@newssvr17.news.prodigy.net>
Source record: 45567

dansawyeror wrote:
> Why are these different? What above is incorrect?

The horizontal center line on a Smith Chart is resistive.
The outside circle on a Smith Chart is reactive. A
capacitor is almost purely reactive. The reactance is
1/(2*pi*f*c) That value will always fall on the
outside circle of the Smith Chart. If the capacitor
has a reactance of 0-j50 ohms, it will be located on
the outside circle at the very bottom of the Smith
Chart normalized to a 0-j1.0 value.
--
73, Cecil http://www.w5dxp.com

1754. Re: smith charts and network analyzer ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 02:46:26 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <45DFA702.9000204@comcast.net>
Source record: 45568

Thank you, that is consistent with the analyzer. The smith chart program is in error.

The analyzer also shows the response of an open coax to follow the same circle at the edge of the chart. Is this accurate? The analyzer does not correct for length, is this a result of that?

- Dan

Cecil Moore wrote:
> dansawyeror wrote:
>> Why are these different? What above is incorrect?
>
> The horizontal center line on a Smith Chart is resistive.
> The outside circle on a Smith Chart is reactive. A
> capacitor is almost purely reactive. The reactance is
> 1/(2*pi*f*c) That value will always fall on the
> outside circle of the Smith Chart. If the capacitor
> has a reactance of 0-j50 ohms, it will be located on
> the outside circle at the very bottom of the Smith
> Chart normalized to a 0-j1.0 value.

1755. Re: smith charts and network analyzer ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 03:06:14 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E18F790EEAFnonenowhere@61.9.191.5>
Source record: 45569

dansawyeror <dansawyeror@comcast.net> wrote in news:45DFA702.9000204
@comcast.net:

> The analyzer also shows the response of an open coax to follow the same
> circle at the edge of the chart. Is this accurate? The analyzer does
not
> correct for length, is this a result of that?

Dan,

Perhaps a better way to understand a Smith chart as a visualisation tool
is to understand the Smith chart as a problem solving tool.

If you want to follow that path, print of a page or three of Smith chart
and plot solve some typical problems (without the aid of a computer
program), think about what the arcs and lines that you draw mean, and see
if you don't get an understanding of what points on a Smith chart mean.
You will need to find a text book or authoritive web article to walk you
through the process... but if you don't plot points for yourself on a
blank chart, you probably won't learn the principles.

The case you are talking about of the Z of an o/c stub at a range of
frequencies is an easy one to solve with a Smith chart. You plot the Z at
the load end of the stub, you draw the arcs for constant VSWR for each of
the frequencies of interest (the arcs are of different length for each
frequency because they are plotted in electrical length), and you read
off the source end Z.

That describes the mechanics of solving that problem, but it helps to
understand that the points on a Smith chart are the sum of two phasors on
a complex plane, and what they represent. You don't really understand the
Smith chart unless you understand what happens on a transmission line.

Owen

1756. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 03:15:52 UTC
From: craigm <none@domain.invalid>
Message-ID: <25ODh.9$5h.170149@news.sisna.com>
Source record: 45570

art wrote:

>
> Gene, forgive me if I am incorrect but I am going to assume you have
> an engineering degree and are fully conversant with the work of the
> masters. I f I am not correct then we can stop at this point Otherwise
> I fully recommend that you check out the web foe a book on fields and
> waves or something like that by a professor at Rutgers University. In
> chapter 21 he delves very deeply into an array consisting of four
> elements all of which are resonant.

You really need to learn how to communicate your ideas. You don't know or won't say the author or the title of the book, or you would just have us guess.

> Ofcourse he doesn't mention anything of mine but you will notice that
> the array he chose is actually what I refer to as a Gaussian array
> since it meets all the requirements that I have

that should be "had", the page is Gone.

> exposed on my page.

> He doesn't use computor programs but basic mathematics to provide all
> the desirables plus a radiation field. This array is really a
> derivitation of one designed some 50 years ago and is the only one I
> know that exists in literature. If you study this chapter and relate
> it to what I am expousing then possible you will see things with fresh
> eyes. But again if you are not fully educated in this field save your
> self from the bother. I personaly have a program that if you isert any
> fugure and tell it to obtain maximim gain I assure you it will not
> produce a yagi but a gaussian array..... and I am thrilled with
> that.
> Nuff said
> Art

1757. Re: 60m mobile operation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 03:54:10 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <64Kdnbv3yKt_K0LYnZ2dnUVZ_qLinZ2d@bright.net>
Source record: 45571

But...how does one measure those, or is it done by calculating them and
then applying to the formula below?

Cecil Moore wrote:
> Scott wrote:
>
>> So, hows does an armchair operator (one who doesn't have $10K worth of
>> test equipment) determine the efficiency of the antenna?
>
>
> Radiation resistance/Feedpoint resistance?

1758. Re: 60m mobile operation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 03:57:24 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <64Kdnbr3yKs5KkLYnZ2dnUVZ_qLinZ2d@bright.net>
Source record: 45572

OK, I take that answer...now, why did the FCC go with an ERP as that
would require calculation rather than a measurement. Hard to measure
ERP as far as I know...

Oh well, go figure!

Scott
N0EDV

Dave wrote:

> Scott wrote:
>
>> So, hows does an armchair operator (one who doesn't have $10K worth of
>> test equipment) determine the efficiency of the antenna?
>>
>> Scott
>> N0EDV
>>
> SNIPPED
>
> There are two easy methods and one rule of thumb method that will get
> you into the ballpark.
>
> 1) As Cecil replied, divide the radiation resistance by the feedpoint
> resistance. EZNEC will give a reasonable value for radiation resistance
> and an MFJ 259B [~$250] will give a measure of the feedpoint resistance.
>
> 2) A freeware program, mobile antenna, will also calculate the efficiency.
>
> 3) [Rule of thumb] The gain is proportional to the effective aperture in
> square wavelengths. So, as mentioned in another reply, approximately,
> the ratio of length of the mobile antenna [~8 feet] to the length of a
> 1/2 wavelength antenna for 60 meters [~93 feet] yields 8.6% efficiency.
> So, 100 watts from an IC-706 [series] yields ~9 watts effective radiated
> power. Conclusion, 50 watts ERP on 60 meters with a 9% efficient antenna
> would require 555 watts into the antenna.
>
> /s/ DD
>

1759. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 04:05:15 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <%PODh.7999$as2.5772@bgtnsc05-news.ops.worldnet.att.net>
Source record: 45573

art wrote:
> On 23 Feb, 15:07, Gene Fuller <W4SZzzz...@att.net> wrote:

>>
>> To keep it simple, Gauss' Law is precisely one of the four standard
>> Maxwell Equations. Gauss' Law has been part of electromagnetics and
>> antenna theory for eons.
>>
>> As for electromechanics, who knows?
>>
>> 73,
>> Gene
>> W4SZ
>
> Gene, forgive me if I am incorrect but I am going to assume you have
> an engineering degree and are fully conversant with the work of the
> masters. I f I am not correct then we can stop at this point Otherwise
> I fully recommend that you check out the web foe a book on fields and
> waves or something like that by a professor at Rutgers University. In
> chapter 21 he delves very deeply into an array consisting of four
> elements all of which are resonant.
> Ofcourse he doesn't mention anything of mine but you will notice that
> the array he chose is actually what I refer to as a Gaussian array
> since it meets all the requirements that I have exposed on my page.
> He doesn't use computor programs but basic mathematics to provide all
> the desirables plus a radiation field. This array is really a
> derivitation of one designed some 50 years ago and is the only one I
> know that exists in literature. If you study this chapter and relate
> it to what I am expousing then possible you will see things with fresh
> eyes. But again if you are not fully educated in this field save your
> self from the bother. I personaly have a program that if you isert any
> fugure and tell it to obtain maximim gain I assure you it will not
> produce a yagi but a gaussian array..... and I am thrilled with
> that.
> Nuff said
> Art
>

Art,

You seem to have misunderstood my point.

AAALLLLLL antennas, regardless of structure, material, efficiency,
resonance, location, or phase of the moon are Gaussian. Gauss' Law is an
integral part of classical electromagnetics. Nothing can escape.

No, I do not have an engineering degree, but I do have several degrees in physics. Unfortunately, I am significantly dumber than a rock, so I have no more to offer in this thread.

73,
Gene
W4SZ

1760. Re: smith charts and network analyzer ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 04:12:21 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <FWODh.702$LF6.355@newssvr11.news.prodigy.net>
Source record: 45574

dansawyeror wrote:
> The analyzer also shows the response of an open coax to follow the same
> circle at the edge of the chart. Is this accurate?

It is accurate for lossless lines. Actual coax
values will tend to spiral in to a Z0 limit.
200 feet of open-circuit RG-58 used on 440 MHz
gets pretty close to 50 ohms after hundreds of
spirals.
--
73, Cecil http://www.w5dxp.com

1761. Re: 60m mobile operation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 04:15:39 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <LZODh.703$LF6.513@newssvr11.news.prodigy.net>
Source record: 45575

Scott wrote:
> But...how does one measure those, or is it done by calculating them and
> then applying to the formula below?

EZNEC will give an estimate of the radiation resistance.
Feedpoint resistance can simply be measured.
--
73, Cecil http://www.w5dxp.com

1762. Re: Antenna to cover AM broadcast to 999 mhz?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 04:31:45 UTC
From: ve2cjw <ve2cjw@videotron.ca>
Message-ID: <1172291505.884004.56790@t69g2000cwt.googlegroups.com>
Source record: 45426

The idea is that I want to receive AM and shortwave broadcasts
probably using one antenna. Then, I need to be able to receive 144 mhz
and 440mhz in any direction including straight up for satellites, I am
talking about FM here plus the aviation band in AM. I also want to
receive some frequencies around 800mhz also omnidirectional. I will be
using all of these receive frequencies with an Icom IC-91A. I will
transmit on 144 and 440mhz FM using a Kenwood TM-G707A and a suitable
antenna depending if I want to access a repeater or a satellite. For
that, I have a dual band coaxial type of antenna and I will build
myself a couple of turnstile types for the FM satellites. I just
wanted to minimize the number of antennas I really need.
73 de VE2CJW
Mike.

1763. Fiber transmission question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 04:55:09 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <45dfc528$0$21249$39cecf19@news.twtelecom.net>
Source record: 45427

Someone, I think it may have been Richard, once mentioned a form of distortion that was due, I think, to the modulation itself.

tom
K0TAR

1764. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 07:52:56 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <pvqvt2pc6icsjh8qs3ma345hh3jnnrk91c@4ax.com>
Source record: 45428

On 23 Feb 2007 20:35:50 -0800, "art" <aunwin@insightbb.com> wrote:

>I never dreamt that I would find an actual array with all elements
>resonant being discussed

You don't have to dream, we've discussed many multi resonant arrays.
I've pointed you to a site with 100's of them, and Roy is the author
on the best of them, four squares. It's quite conventional discussion
here actually, but few coming to this group know how to manage the
mutual coupling (something that Gauss wrote about). The many
differences between Roy's writing and yours is that he supplies
accurate design details, complete models, references, coupling
parameters, and characteristics, all that are repeatedly VERIFIED.

There is only one question that remains, really, what is IT that you
are claiming?

73's
Richard Clark, KB7QHC

1765. Re: Fiber transmission question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 08:43:06 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <dqrvt25j1j4g2vof4mfeb46nfplkut90fa@4ax.com>
Source record: 45429

On Fri, 23 Feb 2007 22:55:09 -0600, Tom Ring <news0003@taring.org>
wrote:

>
>Someone, I think it may have been Richard, once mentioned a form of
>distortion that was due, I think, to the modulation itself.

Hi Tom,

There are several, some that are way out in the decimals but separable
(Raman scattering). Others like Solitons (a rather old observation)
are used to increase bandwidth in commercial links.

I hesitate to ask what the question is, because all of these effects
require some strain to achieve with very high power densities, often
in the megawatts to gigawatts. If you can find a suitably fast pulse
source, you might do it on a kitchen table. The hardest part of
getting a lot of optical power into a small fiber is overcoming
Numerical Aperture mismatch (sound familiar once you discard the NA?).
Some sources take this in stride (notably semiconductor lasers), while
others (like the sun) are stunningly inefficient.

I had a buddy who built a CO2 UV laser from a Scientific American
Amateur Scientist column. It packed quite a punch for all of five to
ten nanoseconds (capacitor arc discharge from a cap of several hundred
picofarads charged to twenty thousand volts using a very low
inductance lead design). He chose to be careful by aiming it out the
window into the sky. He fired the laser and cracked the window. The
thermal expansion of the glass was sufficiently slow enough to
accumulate enough stress (due to the attenuation) to create a
fracture. Classic thermal runaway.

The design comes from the June, 1974 issue (available from Wes'
introduction of Dr. Shawn here some months ago). The lead paragraph
says it all:
"A RECENTLY DEVELOPED LASER that operates on a six-volt dry
battery emits 10 pulses of ultraviolet radiation per minute, each
pulse about the size and shape of a broomstick. The pulses range
in power from 50 to 100 kilowatts."
...
"The ultraviolet laser can readily be scaled to higher powers. A
discharge path one meter long can develop an output pulse of
almost a million watts, although there is a trick to it."

I will leave the details of that trick to subscribers of Dr. Shawn to
investigate further - if push comes to shove, email me for a copy of

the details.

One thought occurred, this device (augmented to one meter length)
could suitably test the illusion of the anti-glare coating hypothesis.
Free suntan lotion will be supplied to those who rely on faith and
half baked mathematics to prove all reflections are canceled. :-O

Hi Wes,

Thanx again for introducing Dr. Shawn here. I had been looking for a
complete collection of Scientific American construction articles for a
very long time.

73's
Richard Clark, KB7QHC

1766. Re: smith charts and network analyzer ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 09:59:59 UTC
From: Jeff <jeff@local.host>
Message-ID: <45e00c9d$0$26695$834e42db@reader.greatnowhere.com>
Source record: 45430

> This is a follow up to a dialog several months back on impedance
> measurements. The question relates to smith charts and an HP 8407a with a
> polar display. I was under the impression that the polar display and the
> smith chart were pretty closely related. In fact hp made smith chart
> overlays for the screens.
>
> The smith chart predicts a variable capacitor connected across a source
> will be represented by an impedance semicircle in the capacitive domain,
> one of the points on the semicircle passes through the 50 ohm center. I
> would expect to be able to create this using the 8407.
>
> The 8407 creates a circle around the outside edge of the display. It is a
> circle, however it does not pass through the center.
>
> Why are these different? What above is incorrect?

My first question would be: is the 8407 calibrated correctly?

When you apply a 50ohm load do you get close to a single spot in the centre of the screen, and when you apply your calibrated Open & Shorts do you get close to single points on the X axis on the outer ring of the Smith Chart? If not then you need to re-calibrate your test set up.

It is a long time since I used an HP8407, but I do recall that they were a pain to calibrate correctly, lacking the auto calibration routines of modern VNA's.

73
Jeff

1767. Is Dominator/Predetor(~6dB gain) competent to CP antennas for LPFM?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 12:30:51 UTC
From: BK <bhuvankjha@gmail.com>
Message-ID: <1172320251.323049.300030@p10g2000cwp.googlegroups.com>
Source record: 45431

Dear All,
I have been researching for a long time to know weather there is a cost effective alternative to the costly CP antenna bay for my low budget LPFM station. And interestingly I have found the one called Dominator/Predetor (with true ~6dB gain).

1. Norwalk Electronics' Dominator® FM broadcast antenna (http://fmbroadcastantenna.com/)

2. HIGH GAIN COLINEAR ALUMINUM Wave PREDATOR (http://www.pcs-electronics.com/wave-predator-antenna-p-1096.html)

At a the budget of $300 the best high gain antenna I could find are these. And so I have decided to purchase any one of these two. Though
I am still in doubt weather the high gain (nearly 6db not 6dBi) is a hype.

I am looking for some comment on it if some of you have come accross these antennas.

Regards,
Bhuvan

1768. Re: Antenna to cover AM broadcast to 999 mhz?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 13:01:37 UTC
From: chuck <nospam@nospam.org>
Message-ID: <1172322165_9881@sp6iad.superfeed.net>
Source record: 45432

ve2cjw wrote:
> The idea is that I want to receive AM and shortwave broadcasts
> probably using one antenna. Then, I need to be able to receive 144 mhz
> and 440mhz in any direction including straight up for satellites, I am
> talking about FM here plus the aviation band in AM. I also want to
> receive some frequencies around 800mhz also omnidirectional. I will be
> using all of these receive frequencies with an Icom IC-91A. I will
> transmit on 144 and 440mhz FM using a Kenwood TM-G707A and a suitable
> antenna depending if I want to access a repeater or a satellite. For
> that, I have a dual band coaxial type of antenna and I will build
> myself a couple of turnstile types for the FM satellites. I just
> wanted to minimize the number of antennas I really need.
> 73 de VE2CJW
> Mike.
>

Thanks for the additional information, Mike. For receiving MW and HF broadcast stations, a random length of wire often suffices because these stations tend to employ high power and directional antennas. You might find that by making all or a portion of the antenna vertical, your reception of distant stations is improved. An inverted L antenna is favored by many SWLs. A google search on "SWL antenna" will provide you with a lot of useful information on what others have used successfully. I think a "tuner" or impedance matching circuit will be a useful addition, especially now, at the bottom of the sunspot cycle.

For vhf/uhf omnidirectional reception, your suggestion of a discone should work well, keeping in mind that it may not be suitable for satellite reception in its usual orientation.

73,

Chuck
NT3G

----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

1769. Re: tuned vertical vs center loaded ant

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 13:02:41 UTC
From: richardharrison@webtv.net
Message-ID: <12245-45E03771-590@storefull-3253.bay.webtv.net>
Source record: 45433

Ed, K7AAT wrote:
"I`m really not interested in other bands."

Phil Rand, W1DBM, wrote a QST article on "Antenns for Travel Trailers and Campers" which was reprinted in the 1978 "Antenna Anthology".

Phil shared his experience and measurements on 3963 kHz using various antennas on the Airstream Travel Trailer Net.

Phil found that the best temporary antenna was a high dipole. Next best was a loop antenna in which the Airstream trailer was included in the lower art of the loop.

Table 3 in the article gives 7 trailer antenna choices and their signal strengths as compared with a home station dipole at 50 ft. high.

Best regards, Richard Harrison, KB5WZI

1770. Re: Cushcraft question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 14:20:21 UTC
From: Eric <reply.in.group@nospam.no>
Message-ID: <pan.2007.02.24.14.20.19.457867@nospam.no>
Source record: 45434

On Fri, 23 Feb 2007 20:15:40 +0000, papandreo wrote:

> Is it true that Cushcraft stop the production of ham antennas?
> I heart this story earlier this week on the band.

What Cushcraft said was that they were discontinuing production of replacement parts for their "older obsolete antennas" including the AP8, AP8A, R4, R5 and R7. This is dated back in the early 2000s sometime so it's pretty old news. I haven't heard or seen anything since that would indicate that they're getting out of the amateur business.

1771. 80m+40m dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 15:31:09 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <_SYDh.1457$MV7.1433@newssvr23.news.prodigy.net>
Source record: 45435

I'm presently running a ladder-line fed dipole antenna
system that is resonant on both 3.85 MHz and 7.15 MHz
at the same time. It is described at the URL below.
--
73, Cecil http://www.w5dxp.com/HEDZ.htm

1772. Re: Fiber transmission question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 16:04:15 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <45e06207$0$17199$39cecf19@news.twtelecom.net>
Source record: 45436

Richard Clark wrote:

> On Fri, 23 Feb 2007 22:55:09 -0600, Tom Ring <news0003@taring.org>
> wrote:
>
>
>>Someone, I think it may have been Richard, once mentioned a form of
>>distortion that was due, I think, to the modulation itself.
>
>
> Hi Tom,
>
> There are several, some that are way out in the decimals but separable
> (Raman scattering). Others like Solitons (a rather old observation)
> are used to increase bandwidth in commercial links.
>
> I hesitate to ask what the question is, because all of these effects
> require some strain to achieve with very high power densities, often
> in the megawatts to gigawatts. If you can find a suitably fast pulse
> source, you might do it on a kitchen table. The hardest part of
> getting a lot of optical power into a small fiber is overcoming
> Numerical Aperture mismatch (sound familiar once you discard the NA?).
> Some sources take this in stride (notably semiconductor lasers), while
> others (like the sun) are stunningly inefficient.
<snip>
>
> 73's
> Richard Clark, KB7QHC

This came up last night while we were putting racks together for a new data center. Someone mentioned that it was theoretically possible to put an infinite amount of information through a fiber because you could have an infinite number of carriers even though the total available frequency response was finite. I declined to argue with him, because he is always right, even when he's not. That reminded me of something I thought you mentioned months ago. You either named the effect, or gave a link to an article about it.

And NA mismatch doesn't ring any bells.

thanks,
tom
K0TAR

1773. Johnson Matchbox 250-24 VSWR Bridge Head

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 16:35:28 UTC
From: harry <harry.bilgewater@gmail.com>
Message-ID: <1172334927.954451.290220@q2g2000cwa.googlegroups.com>
Source record: 45437

I have recently purchased two different VSWR Bridges.

One was made by Johnson.

The second is a clone.

Both use a fifty ohm resistor in series with the signal path. This strikes me as a lossy setup. Is there a theory of operation posted or a text which can explain the operation of the bridge?

Thanks

Harry

1774. Re: 60m mobile operation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 17:52:53 UTC
From: Dave <W1MCE@comcast.net>
Message-ID: <FPudnfXPptHo5n3YnZ2dnUVZ_uWlnZ2d@comcast.com>
Source record: 45438

Cecil Moore wrote:
> Dave wrote:
>
>> The original post is basically asking if 100 watts can be run from a
>> 706 in a 60 meter mobile. The answer is YES. Why? Because an eight
>> feet long antenna is substantially less than the reference dipole.
>> [Typically it is -10dBd].
>
>
> For a 10' whip, EZNEC says the radiation resistance
> on 60m would be ~1.3 ohms. Doubling that for center-
> loading yields ~2.6 ohms. Dividing by an estimated
> feedpoint resistance of 20 ohms gives an efficiency
> of about 13%. Assuming an efficiency of about 90% for
> a 1/2WL dipole, I should be able to run
> 50w*90/13 = 346w. 100 watts should certainly be
> justifiable. Heck, I might even fire up my SG-500
> at 300 watts. Now the next question. Is anyone using
> 60m?

YEP!!! Quite active here in NE and along the East of the Mississippi River. It is 1700Z and I'm listening to QSOs on 60-4 and 60-5 from SC and TN. BTW, I'm in NH.

1775. Re: "Noise" antenna for MFJ-1026 "Noise Canceling Signal Enhancer"

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 18:01:18 UTC
From: Jan Simons PA0SIM <PA0SIMandnospam@amsat.org>
Message-ID: <1172340083.230085@SLIPstream>
Source record: 45439

Hello Eric,
I guess the MFJ-1026 has the same problem as the MFJ-1025.
The MFJ-1025 does not cover the full 360 degrees fase difference.
So when the MFJ-1026 can not provide the required fase difference,
the noise can not be canceled.
You can make a phaser yourself that outperformes the MFJ-1025:
http://www.pa0sim.nl/Phaser%2080%20-%2010%20meters.htm

It does not matter what kind of noise antenne you use as long as the noise
antenna picks up the same single noise source with abt the same signal
level as the main antenna.

Noise canceling, using two antennas, can only cancel a single noise source.
But it is possible to use eg. two small loop antennas for receive purposes.
The null of the loops can be used to null one noise source and the noise
canceling then can cancel the second noise source.

Digital signal processing makes other tricks possible.
http://www.pa0sim.nl/Digital%20Signal%20Processing%20route.htm
But thats an other story.

73 de Jan PA0SIM

"Eric" <reply.in.group@nospam.no> schreef in bericht
news:pan.2007.02.22.22.56.42.943428@nospam.no...
>
> I have the MFJ-1026 what they grandly call a "Deluxe Noise Canceling
> Signal Enhancer" (as contrasted with the plain old non-deluxe version, I
> guess).
>
> The main station antenna is a 160-meter inverted vee up about 40 feet and
> fed with ladder line, used on all bands 160-10. The noise antenna is an
> 80-meter dipole up about 20 feet, fed with coax, and oriented about 60
> degrees off of the plane of the inverted vee.
>
> There are times when the noise canceler works really well, and other times
> when it works hardly at all. I know that when you get noise from all
> directions, there isn't much an active noise canceling device can do about
> it. Still, I'm wondering if there is something I can do to make it work
> better.
>
> Is there another kind of noise antenna that I could use that would work
> better a larger percentage of the time?
>
> Someone told me that an active receiving antenna (a relatively short whip
> with a preamp that's mounted at the antenna) could work better, but I'd

> need something that's broadband through the 160-10 meter range that
> wouldn't have to be tuned.
>
> Any suggestions? Thanks...
>

1776. Re: Fiber transmission question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 18:10:51 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <fdu0u250sb1ra76sgfbtad2a7q9cm8baao@4ax.com>
Source record: 45441

On Sat, 24 Feb 2007 10:04:15 -0600, Tom Ring <news0003@taring.org>
wrote:

>This came up last night while we were putting racks together for a new
>data center. Someone mentioned that it was theoretically possible to
>put an infinite amount of information through a fiber because you could
>have an infinite number of carriers even though the total available
>frequency response was finite.

Hi Tom,

His argument fails on the face of it. If something is finite, that
about ends the discussion. Your workmate is confusing his sense of
being unable to encompass a large number with the sense of infinity.

Given there are an infinite number of infinities, you could argue that
perhaps he is talking about one of the smaller, less significant ones.

>That reminded me of something I
>thought you mentioned months ago. You either named the effect, or gave
>a link to an article about it.

It seems that google has changed their search engine and dumbed it
down significantly. I don't recall the discussion except in the most
general terms and searching for it was frustrating. Maybe the thought
will emerge later.

All I can offer that brings us back to 'tronics (and peripherally to
'tennas) is that to fit enough bits into the information content, they
need to be have a certain rise time (very small of course). Rise time
and bandwidth are inextricably related by a factor of about 3. An
infinite amount of information would thus require 3X infinite
bandwidth (see what I mean about infinities?). We encounter the same
limitation in listening to code. When CW is sent at a certain rate,
it defines the receive bandwidth necessary to recover the information.
>And NA mismatch doesn't ring any bells.

As it shouldn't, it is a side topic but relatable to fiber
transmission. I struggled for years trying to get 5 joules of light
energy into a 1mm fiber. I was probably 5% efficient at best and
researching the topic didn't offer the prospects of my expecting much
better. That is why I find impedance matching debates here so amusing
when so much of was just armchair experience.

73's
Richard Clark, KB7QHC

1777. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 18:13:01 UTC
From: Frank's <frank599@nojunkmailplease.telus.net>
Message-ID: <Ne%Dh.100206$Fd.94315@edtnps90>
Source record: 45440

>> Gene, forgive me if I am incorrect but I am going to assume you have
>> an engineering degree and are fully conversant with the work of the
>> masters. I f I am not correct then we can stop at this point Otherwise
>> I fully recommend that you check out the web foe a book on fields and
>> waves or something like that by a professor at Rutgers University. In
>> chapter 21 he delves very deeply into an array consisting of four
>> elements all of which are resonant.
>
> You really need to learn how to communicate your ideas. You don't know or
> won't say the author or the title of the book, or you would just have us
> guess.
>
>
>> Ofcourse he doesn't mention anything of mine but you will notice that
>> the array he chose is actually what I refer to as a Gaussian array
>> since it meets all the requirements that I have

Could this be the book?

http://www.ece.rutgers.edu/~orfanidi/ewa/

1778. Re: Johnson Matchbox 250-24 VSWR Bridge Head

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 18:13:13 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <guv0u255j4f2peikfldrlb6581hnmahe8p@4ax.com>
Source record: 45442

On 24 Feb 2007 08:35:28 -0800, "harry" <harry.bilgewater@gmail.com>
wrote:

>I have recently purchased two different VSWR Bridges.
>
>One was made by Johnson.
>
>The second is a clone.
>
>Both use a fifty ohm resistor in series with the signal path. This
>strikes me as a lossy setup. Is there a theory of operation posted or
>a text which can explain the operation of the bridge?

Hi Harry,

You don't offer enough information. Some resistance is necessary in
the bridge to terminate the sample collected. It is often 50 Ohms,
and just as often it is not. The actual value is a product of the
bridge configuration.

73's
Richard Clark, KB7QHC

1779. Re: Is Dominator/Predetor(~6dB gain) competent to CP antennas for LPFM?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 18:19:07 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <o501u29cukdb31fbdbtkphpm2bl3k9thmb@4ax.com>
Source record: 45443

On 24 Feb 2007 04:30:51 -0800, "BK" <bhuvankjha@gmail.com> wrote:

>I am still in doubt weather the high gain (nearly 6db not 6dBi) is a
>hype.

Hi Bhuvan,

Doubt no longer. You can buy the 6dBi for much less from any number
of other vendors. BEWARE of vendors that give their antennas "names."
Product numbers are sufficient for a commodity market. Better yet,
build your own. All antennas can be scaled to ANY frequency.

The single best advice that you could accept is to raise the antenna
as high as you can.

73's
Richard Clark, KB7QHC

1780. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 19:00:11 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45e0873a$0$9435$4c368faf@roadrunner.com>
Source record: 45444

"art" <aunwin@insightbb.com> wrote in message
news:1172291750.013226.63400@t69g2000cwt.googlegroups.com...
> On 23 Feb, 20:05, Gene Fuller <W4SZzzz...@att.net> wrote:
>> art wrote:
>> > On 23 Feb, 15:07, Gene Fuller <W4SZzzz...@att.net> wrote:
>>
>> >> To keep it simple, Gauss' Law is precisely one of the four standard
>> >> Maxwell Equations. Gauss' Law has been part of electromagnetics and
>> >> antenna theory for eons.
>>
>> >> As for electromechanics, who knows?
>>
>> >> 73,
>> >> Gene
>> >> W4SZ
>>
>> > Gene, forgive me if I am incorrect but I am going to assume you have
>> > an engineering degree and are fully conversant with the work of the
>> > masters. I f I am not correct then we can stop at this point Otherwise
>> > I fully recommend that you check out the web foe a book on fields and
>> > waves or something like that by a professor at Rutgers University. In
>> > chapter 21 he delves very deeply into an array consisting of four
>> > elements all of which are resonant.
>> > Ofcourse he doesn't mention anything of mine but you will notice that
>> > the array he chose is actually what I refer to as a Gaussian array
>> > since it meets all the requirements that I have expoused on my page.
>> > He doesn't use computor programs but basic mathematics to provide all
>> > the desirables plus a radiation field. This array is really a
>> > derivitation of one designed some 50 years ago and is the only one I
>> > know that exists in literature. If you study this chapter and relate
>> > it to what I am expousing then possible you will see things with fresh
>> > eyes. But again if you are not fully educated in this field save your
>> > self from the bother. I personaly have a program that if you isert any
>> > fugure and tell it to obtain maximim gain I assure you it will not
>> > produce a yagi but a gaussian array..... and I am thrilled with
>> > that.
>> > Nuff said
>> > Art
>>
>> Art,
>>
>> You seem to have misunderstood my point.
>>
>> AAALLLLLL antennas, regardless of structure, material, efficiency,

>> resonance, location, or phase of the moon are Gaussian. Gauss' Law is an
>> integral part of classical electromagnetics. Nothing can escape.
>>
>> No, I do not have an engineering degree, but I do have several degrees
>> in physics. Unfortunately, I am significantly dumber than a rock, so I
>> have no more to offer in this thread.
>>
>> 73,
>> Gene
>> W4SZ- Hide quoted text -
>>
>> - Show quoted text -
>
> Watch out Gene, I stated that Statics was a subset of electromagnetics
> and I caught hell from everybody. Seems like things are infectional
> around here.The book that I proferred would really be to much for a
> lot of people no matter how much they over estimate their abilities
> especially when they try to debate reasons why the writer is incorrect!
> When I asked for academic help regarding research I got an Email from
> a guy at the space antenna agency who referred me to chapter 1 and 21.
> I never dreamt that I would find an actual array with all elements
> resonant being discussed
>
> Art
>

STATICS, I assume you man electrostatics is not a subset of magnetism but in
a lot a lot of ways an analogy can bee drawn between the two. For example
the attractive force betwen to charged particles is inversely proportional
to the square of the distance, this is also true for magnetic particles but
they really have nothing to do with each other.. Art sometimes I think you
are confusing what Gauss wrote about statistics with statics. He did a lot
more work with mathmatics including statistics than he ever did with
magnatism. Your references to Gaussian field further strengthens my belief
since Gausian field refers to a statistical distribution also known as a
Guassian distibution, aka normal distribution.

Jimmie

1781. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 19:16:00 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3d11u219s053u6nod4qblg1h23pcctd0up@4ax.com>
Source record: 45445

On Fri, 23 Feb 2007 23:52:56 -0800, Richard Clark <kb7qhc@comcast.net>
wrote:

>There is only one question that remains, really, what is IT that you
>are claiming?

Hmm, killer question no doubt. A Broadway producer once sagely noted
that if you cannot express your idea on the back of business card, you
don't really have much to offer.

If we are to rummage through the dusty attic of rambling thoughts:
>>Pretty much everybody scorned the idea that antennas could be
>>made better than the yagi because all was known let alone a completely
>>new
>>line of designs which were not made up of parassitic elements let
>>alone of
>>mainly resonant elements in cluster form for choice of polarity.

Would it be galling, Art, for you to be the last to know that Roy has
been publishing Gaussian antennas (not his term, thankfully) for years
and distributed freely with every copy of his modeling software? Would
it be unsettling to realize that Hams have been building them for
decades? Would you be stunned to learn that their theory has been
explained since Marconi was only operating at 5WPM?

Surprised? Consult the Radiotelegraphy chapter of "Standard Handbook
for Electrical Engineers," 1907-1917. Pay attention to the design
called "Bellini-Tosi directive antenna."
"By placing the moving coil in the proper position
signals can be sent in any plane desired."

This was at least 20 years before Yagi and Uda.

An online reference to them 101 years ago:
http://souvenirs-de-mer.blogdns.net/article64.html
or from 102 years ago:
http://72.14.253.104/search?q=cache:2ifCqkzVrHYJ:www.wsv.de/fvt/museum/ff_zeittafel/ff_zeitt_02.html+bellini+tossi&hl=en&ct=clnk&cd=7&gl=us&client=firefox-a
dating back 107 years ago:
http://dspt.club.fr/Applications.htm

This topic is so old it creaks everytime the casket is robbed.

73's
Richard Clark, KB7QHC

1782. Re: tuned vertical vs center loaded ant

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 19:32:31 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns98E175909ED1Fspectrumhogstarbandn@198.186.192.196>
Source record: 45446

>
> Phil Rand, W1DBM, wrote a QST article on "Antenns for Travel Trailers
> and Campers" which was reprinted in the 1978 "Antenna Anthology".
>
> Phil shared his experience and measurements on 3963 kHz using various
> antennas on the Airstream Travel Trailer Net.
>
> Phil found that the best temporary antenna was a high dipole. Next best
> was a loop antenna in which the Airstream trailer was included in the
> lower art of the loop.
>
> Table 3 in the article gives 7 trailer antenna choices and their signal
> strengths as compared with a home station dipole at 50 ft. high.
>
> Best regards, Richard Harrison, KB5WZI
>
>

I do have a homemade short Inverted V for 75M, (24' per leg)
which I pack around.... but as I have stated, most of my parking
situations preclude putting out anything beyond a very short perimeter
around my rig.... necessitating a vertical, (with very short radials at
best). I will try to find that publication, but unless it includes
verticals for 75M / 40M, it probably won't help much in my case. Thanks
anyway!

Ed K7AAT (30' Class C motorhome, BTW)

1783. Re: Johnson Matchbox 250-24 VSWR Bridge Head

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 19:47:10 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E245082B5E0nonenowhere@61.9.191.5>
Source record: 45447

"harry" <harry.bilgewater@gmail.com> wrote in
news:1172334927.954451.290220@q2g2000cwa.googlegroups.com:

> I have recently purchased two different VSWR Bridges.
>
> One was made by Johnson.
>
> The second is a clone.
>
> Both use a fifty ohm resistor in series with the signal path. This
> strikes me as a lossy setup. Is there a theory of operation posted or
> a text which can explain the operation of the bridge?

Harry,

I am not familiar with the specific devices you mention, and you have provided very little info.

I have made and used a device for impedance measurement that basically had a 50 ohm resistor between tx and antenna sockets, and three voltmeters to measure the RF voltage across the antenna, the internal 50 ohm resistor, and the combination. To make a measurement, you apply a small amount of power at the desired frequency and measure the three voltages. From those, you can calculate the antenna impedance, though there is ambiguity about the sign of the antenna reactance.

If you have such a thing, they are for measurment only, you do not leave them inline because of the losses, and of course, they will only withstand very low power.

Do you think you may have such a thing?

Owen

1784. Re: 80m+40m dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 20:06:39 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E24855B96E5nonenowhere@61.9.191.5>
Source record: 45448

Cecil Moore <mycall@hotmail.com> wrote in news:_SYDh.1457$MV7.1433 @newssvr23.news.prodigy.net:

> http://www.w5dxp.com/HEDZ.htm

Cecil,

An interesting and practical solution to a 2 band antenna for 80 and 40.

Some constructive comments:

I question to derivation of the name "Half-Extended Double Zepp (HEDZ) Antenna", the length of the radiator of itself has no special properties, no special pattern characteristics. I think you could develop a more descriptive name for the antenna system (because that is what you are describing), brand it even with your callsign to differentiate it.

The first paragraph seems to use the term "antenna" to mean the radiator. The article later talks about "resonance" of the "antenna" and seems to mean a purely resistive load looking into the feedline, so "antenna" here seems to mean dipole + feedline + balun. Perhaps you should refer to dipole + feedline + balun as the "antenna system" to differentiate the two.

Though you discussed the gain of a number of other antennas (are they relevant?), and you show pattern details for 80 and 40 (good), did you discuss the gain and pattern of this antenna on all the other bands that you propose in the last paragraph.

Adding some headings to the layout would help readabilty.

Well done, interesting solution to the challenge of an 80/40 dipole (if one has the space for a 50m long dipole on a suburban block).

Owen

1785. Re: Fiber transmission question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 20:24:56 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E24B6F61A0nonenowhere@61.9.191.5>
Source record: 45449

Tom Ring <news0003@taring.org> wrote in news:45e06207$0$17199$39cecf19
@news.twtelecom.net:

...
> This came up last night while we were putting racks together for a new
> data center. Someone mentioned that it was theoretically possible to
> put an infinite amount of information through a fiber because you could
> have an infinite number of carriers even though the total available
> frequency response was finite. I declined to argue with him, because
he
> is always right, even when he's not. That reminded me of something I
...

Tom,

Perhaps you could explain to him that since he makes the assumption that the width of a carrier (a single frequency) is zero and that therefore an infinite number could fit within a finite bandwidth, he has overlooked the use of more common media (eg phone lines) to carry an "infinite amount of information" by this magical technique.

Don't disabuse him of his concept that a signal of zero bandwidth can carry information at any rate above zero. He might even seek to patent the method!

Such misconceptions are not unusual amongs IT experts who's education started and ended with MS certification.

Owen

1786. Re: Johnson Matchbox 250-24 VSWR Bridge Head

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 20:31:03 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E24C79655A6nonenowhere@61.9.191.5>
Source record: 45450

"harry" <harry.bilgewater@gmail.com> wrote in news:1172334927.954451.290220
@q2g2000cwa.googlegroups.com:

> I have recently purchased two different VSWR Bridges.
>
> One was made by Johnson.
>
> The second is a clone.
>
> Both use a fifty ohm resistor in series with the signal path. This
> strikes me as a lossy setup. Is there a theory of operation posted or
> a text which can explain the operation of the bridge?

The bridge is indeed a simple bridge with a single null indicator. It is
for use with less than 1W of RF, and is not intended to be left inline.

ftp://bama.sbc.edu/downloads/johnson/250-24/

Owen

1787. Re: Fiber transmission question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 20:40:26 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <c381u257m1h0mq2h7a35l8rbtvdv8d6ihr@4ax.com>
Source record: 45451

On Fri, 23 Feb 2007 22:55:09 -0600, Tom Ring <news0003@taring.org>
wrote:

>
>Someone, I think it may have been Richard, once mentioned a form of
>distortion that was due, I think, to the modulation itself.

Hi Tom,

In unrelated research for a forum I am doing for the Foreign Policy
Association's Global Decisions, I ran across an article that may bear
on your workmate's discussion.

Reference: "The Ultimate White Light," Robert R. Alfano, Scientific
American, Dec. 2006.

The piece is about "supercontinuum light" that exhibits self-phase
modulation when the fiber is forced into nonlinear behavior with
sufficiently high power densities (hence my sidebar discussion in
another posting). The boon here is that this laser replaces 100
parallel lasers (of differing wavelengths) while maintaining coherence
across its spectrum. This increases the data capacity to transmission
rates of petabits. Even compared to today's gigabits, this is still a
very long way from infinite, however.

73's
Richard Clark, KB7QHC

1788. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 20:42:49 UTC
From: Dave <noone@nowhere.com>
Message-ID: <dr1Eh.4013$2u.3117@trndny04>
Source record: 45452

"art" <aunwin@insightbb.com> wrote in message
news:1172343781.210849.322520@q2g2000cwa.googlegroups.com...
> On 24 Feb, 10:13, "Frank's" <frank...@nojunkmailplease.telus.net>
> wrote:
>> >> Gene, forgive me if I am incorrect but I am going to assume you have
>> >> an engineering degree and are fully conversant with the work of the
>> >> masters. I f I am not correct then we can stop at this point Otherwise
>> >> I fully recommend that you check out the web foe a book on fields and
>> >> waves or something like that by a professor at Rutgers University. In
>> >> chapter 21 he delves very deeply into an array consisting of four
>> >> elements all of which are resonant.
>>
>> > You really need to learn how to communicate your ideas. You don't know
>> > or
>> > won't say the author or the title of the book, or you would just have
>> > us
>> > guess.
>>
>> >> Ofcourse he doesn't mention anything of mine but you will notice that
>> >> the array he chose is actually what I refer to as a Gaussian array
>> >> since it meets all the requirements that I have
>>
>> Could this be the book?
>>
>> http://www.ece.rutgers.edu/~orfanidi/ewa/- Hide quoted text -
>>
>> - Show quoted text -
>
> Yup.
> The arrays are in simplistic form but will allow for free movement of
> individual thought in line with my proposal.
> Actually it is quite a good book on the subject of antennas but over
> and above the level of the ARRL publications which will make it
> frightening to most visitors to this newsgroup
> Art
>
looks like a relatively straight forward review of general electromagnetics
and antennas to me. just which chapter do you think shows your type of
antenna?? and why?

1789. Re: 80m+40m dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 21:33:07 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <na2Eh.1251$8x.190@newssvr14.news.prodigy.net>
Source record: 45453

Owen Duffy wrote:
> I question to derivation of the name "Half-Extended Double Zepp (HEDZ)
> Antenna", the length of the radiator of itself has no special properties,
> no special pattern characteristics.

Since the length is half-way between a Double Zepp and an
Extended Double Zepp, it seems that "Half-Extended" is an
appropriate identifier.

> The first paragraph seems to use the term "antenna" to mean the radiator.
> The article later talks about "resonance" of the "antenna" and seems to
> mean a purely resistive load looking into the feedline, so "antenna" here
> seems to mean dipole + feedline + balun. Perhaps you should refer to
> dipole + feedline + balun as the "antenna system" to differentiate the
> two.

If I didn't talk about the "antenna system", it was an oversight.
I will attempt to edit out any confusion.

> Though you discussed the gain of a number of other antennas (are they
> relevant?), and you show pattern details for 80 and 40 (good), did you
> discuss the gain and pattern of this antenna on all the other bands that
> you propose in the last paragraph.

As you know, above the EDZ frequency, the pattern becomes multi-
lobbed, sometimes called a "cloverleaf" pattern. Everything above
14 MHz is multi-lobbed with a gain of 10-11 dBi with low TOAs.
I will publish the radiation patterns as time permits.

> Well done, interesting solution to the challenge of an 80/40 dipole (if
> one has the space for a 50m long dipole on a suburban block).

Moral: Don't live in suburbia. :-) I just bought a house in Tyler, TX.
I rejected a dozen locations because of not enough room for antennas. I
also educated the Tyler City Council on the Texas/FCC rules for Amateur
Radio Antennas.
--
73, Cecil http://www.w5dxp.com

1790. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 21:57:38 UTC
From: Dave <noone@nowhere.com>
Message-ID: <mx2Eh.2426$kr6.1842@trndny09>
Source record: 45454

"art" <aunwin@insightbb.com> wrote in message
news:1172351523.569809.211980@h3g2000cwc.googlegroups.com...
> On 24 Feb, 12:42, "Dave" <n...@nowhere.com> wrote:
>> "art" <aun...@insightbb.com> wrote in message
>>
>> news:1172343781.210849.322520@q2g2000cwa.googlegroups.com...
>>
>>
>>
>> > On 24 Feb, 10:13, "Frank's" <frank...@nojunkmailplease.telus.net>
>> > wrote:
>> >> >> Gene, forgive me if I am incorrect but I am going to assume you
>> >> >> have
>> >> >> an engineering degree and are fully conversant with the work of the
>> >> >> masters. I f I am not correct then we can stop at this point
>> >> >> Otherwise
>> >> >> I fully recommend that you check out the web foe a book on fields
>> >> >> and
>> >> >> waves or something like that by a professor at Rutgers University.
>> >> >> In
>> >> >> chapter 21 he delves very deeply into an array consisting of four
>> >> >> elements all of which are resonant.
>>
>> >> > You really need to learn how to communicate your ideas. You don't
>> >> > know
>> >> > or
>> >> > won't say the author or the title of the book, or you would just
>> >> > have
>> >> > us
>> >> > guess.
>>
>> >> >> Ofcourse he doesn't mention anything of mine but you will notice
>> >> >> that
>> >> >> the array he chose is actually what I refer to as a Gaussian array
>> >> >> since it meets all the requirements that I have
>>
>> >> Could this be the book?
>>
>> >>http://www.ece.rutgers.edu/~orfanidi/ewa/-Hide quoted text -
>>
>> >> - Show quoted text -
>>
>> > Yup.
>> > The arrays are in simplistic form but will allow for free movement of

>> > individual thought in line with my proposal.
>> > Actually it is quite a good book on the subject of antennas but over
>> > and above the level of the ARRL publications which will make it
>> > frightening to most visitors to this newsgroup
>> > Art
>>
>> looks like a relatively straight forward review of general
>> electromagnetics
>> and antennas to me. just which chapter do you think shows your type of
>> antenna?? and why?- Hide quoted text -
>>
>> - Show quoted text -
>
> David, I do not work for you and I am not looking for employment
> from you. Sometimes the World is tough and you have to do things for
> yourself even if you are doing only what others have done before you
> and got away with
>
say what?

1791. Re: Johnson Matchbox 250-24 VSWR Bridge Head

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 22:04:52 UTC
From: harry <harry.bilgewater@gmail.com>
Message-ID: <1172354692.296084.278630@t69g2000cwt.googlegroups.com>
Source record: 45455

On Feb 24, 3:31 pm, Owen Duffy <n...@no.where> wrote:
> "harry" <harry.bilgewa...@gmail.com> wrote in news:1172334927.954451.290220
> @q2g2000cwa.googlegroups.com:
>
> > I have recently purchased two different VSWR Bridges.
>
> > One was made by Johnson.
>
> > The second is a clone.
>
> > Both use a fifty ohm resistor in series with the signal path. This
> > strikes me as a lossy setup. Is there a theory of operation posted or
> > a text which can explain the operation of the bridge?
>
> The bridge is indeed a simple bridge with a single null indicator. It is
> for use with less than 1W of RF, and is not intended to be left inline.
>
> ftp://bama.sbc.edu/downloads/johnson/250-24/
>
> Owen

Owen. thanks for the link on the BAMA server. It cleared up a lot of
questions.

What threw for the loop was the coupler has to be removed one the
measurement is completed.
I had assumed (and you know what they say about that word) it was like
other couplers and
remained in circuit.

I had not tried either one since obviously the 2 watt resistors were
going to go poof, if used
like its more modern cousins.

I apologize to all for the lack of info and will be more diligent in
the future.

Harry

1792. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 22:06:26 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <uld1u21026rahm6la5lv82a0fni0l8ac5m@4ax.com>
Source record: 45456

On Sat, 24 Feb 2007 21:57:38 GMT, "Dave" <noone@nowhere.com> wrote:

>> David, I do not work for you and I am not looking for employment
>> from you. Sometimes the World is tough and you have to do things for
>> yourself even if you are doing only what others have done before you
>> and got away with
>>
>say what?

Gauss, forgive them for they know not what they've done.

1793. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 22:17:31 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <erqdhn$fg8$1@aioe.org>
Source record: 45457

Richard Clark wrote:

> ...
> Gauss, forgive them for they know not what they've done.

May the lines of force be with them ...

JS

1794. Re: tuned vertical vs center loaded ant

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-24 23:46:47 UTC
From: richardharrison@webtv.net
Message-ID: <25800-45E0CE67-504@storefull-3256.bay.webtv.net>
Source record: 45458

Ed, K7AAT wrote:
"....but as I stated, most of my parking situations preclude putting out anything beyond a short perimeter around my rig.... necessitating a vertical, (with very short radials at best)."

Phil faced the same challenge. Item (1) of his summary says:
"Carry a complete set of mobile whips for lunch stops, or other occasions where you do not have the time or room for anything better."

First on the list in Table 3 is:
"Hustler 75-meter mobile whip mounted vertically on the rear corner of trailer..... S7"

Item (2) says:
"If at all possible, use a 1/4-wave counterpoise clipped tothe trailer when using a mobile whip."

Second on the list in Table 3 is;
"Same as above, with 60-foot counterpoise wire connected to trailer.....S9"

So the counter poise adds about 12 dB to the signal.

A 15-ft high (at the center) 120-ft long dipole is S9+20 dB in Table 3, but surprisingly the loop including the trailer is its equal. The loop is only 30 feet long, or almost the length of the trailer.

Best regards, Richard Harrison, KB5WZi

1795. Re: tuned vertical vs center loaded ant

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-25 00:22:19 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns98E1A6B446ABCspectrumhogstarbandn@198.186.192.196>
Source record: 45459

> Phil faced the same challenge. Item (1) of his summary says:
> "Carry a complete set of mobile whips for lunch stops, or other
> occasions where you do not have the time or room for anything better."
>
> First on the list in Table 3 is:
> "Hustler 75-meter mobile whip mounted vertically on the rear corner of
> trailer..... S7"

That's all I have right now. 75M resonator, and the antenna is mounted on top my rear ladder.... which is well bonded to the chassis frame down below. It works rather well, I believe, but both I and my wife don't want me climbing the ladder for installation/removal, or tuning purposes.

> Item (2) says:
> "If at all possible, use a 1/4-wave counterpoise clipped tothe trailer
> when using a mobile whip."

Will try that...

>
> Second on the list in Table 3 is;
> "Same as above, with 60-foot counterpoise wire connected to
> trailer.....S9"

I suppose a 60' coil of small wire wouldn't be hard to pack.... will try that too, when space allows. BUT, since I'm mostly on 75/80, whats the difference between the first two, anyway?

>
> So the counter poise adds about 12 dB to the signal.
>
> A 15-ft high (at the center) 120-ft long dipole is S9+20 dB in Table 3,
> but surprisingly the loop including the trailer is its equal. The loop
> is only 30 feet long, or almost the length of the trailer.
>

Well, certainly don't have space for that dipole, and the RV is fibreglass so no easy way to include it in a loop.

Also, though I didn't previously mention, don't want the antenna to be that noticable. A vertical has less visual impact, in my opinion, in that area.

Thanks, Richard.

Ed K7AAT

1796. Re: Cushcraft question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-25 00:36:52 UTC
From: w9gb <spam_protect@arrl.net>
Message-ID: <5qWdnY2ymOa4R33YnZ2dnUVZ_rOqnZ2d@comcast.com>
Source record: 45460

"Eric" <reply.in.group@nospam.no> wrote in message
news:pan.2007.02.24.14.20.19.457867@nospam.no...
> On Fri, 23 Feb 2007 20:15:40 +0000, papandreo wrote:
>
>> Is it true that Cushcraft stop the production of ham antennas?
>> I heart this story earlier this week on the band.
>
> What Cushcraft said was that they were discontinuing production of
> replacement parts for their "older obsolete antennas" including the AP8,
> AP8A, R4, R5 and R7. This is dated back in the early 2000s sometime so
> it's pretty old news. I haven't heard or seen anything since that would
> indicate that they're getting out of the amateur business.
>
>

In fact, I just received a reply to a query for R4, R5 and R7 antenna parts
(storm damage repair) -- said they have them -- and just have to give them
the part numbers from the manual !

Cushcraft (and all commercial antenna mfg.) have been focusing on the
cellular and microwave bands for the past several years.

w9gb

1797. Re: Antenna to cover AM broadcast to 999 mhz?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-25 03:07:09 UTC
From: Michel Morin <ve2cjw@hotmail.com>
Message-ID: <8M7Eh.31831$Lp4.989946@wagner.videotron.net>
Source record: 45461

Thanks Chuck about the inverted L idea, I had never thought about that. What would you recommend for satellite? Turnstile, eggbeater or something else? Thanks again.
Mike.

"chuck" <nospam@nospam.org> a crit dans le message de news: 1172322165_9881@sp6iad.superfeed.net...
> ve2cjw wrote:
>> The idea is that I want to receive AM and shortwave broadcasts
>> probably using one antenna. Then, I need to be able to receive 144 mhz
>> and 440mhz in any direction including straight up for satellites, I am
>> talking about FM here plus the aviation band in AM. I also want to
>> receive some frequencies around 800mhz also omnidirectional. I will be
>> using all of these receive frequencies with an Icom IC-91A. I will
>> transmit on 144 and 440mhz FM using a Kenwood TM-G707A and a suitable
>> antenna depending if I want to access a repeater or a satellite. For
>> that, I have a dual band coaxial type of antenna and I will build
>> myself a couple of turnstile types for the FM satellites. I just
>> wanted to minimize the number of antennas I really need.
>> 73 de VE2CJW
>> Mike.
>>
>
> Thanks for the additional information, Mike. For receiving MW and HF
> broadcast stations, a random length of wire often suffices because these
> stations tend to employ high power and directional antennas. You might
> find that by making all or a portion of the antenna vertical, your
> reception of distant stations is improved. An inverted L antenna is
> favored by many SWLs. A google search on "SWL antenna" will provide you
> with a lot of useful information on what others have used successfully. I
> think a "tuner" or impedance matching circuit will be a useful addition,
> especially now, at the bottom of the sunspot cycle.
>
> For vhf/uhf omnidirectional reception, your suggestion of a discone should
> work well, keeping in mind that it may not be suitable for satellite
> reception in its usual orientation.
>
> 73,
>
> Chuck
> NT3G
>
> ----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet
> News==----

> http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+
> Newsgroups
> ----= East and West-Coast Server Farms - Total Privacy via Encryption
> =----

1798. Re: I Built the 10m Sleeve Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-25 06:15:11 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <RP9Eh.30034$pe4.14009@newsfe06.phx>
Source record: 45462

"JIMMIE" <JIMMIEDEE123@YAHOO.COM> wrote in message
news:1172266568.868112.147430@k78g2000cwa.googlegroups.com...

< snip>

One thing that
> concerned me even after the antenna was working is the SWR
> appeared to be a little too good. It was 1.2:1 in the middle of 10
> meters and never got ave 1.7:1 even at the band edges. I thought that
> this is a little too good to be true..

My concern, too, for the same reason but the readings appear to be authentic. For check, I tried the modified antenna (coax not running through the lower element) on a few other bands with very, very low power and got terrible VSWR readings. I get about a 1.4:1 at the low end of the 10 band, dropping to a 1.1:1 near the top of the band. I believe having big, fat elements helps.

Due to cable loss, my measured VSWR at the transceiver is a skosh better than what I would see at the antenna. A nice chart in the ARRL Antenna Book shows that with 1 dB cable loss (approximate for 100' of RG-8), my 1.4:1 VSWR measured at the radio is actually closer to 1.6 at the antenna. Still a keeper. I went on the air last night with a few watts and got a great signal report from a local ham, so the antenna is working.

"Sal"
(KD6VKW /AE)

1799. Re: I Built the 10m Sleeve Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-25 06:53:35 UTC
From: John Smith <assemblywizard10@yahoo.com>
Message-ID: <errbpc$ce1$1@aioe.org>
Source record: 45463

Sal M. Onella wrote:
> "JIMMIE" <JIMMIEDEE123@YAHOO.COM> wrote in message
> news:1172266568.868112.147430@k78g2000cwa.googlegroups.com...
>
>
> < snip>
>
> One thing that
>> concerned me even after the antenna was working is the SWR
>> appeared to be a little too good. It was 1.2:1 in the middle of 10
>> meters and never got ave 1.7:1 even at the band edges. I thought that
>> this is a little too good to be true..
>
> My concern, too, for the same reason but the readings appear to be
> authentic. For check, I tried the modified antenna (coax not running
> through the lower element) on a few other bands with very, very low power
> and got terrible VSWR readings. I get about a 1.4:1 at the low end of the 10
> band, dropping to a 1.1:1 near the top of the band. I believe having big,
> fat elements helps.
>
> Due to cable loss, my measured VSWR at the transceiver is a skosh better
> than what I would see at the antenna. A nice chart in the ARRL Antenna Book
> shows that with 1 dB cable loss (approximate for 100' of RG-8), my 1.4:1
> VSWR measured at the radio is actually closer to 1.6 at the antenna. Still a
> keeper. I went on the air last night with a few watts and got a great
> signal report from a local ham, so the antenna is working.
>
> "Sal"
> (KD6VKW /AE)
>
>
>

A year or two ago I was into playing with various monopole designs for
10 meters and greater freqs.

The bazooka I built and liked was a stainless steel whip for the
radiator. The bazooka sleeve was hook to coax and the mast--at the
sleeve where the bottom of the radiator was mounted on a teflon block
insulator. The sleeve was either 1-1/8 or 1-3/8 copper pipe.

The antenna was fed at the top of the sleeve where the radiator exited,
with a 1:1 current balun on a toroid core. The balun was able to handle
100+ watts and I drove it at 100 W.

The swr was below 1.5:1 on most of the ten meter band, I don't believe it was ever above 2:1, if memory now serves me correct.

The antenna was ok. However, a 1/2 monopole with a gamma feed is what I finally settled on and still run today. Benefit is that this antenna requires a minimal counterpoise for excellent performance and radiation pattern and ease of construction.

Regards,
JS

1800. Re: I Built the 10m Sleeve Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-25 07:29:34 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <DVaEh.82935$0y4.55387@newsfe14.phx>
Source record: 45464

"John Smith" <assemblywizard10@yahoo.com> wrote in message
news:errbpc$ce1$1@aioe.org...

< snip >

However, a 1/2 monopole with a gamma feed is what I
> finally settled on and still run today. Benefit is that this antenna
> requires a minimal counterpoise for excellent performance and radiation
> pattern and ease of construction.
>
> Regards,
> JS
>

I need to learn more aboout matching. I picked up the 1989 edition of
ARRL's ANTENNA IMPEDANCE MATCHING at the swap meet a few years ago, but I
really haven't taken the time to dig into it.

I'm starting to think in terms of Smith charts, which I never thought I
would need or use. Surprise!

1801. Re: Is Dominator/Predetor(~6dB gain) competent to CP antennas for LPFM?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-25 10:12:06 UTC
From: BK <bhuvankjha@gmail.com>
Message-ID: <1172398326.561254.290340@p10g2000cwp.googlegroups.com>
Source record: 45465

On Feb 24, 11:19 pm, Richard Clark <kb7...@comcast.net> wrote:
> On 24 Feb 2007 04:30:51 -0800, "BK" <bhuvank...@gmail.com> wrote:
>
> >I am still in doubt weather the high gain (nearly 6db not 6dBi) is a
> >hype.
>
> Hi Bhuvan,
>
> Doubt no longer. You can buy the 6dBi for much less from any number
> of other vendors. BEWARE of vendors that give their antennas "names."
> Product numbers are sufficient for a commodity market. Better yet,
> build your own. All antennas can be scaled to ANY frequency.
>
> The single best advice that you could accept is to raise the antenna
> as high as you can.
>
> 73's
> Richard Clark, KB7QHC

Thanks for your advice to raise the antenna as high as possible. I can rise a 40 ft of 1 1/2 inch GI pipe on the rooftop of a four story building to achieve 90ft hight for the antenna that shouldn't cost me morethan $300 for the transmission of 100 watt at the transmitter power. I am looking for the high gain antenna as ERP is not mesured rather transmitter power is the concern here for FM transmission.

Regards,
Bhuvan

1802. Re: I Built the 10m Sleeve Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-25 14:49:01 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <xlhEh.1387$m85.844@newssvr29.news.prodigy.net>
Source record: 45466

Sal M. Onella wrote:
> I'm starting to think in terms of Smith charts, which I never thought I
> would need or use. Surprise!

Carrying a Smith Chart around in your head is a
good way to conceptualize transmission line and
antenna configurations.
--
73, Cecil http://www.w5dxp.com

1803. tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-25 15:14:54 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <iYGdnQe3abZtOnzYnZ2dnUVZ_u6rnZ2d@comcast.com>
Source record: 45467

All,

I am trying to install a trapped 40m dipole in the attic, the antenna is in place however it is short and resonates at about 7.7 MHz. I decided to try it by using a tuner close to the transmitter in the shack. The feedline is 50 ohm coax. On low power the tuner creates a very low SWR. The transmitter is a solid state 100 watt Heathkit.

However when I transmit according to the SWR Watt meter the system appears to transmit well over 200 watts. It pined the meter on a 200 watt range. I repeated the test twice and then stopped. When it is transmitting the SWR reads about 1.1 to 1. The meter works very well and does not exhibit strange readings on other setups.

My questions are: What is happening? What is causing it?

Thanks - Dan

1804. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-25 15:41:06 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <m6iEh.1395$m85.51@newssvr29.news.prodigy.net>
Source record: 45468

dansawyeror wrote:
> I am trying to install a trapped 40m dipole in the attic, the antenna is
> in place however it is short and resonates at about 7.7 MHz. I decided
> to try it by using a tuner close to the transmitter in the shack. The
> feedline is 50 ohm coax. On low power the tuner creates a very low SWR.
> The transmitter is a solid state 100 watt Heathkit.
>
> However when I transmit according to the SWR Watt meter the system
> appears to transmit well over 200 watts. It pined the meter on a 200
> watt range. I repeated the test twice and then stopped. When it is
> transmitting the SWR reads about 1.1 to 1. The meter works very well and
> does not exhibit strange readings on other setups.
>
> My questions are: What is happening? What is causing it?

When the transmitter is putting out 100 watts and the
forward power reading is 200 watts, it means that the
SWR is 5.83:1, i.e. the voltage reflection coefficient
is 0.707 and the power reflection coefficient is 0.5.

To get the power delivered to the load, you must subtract
reflected power from forward power. In your case that seems
to be:
Pfwd - Pref = Pload = ~Psource
200w - 100w = 100w = ~100w
--
73, Cecil http://www.w5dxp.com

1805. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-25 16:48:36 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <d7f3u215h46sjvtvjh9gigbue4ni6802s7@4ax.com>
Source record: 45469

On Sun, 25 Feb 2007 07:14:54 -0800, dansawyeror
<dansawyeror@comcast.net> wrote:
>resonates at about 7.7 MHz.
>On low power the tuner creates a very low SWR.
>according to the SWR Watt meter the system
>appears to transmit well over 200 watts.
>When it is transmitting the SWR reads about 1.1 to 1.

Hi Dan,

The Meter is either not as good as you claim it to be (it doesn't
accurately perform at low power); OR
you have common mode problems (classic).

Do you choke the dipole?

73's
Richard Clark, KB7QHC

1806. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-25 19:15:45 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E33FB521091nonenowhere@61.9.191.5>
Source record: 45470

dansawyeror <dansawyeror@comcast.net> wrote in
news:iYGdnQe3abZtOnzYnZ2dnUVZ_u6rnZ2d@comcast.com:

> All,
>
> I am trying to install a trapped 40m dipole in the attic, the antenna
is
> in place however it is short and resonates at about 7.7 MHz. I decided
> to try it by using a tuner close to the transmitter in the shack. The
> feedline is 50 ohm coax. On low power the tuner creates a very low SWR.
> The transmitter is a solid state 100 watt Heathkit.
>
> However when I transmit according to the SWR Watt meter the system
> appears to transmit well over 200 watts. It pined the meter on a 200
> watt range. I repeated the test twice and then stopped. When it is
> transmitting the SWR reads about 1.1 to 1. The meter works very well
and
> does not exhibit strange readings on other setups.
>
> My questions are: What is happening? What is causing it?
>
> Thanks - Dan

Dan,

I assume in all these scenarios, the VSWR meter is between the
transmitter and ATU, and the ATU is adjusted for low VSWR.

You seem to say raise two issues:
-you have adjusted the tuner for a "very low SWR" on "low power"
(whatever each of those means), and when you transmit at "well over 200
watts" the SWR is 1.1:1; and
- your transmitter rated at 100W indicates "well over 200 watts" into a
1.1:1 load.

Re the first issue: If this is to mean the VSWR is higher on higher
power, the most common reason (but not the only one) that VSWR meters
read better VSWR on very low power is to do with the voltage drop across
the diode(s) in the meter. The scale may be calibrated at higher power
where the diode drop is less significant, perhaps even insignificant, and
when you adjust the meter for maximum sensitivity the diode drop
introduces significant error.

Re the second issue, if the instrument is a typical directional
wattmeter, the power output is calculated by deducting the "reflected
power" from the "forward power", but at VSWR=1.1 the "reflected power is

0.2% of "forward power" and insignificant. Otherwise, it might just have an RF voltmeter sampling the line and calibrated in watts, and which is only valid at very low VSWR. Transmitters don't often exceed their rated power by over 100%, so your reading casts doubt on your meter. It sounds like you need to make another measurement with another instrument to locate the problem.

Owen

1807. Re: Aluminium for antenna design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-25 21:01:18 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1172437278.803345.56680@z35g2000cwz.googlegroups.com>
Source record: 45471

On 22 Feb, 16:41, "Lex-Lutor" <lutor-lexBEZ-ov...@post.t-com.hr>
wrote:
> What will be the best material for log-periodic antenna design, my idea is
> to build LP-ant. for 14-30 MHz but it must stay alive at wind over 120 mPh.
> Wellding and machine work is not problem bigest problem is to select good
> Aluminium?
>
> Maybe AA6082 or AA6061 something elese ?
>
> Thanks for any help or info ?

O.K. you now have got input, have you made up your mind?
If so why, I think that any response would help out future builders
Art

1808. Re: Is Dominator/Predetor(~6dB gain) competent to CP antennas for LPFM?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-25 22:12:06 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <12u42c2oc8f7aee@corp.supernews.com>
Source record: 45472

Dear Bhuvan (no call given):

If the antenna is for a LPFM station licensed by the FCC (U.S.A.), then
tight restrictions exist on the height of the antenna. Where are you
located?

In any case, as Richard has said, one may buy an antenna for the purpose for
less money.

73, Mac N8TT
--
J. Mc Laughlin; Michigan U.S.A.
Home: JCM@Power-Net.Net
"BK" <bhuvankjha@gmail.com> wrote in message
news:1172398326.561254.290340@p10g2000cwp.googlegroups.com...
> On Feb 24, 11:19 pm, Richard Clark <kb7...@comcast.net> wrote:
> > On 24 Feb 2007 04:30:51 -0800, "BK" <bhuvank...@gmail.com> wrote:
> >
> > >I am still in doubt weather the high gain (nearly 6db not 6dBi) is a
> > >hype.
> >
> > Hi Bhuvan,
> >
> > Doubt no longer. You can buy the 6dBi for much less from any number
> > of other vendors. BEWARE of vendors that give their antennas "names."
> > Product numbers are sufficient for a commodity market. Better yet,
> > build your own. All antennas can be scaled to ANY frequency.
> >
> > The single best advice that you could accept is to raise the antenna
> > as high as you can.
> >
> > 73's
> > Richard Clark, KB7QHC
>
> Thanks for your advice to raise the antenna as high as possible. I can
> rise a 40 ft of 1 1/2 inch GI pipe on the rooftop of a four story
> building to achieve 90ft hight for the antenna that shouldn't cost me
> morethan $300 for the transmission of 100 watt at the transmitter
> power. I am looking for the high gain antenna as ERP is not mesured
> rather transmitter power is the concern here for FM transmission.
>
> Regards,
> Bhuvan
>

1809. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-25 23:08:30 UTC
From: ml <m@di.net>
Message-ID: <m-324774.18082525022007@news.verizon.net>
Source record: 45473

In article <m6iEh.1395$m85.51@newssvr29.news.prodigy.net>,
Cecil Moore <mycall@hotmail.com> wrote:

> dansawyeror wrote:
> > I am trying to install a trapped 40m dipole in the attic, the antenna is
> > in place however it is short and resonates at about 7.7 MHz. I decided
> > to try it by using a tuner close to the transmitter in the shack. The
> > feedline is 50 ohm coax. On low power the tuner creates a very low SWR.
> > The transmitter is a solid state 100 watt Heathkit.
> >
> > However when I transmit according to the SWR Watt meter the system
> > appears to transmit well over 200 watts. It pined the meter on a 200
> > watt range. I repeated the test twice and then stopped. When it is
> > transmitting the SWR reads about 1.1 to 1. The meter works very well and
> > does not exhibit strange readings on other setups.
> >
> > My questions are: What is happening? What is causing it?
>
>

<<two things pop into mind could be your antenna is radiating towards
and into or near your radio and causing some feedback that might effect
the radio and or the meter

there is also the possibility that you have some bad (common mode? etc)
current flowing back down the coax which could also wreck havock

just my guess and double check the above and grounds

put a dummy load into your tuner see if you get proper readings

1810. Re: window? Fiber transmission question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-25 23:16:04 UTC
From: ml <m@di.net>
Message-ID: <m-3BA7AB.18155825022007@news.verizon.net>
Source record: 45474

>
> I had a buddy who built a CO2 UV laser from a Scientific American
> Amateur Scientist column. It packed quite a punch for all of five to
> ten nanoseconds (capacitor arc discharge from a cap of several hundred
> picofarads charged to twenty thousand volts using a very low
> inductance lead design). He chose to be careful by aiming it out the
> window into the sky.

<<by carfull you mean he made sure no planes or satalites birdies etc
were in his 'aimed' path??

He fired the laser and cracked the window. The
> thermal expansion of the glass was sufficiently slow enough to
> accumulate enough stress (due to the attenuation) to create a
> fracture. Classic thermal runaway.
>
>

1811. anntennas athe top of fenceline

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 00:16:23 UTC
From: an_old_friend <konstans@hotmail.com>
Message-ID: <1172448983.142820.96600@k78g2000cwa.googlegroups.com>
Source record: 45475

I have some nice long fences sectioning of part of my property I am thinking about runing a dipole but the section interputed by a gate I am wodering how it would work if I put one end of the dipole on one side of the gate the other on the other side with 3feet between the 2 feedpoints?

anythoughts

1812. Re: anntennas athe top of fenceline

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 00:51:41 UTC
From: assemblywizard@gmail.com
Message-ID: <1172451101.250309.270560@t69g2000cwt.googlegroups.com>
Source record: 45476

On Feb 25, 4:16 pm, "an_old_friend" <konst...@hotmail.com> wrote:
> I have some nice long fences sectioning of part of my property I am
> thinking about runing a dipole but the section interputed by a gate I
> am wodering how it would work if I put one end of the dipole on one
> side of the gate the other on the other side with 3feet between the 2
> feedpoints?
>
> anythoughts

I hope the fence is non-metal.

How about some bamboo/fiberglass/pvc "stand offs" to lift the antenna
free and clear of the gate and anything entering/exiting--higher the
better.

JS

1813. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 02:27:38 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45e24197$0$28146$4c368faf@roadrunner.com>
Source record: 45477

"art" <aunwin@insightbb.com> wrote in message
news:1172350073.006337.104340@t69g2000cwt.googlegroups.com...
> On 24 Feb, 11:00, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
>> "art" <aun...@insightbb.com> wrote in message
>>
>> news:1172291750.013226.63400@t69g2000cwt.googlegroups.com...
>>
>>
>>
>>
>>
>> > On 23 Feb, 20:05, Gene Fuller <W4SZzzz...@att.net> wrote:
>> >> art wrote:
>> >> > On 23 Feb, 15:07, Gene Fuller <W4SZzzz...@att.net> wrote:
>>
>> >> >> To keep it simple, Gauss' Law is precisely one of the four standard
>> >> >> Maxwell Equations. Gauss' Law has been part of electromagnetics and
>> >> >> antenna theory for eons.
>>
>> >> >> As for electromechanics, who knows?
>>
>> >> >> 73,
>> >> >> Gene
>> >> >> W4SZ
>>
>> >> > Gene, forgive me if I am incorrect but I am going to assume you have
>> >> > an engineering degree and are fully conversant with the work of the
>> >> > masters. I f I am not correct then we can stop at this point
>> >> > Otherwise
>> >> > I fully recommend that you check out the web foe a book on fields
>> >> > and
>> >> > waves or something like that by a professor at Rutgers University.
>> >> > In
>> >> > chapter 21 he delves very deeply into an array consisting of four
>> >> > elements all of which are resonant.
>> >> > Ofcourse he doesn't mention anything of mine but you will notice
>> >> > that
>> >> > the array he chose is actually what I refer to as a Gaussian array
>> >> > since it meets all the requirements that I have expoused on my page.
>> >> > He doesn't use computor programs but basic mathematics to provide
>> >> > all
>> >> > the desirables plus a radiation field. This array is really a
>> >> > derivitation of one designed some 50 years ago and is the only one I
>> >> > know that exists in literature. If you study this chapter and relate

>> >> > it to what I am expousing then possible you will see things with
>> >> > fresh
>> >> > eyes. But again if you are not fully educated in this field save
>> >> > your
>> >> > self from the bother. I personaly have a program that if you isert
>> >> > any
>> >> > fugure and tell it to obtain maximim gain I assure you it will not
>> >> > produce a yagi but a gaussian array..... and I am thrilled with
>> >> > that.
>> >> > Nuff said
>> >> > Art
>>
>> >> Art,
>>
>> >> You seem to have misunderstood my point.
>>
>> >> AAALLLLLL antennas, regardless of structure, material, efficiency,
>> >> resonance, location, or phase of the moon are Gaussian. Gauss' Law is
>> >> an
>> >> integral part of classical electromagnetics. Nothing can escape.
>>
>> >> No, I do not have an engineering degree, but I do have several degrees
>> >> in physics. Unfortunately, I am significantly dumber than a rock, so I
>> >> have no more to offer in this thread.
>>
>> >> 73,
>> >> Gene
>> >> W4SZ- Hide quoted text -
>>
>> >> - Show quoted text -
>>
>> > Watch out Gene, I stated that Statics was a subset of electromagnetics
>> > and I caught hell from everybody. Seems like things are infectional
>> > around here.The book that I proferred would really be to much for a
>> > lot of people no matter how much they over estimate their abilities
>> > especially when they try to debate reasons why the writer is incorrect!
>> > When I asked for academic help regarding research I got an Email from
>> > a guy at the space antenna agency who referred me to chapter 1 and 21.
>> > I never dreamt that I would find an actual array with all elements
>> > resonant being discussed
>>
>> > Art
>>
>> STATICS, I assume you man electrostatics is not a subset of magnetism but
>> in
>> a lot a lot of ways an analogy can bee drawn between the two. For example
>> the attractive force betwen to charged particles is inversely
>> proportional
>> to the square of the distance, this is also true for magnetic particles
>> but

>> they really have nothing to do with each other.
>
> Whoooa kind sir where is that written? Thats like saying kinetic
> energy is not related to potential energy. Where on earth did that
> saying come from? I'll be on the net for a while if you want to debate
> that. I cleared all the snow off my driveway and the following day i
> went down on ice.Now my leg is wrapped up straight and I am on
> crutches. Make the rest of my day happy
> Art
>
>
>
>
>
>
>
>
>
>
>
>
> . Art sometimes I think you
>> are confusing what Gauss wrote about statistics with statics. He did a
>> lot
>> more work with mathmatics including statistics than he ever did with
>> magnatism. Your references to Gaussian field further strengthens my
>> belief
>> since Gausian field refers to a statistical distribution also known as a
>> Guassian distibution, aka normal distribution.
>>
>> Jimmie- Hide quoted text -
>>
>> - Show quoted text -
>
>I dont work for yoU AND HAVE NO ATTENTION OF WORKING FOR YOU CANT YOU GO
>OUT AND FIND SOMETHING FOR YOURSELF.

1814. Re: Is Dominator/Predetor(~6dB gain) competent to CP antennas for LPFM?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 03:02:22 UTC
From: BK <bhuvankjha@gmail.com>
Message-ID: <1172458942.390554.239110@m58g2000cwm.googlegroups.com>
Source record: 45478

On Feb 26, 3:12 am, "J. Mc Laughlin" <j...@power-net.net> wrote:
> Dear Bhuvan (no call given):
>
> If the antenna is for a LPFM station licensed by the FCC (U.S.A.), then
> tight restrictions exist on the height of the antenna. Where are you
> located?
>
> In any case, as Richard has said, one may buy an antenna for the purpose for
> less money.
>
> 73, Mac N8TT
> --
> J. Mc Laughlin; Michigan U.S.A.
> Home: J...@Power-Net.Net"BK" <bhuvank...@gmail.com> wrote in message
>
> news:1172398326.561254.290340@p10g2000cwp.googlegroups.com...
>
> > On Feb 24, 11:19 pm, Richard Clark <kb7...@comcast.net> wrote:
> > > On 24 Feb 2007 04:30:51 -0800, "BK" <bhuvank...@gmail.com> wrote:
>
> > > >I am still in doubt weather the high gain (nearly 6db not 6dBi) is a
> > > >hype.
>
> > > Hi Bhuvan,
>
> > > Doubt no longer. You can buy the 6dBi for much less from any number
> > > of other vendors. BEWARE of vendors that give their antennas "names."
> > > Product numbers are sufficient for a commodity market. Better yet,
> > > build your own. All antennas can be scaled to ANY frequency.
>
> > > The single best advice that you could accept is to raise the antenna
> > > as high as you can.
>
> > > 73's
> > > Richard Clark, KB7QHC
>
> > Thanks for your advice to raise the antenna as high as possible. I can
> > rise a 40 ft of 1 1/2 inch GI pipe on the rooftop of a four story
> > building to achieve 90ft hight for the antenna that shouldn't cost me
> > morethan $300 for the transmission of 100 watt at the transmitter
> > power. I am looking for the high gain antenna as ERP is not mesured
> > rather transmitter power is the concern here for FM transmission.
>
> > Regards,

> > Bhuvan

.....
If the antenna is for a LPFM station licensed by the FCC (U.S.A.),
then
tight restrictions exist on the height of the antenna.

Where are you located?
.....
I know the LPFM policy of FCC, that stick to ERP. But I am located in Nepal. Upon inquary to the communication ministry, the engineer there stated that they would be concerned with PEP. I can feel the concerened engineer is either having little or excessive knowledge of FM transmission. What I have seen here is that they would measure the transmission of a station as 100 Watt at the transmitter power in my case. So, often stations are built with a stacked array of broadband antennas. But I can't afford that antenna system though trying to have a cost effective antenna system to boost the ERP of my station operating at 100 Watt @ transmitter power.

Regards,
Bhuvan

1815. Issue with antenna causing instabillity

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 06:11:17 UTC
From: David <dhuisman@bigpond.net.au>
Message-ID: <9SuEh.3761$8U4.3204@news-server.bigpond.net.au>
Source record: 45479

I have just completed the design of a 151 MHz ASK transceiver.

On the bench the unit works fine with sensitivity to around -115 dBm
however, when I attach an antenna, the RSSI level increases dramatically
and it appears something may have become unstable.

I have tried a commercial ground independent antenna and a 1/4 wave whip
and the results are the same.

If I disconnect the antenna and leave the RF input floating, it behaves
properly. I can also attach a small wire (say 300mm) directly to the RF
input and it also works fine. It just plays up when I have a proper
antenna connected.

I am not sure if this may be some issue with the VSWR of the antenna
causing some instability (I tried a 3dB pad between RF input and antenna
and this did not fix the problem), or whether the input is so sensitive
that it is picking up the LO from the radio and causing regeneration ?

A Spectrum Analyser was used to determine if anything else is being
transmitted in that region and it appears to be clear to well outside
the bandwidth of my receiver.

Any ideas much appreciated for what might be happening or methods of
debugging my design.
(The circuit consists of an RF switch after the Antenna port (selects
TX/RX) then into a 50 Ohm RF Amp, followed by a tuned circuit into an
SA6505 RF IF. The LO is crystal based harmonic Butler emitter follower.

PS. I also tried bypassing the RF Amp but still no improvement.

Thanks in advance

Regards

David

1816. Re: Issue with antenna causing instabillity

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 06:24:53 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E3B126CE5E6nonenowhere@61.9.191.5>
Source record: 45480

David <dhuisman@bigpond.net.au> wrote in news:9SuEh.3761$8U4.3204@news-server.bigpond.net.au:

David,

There are a number of things that might make the amplifier perform differently if the source impedance changes, and you seem to be exploring those.

Another thought:

One of the things that a real antenna introduces to the mix (cf a signal generator) is the real world RF environment with a host of signals to mix with each other in your receiver.

A quick check for this is to see if the S/N ratio of a weak signal is improved by inserting an attenuator after the antenna. Obviously, inserting a large amount of attenuation will degrade S/N, but try 6, 10, 15dB.

You have described the selectivity of the front end as "and then a tuned circuit". Front end selectivity is very important in preventing loss of receiver sensitivity by noise from IMD in the rx front end.

Owen

> I have just completed the design of a 151 MHz ASK transceiver.
>
> On the bench the unit works fine with sensitivity to around -115 dBm
> however, when I attach an antenna, the RSSI level increases dramatically
> and it appears something may have become unstable.
>
> I have tried a commercial ground independent antenna and a 1/4 wave whip
> and the results are the same.
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> If I disconnect the antenna and leave the RF input floating, it behaves
> properly. I can also attach a small wire (say 300mm) directly to the RF
> input and it also works fine. It just plays up when I have a proper
> antenna connected.
>
> I am not sure if this may be some issue with the VSWR of the antenna
> causing some instability (I tried a 3dB pad between RF input and antenna
> and this did not fix the problem), or whether the input is so sensitive
> that it is picking up the LO from the radio and causing regeneration ?

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> transmitted in that region and it appears to be clear to well outside
> the bandwidth of my receiver.
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> Any ideas much appreciated for what might be happening or methods of
> debugging my design.
> (The circuit consists of an RF switch after the Antenna port (selects
> TX/RX) then into a 50 Ohm RF Amp, followed by a tuned circuit into an
> SA6505 RF IF. The LO is crystal based harmonic Butler emitter follower.
>
> PS. I also tried bypassing the RF Amp but still no improvement.
>
> Thanks in advance
>
> Regards
>
> David
>

1817. Re: Issue with antenna causing instabillity

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 06:51:43 UTC
From: David <dhuisman@bigpond.net.au>
Message-ID: <3svEh.3778$8U4.665@news-server.bigpond.net.au>
Source record: 45481

Owen,

Thanks for the prompt response. I'll try a step attenuator in line with
the antenna and different values of attenuation to see how these effect
noise level.

Since my post I also tried placing the receiver in a metal enclosure in
case it was picking up and regenerating the LO but this had no effect.

A simple piece of wire soldered to the antenna pads works a treat. I
don't have a variable mismatch available to see how stable the input is
for different VSWR.

Would I get an indication by soldering various values of resistance
across the antenna pads and see if the system becomes unstable again ?

Regards

David

Owen Duffy wrote:
> David <dhuisman@bigpond.net.au> wrote in news:9SuEh.3761$8U4.3204@news-
> server.bigpond.net.au:
>
> David,
>
> There are a number of things that might make the amplifier perform
> differently if the source impedance changes, and you seem to be exploring
> those.
>
> Another thought:
>
> One of the things that a real antenna introduces to the mix (cf a signal
> generator) is the real world RF environment with a host of signals to mix
> with each other in your receiver.
>
> A quick check for this is to see if the S/N ratio of a weak signal is
> improved by inserting an attenuator after the antenna. Obviously,
> inserting a large amount of attenuation will degrade S/N, but try 6, 10,
> 15dB.
>
> You have described the selectivity of the front end as "and then a tuned
> circuit". Front end selectivity is very important in preventing loss of
> receiver sensitivity by noise from IMD in the rx front end.
>
> Owen

>
>> I have just completed the design of a 151 MHz ASK transceiver.
>>
>> On the bench the unit works fine with sensitivity to around -115 dBm
>> however, when I attach an antenna, the RSSI level increases
> dramatically
>> and it appears something may have become unstable.
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> whip
>> and the results are the same.
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>> If I disconnect the antenna and leave the RF input floating, it behaves
>> properly. I can also attach a small wire (say 300mm) directly to the RF
>> input and it also works fine. It just plays up when I have a proper
>> antenna connected.
>>
>> I am not sure if this may be some issue with the VSWR of the antenna
>> causing some instability (I tried a 3dB pad between RF input and
> antenna
>> and this did not fix the problem), or whether the input is so sensitive
>> that it is picking up the LO from the radio and causing regeneration ?
>>
>> A Spectrum Analyser was used to determine if anything else is being
>> transmitted in that region and it appears to be clear to well outside
>> the bandwidth of my receiver.
>>
>> Any ideas much appreciated for what might be happening or methods of
>> debugging my design.
>> (The circuit consists of an RF switch after the Antenna port (selects
>> TX/RX) then into a 50 Ohm RF Amp, followed by a tuned circuit into an
>> SA6505 RF IF. The LO is crystal based harmonic Butler emitter follower.
>>
>> PS. I also tried bypassing the RF Amp but still no improvement.
>>
>> Thanks in advance
>>
>> Regards
>>
>> David
>>
>

1818. Re: Issue with antenna causing instabillity

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 08:17:14 UTC
From: David <dhuisman@bigpond.net.au>
Message-ID: <elwEh.3806$8U4.3629@news-server.bigpond.net.au>
Source record: 45482

I have done some more investigation and found that the input filtering
is very broad (more of a match and a filter).

I am getting quite large responses at the image frequency and a couple
of smaller but still significant responses around 145-147 MHz.

The operating frequency is 151.637 MHz but these other responses are
causing a combined rise in RSSI.

I want to be able to test the design as it is before committing to a new
PCB. Can I simply retrofit a filter in line with the antenna (The unit
transmits also but only at 20dBm).

If this is an option, do you have any suggestions for a basic circuit
that will give good attenuation below say 150 MHz.(Steep cutoff)

Thanks again

Regards

David

Owen Duffy wrote:
> David <dhuisman@bigpond.net.au> wrote in news:9SuEh.3761$8U4.3204@news-
> server.bigpond.net.au:
>
> David,
>
> There are a number of things that might make the amplifier perform
> differently if the source impedance changes, and you seem to be exploring
> those.
>
> Another thought:
>
> One of the things that a real antenna introduces to the mix (cf a signal
> generator) is the real world RF environment with a host of signals to mix
> with each other in your receiver.
>
> A quick check for this is to see if the S/N ratio of a weak signal is
> improved by inserting an attenuator after the antenna. Obviously,
> inserting a large amount of attenuation will degrade S/N, but try 6, 10,
> 15dB.
>
> You have described the selectivity of the front end as "and then a tuned
> circuit". Front end selectivity is very important in preventing loss of
> receiver sensitivity by noise from IMD in the rx front end.
>

> Owen
>
>> I have just completed the design of a 151 MHz ASK transceiver.
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>> On the bench the unit works fine with sensitivity to around -115 dBm
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> dramatically
>> and it appears something may have become unstable.
>>
>> I have tried a commercial ground independent antenna and a 1/4 wave
> whip
>> and the results are the same.
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>> If I disconnect the antenna and leave the RF input floating, it behaves
>> properly. I can also attach a small wire (say 300mm) directly to the RF
>> input and it also works fine. It just plays up when I have a proper
>> antenna connected.
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>> I am not sure if this may be some issue with the VSWR of the antenna
>> causing some instability (I tried a 3dB pad between RF input and
> antenna
>> and this did not fix the problem), or whether the input is so sensitive
>> that it is picking up the LO from the radio and causing regeneration ?
>>
>> A Spectrum Analyser was used to determine if anything else is being
>> transmitted in that region and it appears to be clear to well outside
>> the bandwidth of my receiver.
>>
>> Any ideas much appreciated for what might be happening or methods of
>> debugging my design.
>> (The circuit consists of an RF switch after the Antenna port (selects
>> TX/RX) then into a 50 Ohm RF Amp, followed by a tuned circuit into an
>> SA6505 RF IF. The LO is crystal based harmonic Butler emitter follower.
>>
>> PS. I also tried bypassing the RF Amp but still no improvement.
>>
>> Thanks in advance
>>
>> Regards
>>
>> David
>>
>

1819. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 08:24:08 UTC
From: Jeff <jeff@local.host>
Message-ID: <45e29929$0$26696$834e42db@reader.greatnowhere.com>
Source record: 45483

> To get the power delivered to the load, you must subtract
> reflected power from forward power. In your case that seems
> to be:
> Pfwd - Pref = Pload = ~Psource
> 200w - 100w = 100w = ~100w

How can that be? If the meter is basically a directional coupler then the forward power is just that. Subtracting any reflected power will just give a stupid answer. The only errors will be due to the directivity of the coupler, which will give a band of uncertainty which varies with VSWR, and the error due to the accuracy of the detectors.

My Bird does not subtract any reflected power to give a forward power reading!! It can't I need to rotate the slug to read reverse power.

73
Jeff

1820. Re: Issue with antenna causing instabillity

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 09:19:14 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E3CEB68410Fnonenowhere@61.9.191.5>
Source record: 45484

David <dhuisman@bigpond.net.au> wrote in
news:eIwEh.3806$8U4.3629@news-server.bigpond.net.au:

David,

You could try to get your hands on a tuneable bandpass filter, eg a coaxial filter can as used in repeater installations, and place it inline. If it fixes the problem, it points to IMD, and the need to design a sufficiently good filter, but not necessarily as good as the can.

Image response only doubles the ambient noise, unless you are actually hearing image signals above ambient noise levels. The lack of image rejection points to a lack of front end selectivity, but IMD noise is another mechanism that creates in band noise (and image noise) from undesired signals in the environment.

Did you do the test to see if a small amount of attenuation improves S/N, it should degrade it, but attenuation reduces IM products by more than the attenuation (two or more times, depending on the mixing process).

I suggest you need a bandpass filter, what makes you think that IM products are only below the operating frequency?

Owen

> I have done some more investigation and found that the input filtering
> is very broad (more of a match and a filter).
>
> I am getting quite large responses at the image frequency and a couple
> of smaller but still significant responses around 145-147 MHz.
>
> The operating frequency is 151.637 MHz but these other responses are
> causing a combined rise in RSSI.
>
> I want to be able to test the design as it is before committing to a
> new PCB. Can I simply retrofit a filter in line with the antenna (The
> unit transmits also but only at 20dBm).
>
> If this is an option, do you have any suggestions for a basic circuit
> that will give good attenuation below say 150 MHz.(Steep cutoff)
>
> Thanks again
>
> Regards
>
> David

>
>
> Owen Duffy wrote:
>> David <dhuisman@bigpond.net.au> wrote in
>> news:9SuEh.3761$8U4.3204@news- server.bigpond.net.au:
>>
>> David,
>>
>> There are a number of things that might make the amplifier perform
>> differently if the source impedance changes, and you seem to be
>> exploring those.
>>
>> Another thought:
>>
>> One of the things that a real antenna introduces to the mix (cf a
>> signal generator) is the real world RF environment with a host of
>> signals to mix with each other in your receiver.
>>
>> A quick check for this is to see if the S/N ratio of a weak signal is
>> improved by inserting an attenuator after the antenna. Obviously,
>> inserting a large amount of attenuation will degrade S/N, but try 6,
>> 10, 15dB.
>>
>> You have described the selectivity of the front end as "and then a
>> tuned circuit". Front end selectivity is very important in preventing
>> loss of receiver sensitivity by noise from IMD in the rx front end.
>>
>> Owen
>>
>>> I have just completed the design of a 151 MHz ASK transceiver.
>>>
>>> On the bench the unit works fine with sensitivity to around -115 dBm
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>> dramatically
>>> and it appears something may have become unstable.
>>>
>>> I have tried a commercial ground independent antenna and a 1/4 wave
>> whip
>>> and the results are the same.
>>>
>>> If I disconnect the antenna and leave the RF input floating, it
>>> behaves properly. I can also attach a small wire (say 300mm)
>>> directly to the RF input and it also works fine. It just plays up
>>> when I have a proper antenna connected.
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>>> I am not sure if this may be some issue with the VSWR of the antenna
>>> causing some instability (I tried a 3dB pad between RF input and
>> antenna
>>> and this did not fix the problem), or whether the input is so
>>> sensitive that it is picking up the LO from the radio and causing

>>> regeneration ?
>>>
>>> A Spectrum Analyser was used to determine if anything else is being
>>> transmitted in that region and it appears to be clear to well
>>> outside the bandwidth of my receiver.
>>>
>>> Any ideas much appreciated for what might be happening or methods of
>>> debugging my design.
>>> (The circuit consists of an RF switch after the Antenna port
>>> (selects TX/RX) then into a 50 Ohm RF Amp, followed by a tuned
>>> circuit into an SA6505 RF IF. The LO is crystal based harmonic
>>> Butler emitter follower.
>>>
>>> PS. I also tried bypassing the RF Amp but still no improvement.
>>>
>>> Thanks in advance
>>>
>>> Regards
>>>
>>> David
>>>
>>
>

1821. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 09:38:29 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E3D1FA28EF7nonenowhere@61.9.191.5>
Source record: 45485

"Jeff" <jeff@local.host> wrote in
news:45e29929$0$26696$834e42db@reader.greatnowhere.com:

> How can that be? If the meter is basically a directional coupler then
> the forward power is just that. Subtracting any reflected power will
> just give a stupid answer. The only errors will be due to the
> directivity of the coupler, which will give a band of uncertainty
> which varies with VSWR, and the error due to the accuracy of the
> detectors.
>
> My Bird does not subtract any reflected power to give a forward power
> reading!! It can't I need to rotate the slug to read reverse power.

Jeff, without commenting on whether Cecil's assertions are right or wrong, you seem to have some misconceptions about what is measured with your Bird (presumably 43).

The so called "forward power" and "reflected power" are notional values, but not actual power "components". The only power is the average rate at which energy passes a point, and it is in one direction or the other.

In fact the power can be calculated taking "forward power" minus "reflected power", but only in the case where the sampler is calibrated for Zo being real (as it is in a Bird 43).

My article at http://www.vk1od.net/VSWR/VSWRMeter.htm describes the operation of a Bruene type of VSWR meter and discusses the power measurement issue. Though the sampler in the Bird is different to the Bruene sampler, the Bird samples V and I in a very small region (regarded a point) and sums them in the same way as the Bruene circuit.

Owen

1822. Re: Issue with antenna causing instabillity

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 10:20:43 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns98E317DA72299doldridgsprintca@64.59.135.159>
Source record: 45486

David <dhuisman@bigpond.net.au> wrote in news:9SuEh.3761$8U4.3204@news-server.bigpond.net.au:

> I have just completed the design of a 151 MHz ASK transceiver.
>
> On the bench the unit works fine with sensitivity to around -115 dBm
> however, when I attach an antenna, the RSSI level increases dramatically
> and it appears something may have become unstable.
>
> I have tried a commercial ground independent antenna and a 1/4 wave whip
> and the results are the same.
>
> If I disconnect the antenna and leave the RF input floating, it behaves
> properly. I can also attach a small wire (say 300mm) directly to the RF
> input and it also works fine. It just plays up when I have a proper
> antenna connected.
>
> I am not sure if this may be some issue with the VSWR of the antenna
> causing some instability (I tried a 3dB pad between RF input and antenna
> and this did not fix the problem), or whether the input is so sensitive
> that it is picking up the LO from the radio and causing regeneration ?
>
> A Spectrum Analyser was used to determine if anything else is being
> transmitted in that region and it appears to be clear to well outside
> the bandwidth of my receiver.
>
> Any ideas much appreciated for what might be happening or methods of
> debugging my design.
> (The circuit consists of an RF switch after the Antenna port (selects
> TX/RX) then into a 50 Ohm RF Amp, followed by a tuned circuit into an
> SA6505 RF IF. The LO is crystal based harmonic Butler emitter follower.
>
> PS. I also tried bypassing the RF Amp but still no improvement.
>
> Thanks in advance

Have you tried putting a straight 50-ohm dummy load on it? If that causes the instability, then you need to look at the first device the signal encounters to see if it's stable in that configuration.

Otherwise, I'd look to strong nearby signals. The step attenuator should help with that. If introducing 6db of attenuation reduces the problem by

18db or so, then you have intermod problems (3rd order).

--
Dave Oldridge+
ICQ 1800667

1823. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 10:25:10 UTC
From: Jeff <jeff@local.host>
Message-ID: <45e2b588$0$26698$834e42db@reader.greatnowhere.com>
Source record: 45489

> The so called "forward power" and "reflected power" are notional values,
> but not actual power "components". The only power is the average rate at
> which energy passes a point, and it is in one direction or the other.

I am sorry, but I disagree, forward power is real and can be measured, or if you wish separated out with a circulator or isolator. What you are describing could be called 'transmitted' power or power delivered into a mismatched load, but that it different from forward power, or the power delivered by the source.

73
Jeff

1824. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 10:25:20 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns98E318A343FA7doldridgsprintca@64.59.135.159>
Source record: 45487

"Jeff" <jeff@local.host> wrote in
news:45e29929$0$26696$834e42db@reader.greatnowhere.com:

>> To get the power delivered to the load, you must subtract
>> reflected power from forward power. In your case that seems
>> to be:
>> Pfwd - Pref = Pload = ~Psource
>> 200w - 100w = 100w = ~100w
>
> How can that be? If the meter is basically a directional coupler then
> the forward power is just that. Subtracting any reflected power will
> just give a stupid answer. The only errors will be due to the
> directivity of the coupler, which will give a band of uncertainty
> which varies with VSWR, and the error due to the accuracy of the
> detectors.

Depends if the meter is before or after the tuner. If the meter is after
the tuner, then the tuner is taking reflected power and adding it to the
transmitter's contribution.

> My Bird does not subtract any reflected power to give a forward power
> reading!! It can't I need to rotate the slug to read reverse power.

If you put your bird AFTER a tuner on a line that's near 6-to-1, it will
also show twice as much power as the transmitter is putting into the
tuner. Or a bit less if the tuner is not efficient.

--
Dave Oldridge+
ICQ 1800667

1825. ICOM 706MKIIG & SGC SG-237 Smarttuner Cable Setup

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 10:29:39 UTC
From: NW_Pilot <usenet@aircraft-nospam-delivery.net>
Message-ID: <J6Cdna_yvO1hKH_YnZ2dnUVZ_silnZ2d@comcast.com>
Source record: 45488

Hello,

I am building the cable to hook up the 706MKIIG to the SG-237 smart tuner
SGC's instructions for the 230 say to use a 1000uf Cap + a 91k resistor is
this required for the SG-237 unit? or just the SG-230?

SGC's Documentation Below!

http://www.sgcworld.com/smartuneric706technote.html

http://www.sgcworld.com/Publications/Downloads/ic706connecting.pdf

1826. Re: ibeams? skyscraper grounds?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 13:01:42 UTC
From: mcalhoun@ksu.edu
Message-ID: <erulnm$fgt@unix1.cc.ksu.edu>
Source record: 45490

>>>> so how do the pro's do it??
>> hate to show my ignorance, but are the ibeams really 'ground'?

One of the BEST POSSIBLE grounds uses rebar in buried concrete;
Google for "ufer ground" and read to your heart's content.

When I had a basement built beneath my house, I installed a Ufer
ground in the footing around about half of its perimeter.

--
--Myron A. Calhoun; 2001 Dunbar Road; Manhattan, KS 66502-3907
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
NRA Life Member and Rifle, Pistol, & Home Firearm Safety Certified Instructor
Certified Instructor for the Kansas Concealed-Carry Handgun license

1827. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 13:36:22 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <snBEh.942$P47.866@newssvr22.news.prodigy.net>
Source record: 45491

Jeff wrote:
>> To get the power delivered to the load, you must subtract
>> reflected power from forward power. In your case that seems
>> to be:
>> Pfwd - Pref = Pload = ~Psource
>> 200w - 100w = 100w = ~100w
>
> How can that be? If the meter is basically a directional coupler then the
> forward power is just that. Subtracting any reflected power will just give a
> stupid answer.

Subtracting any reflected power will give the power
being delivered to the load. Power reflected from
the load is power that is NOT delivered to the load.

> The only errors will be due to the directivity of the
> coupler, which will give a band of uncertainty which varies with VSWR, and
> the error due to the accuracy of the detectors.

Consider the following example assuming a lossless
tuner and transmission line.

100W source+tuner--x--50 ohm coax-----291.42 ohm load

Assuming the tuner is properly tuned, what forward power
will a Bird read on the 50 ohm coax at point 'x'? What
reflected power? What is the net power being delivered
to the load?

> My Bird does not subtract any reflected power to give a forward power
> reading!! It can't I need to rotate the slug to read reverse power.

You're right. The operator must measure the forward power
and the reflected power and do the subtraction manually.
In the above example, the Bird will read 200w forward and
100w reflected. The operator must subtract those two values
to determine the net power delivered to the load.

This was my guess as to why the Bird was reading 200w in
the original posting. Note that a Bird between the source
and the tuner does NOT read the SWR on the transmission
line between the tuner and the load.
--
73, Cecil http://www.w5dxp.com

1828. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 16:10:49 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <45E30689.1050309@comcast.net>
Source record: 45492

Thank you.

I think it may be a common mode problem. There is no choke on the
dipole. I will bring it closer to resonance.

- Dan kb0qil

Richard Clark wrote:
> On Sun, 25 Feb 2007 07:14:54 -0800, dansawyeror
> <dansawyeror@comcast.net> wrote:
>> resonates at about 7.7 MHz.
>> On low power the tuner creates a very low SWR.
>> according to the SWR Watt meter the system
>> appears to transmit well over 200 watts.
>> When it is transmitting the SWR reads about 1.1 to 1.
>
> Hi Dan,
>
> The Meter is either not as good as you claim it to be (it doesn't
> accurately perform at low power); OR
> you have common mode problems (classic).
>
> Do you choke the dipole?
>
> 73's
> Richard Clark, KB7QHC

1829. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 16:45:36 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <Q8EEh.2670$8x.2656@newssvr14.news.prodigy.net>
Source record: 45493

dansawyeror wrote:
> I think it may be a common mode problem. There is no choke on the
> dipole. I will bring it closer to resonance.

Dan, are you measuring that power on the input or
output of the tuner? If at the output of a transceiver
with autotuner, for instance, the forward power is
the sum of the transmitter power and reflected power.
--
73, Cecil http://www.w5dxp.com

1830. Re: 60m mobile operation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 17:11:37 UTC
From: jimlux@earthlink.net
Message-ID: <1172509897.708704.81850@p10g2000cwp.googlegroups.com>
Source record: 45494

On Feb 23, 7:57 pm, Scott <acepi...@bloomer.net> wrote:
> OK, I take that answer...now, why did the FCC go with an ERP as that
> would require calculation rather than a measurement. Hard to measure
> ERP as far as I know...
>

Because ERP (or EIRP, depending on the application) is how most licensing works, because that's what's important for spectrum management in a shared band. Ham radio is somewhat unique in that the rules are applied on power somewhere in the middle of the system (i.e. in the feedline from Tx to antenna), with no limits (except for RF safety) on the radiated field strength. If you can build a 60dBi antenna and radiate 1.5 GW EIRP, you can do it. (part of that 'encouraging experimentation and advances in the radio art').

yes, commercial broadcast is regulated in terms of power output, but, since you have to do a "proof of performance" and demonstrate that you have a certain field strength at a distance, it's really regulating ERP. Change your antenna gain, and they can conceivably make you change your Tx power.

1831. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 17:14:41 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <7AEEh.949$P47.247@newssvr22.news.prodigy.net>
Source record: 45495

Owen Duffy wrote:
> The so called "forward power" and "reflected power" are notional values,
> but not actual power "components". The only power is the average rate at
> which energy passes a point, and it is in one direction or the other.

That statement depends upon the definition of "power"
being used. The IEEE Dictionary has a different
definition of power than does a physics textbook.
The net power is the average rate at which net energy
passes a point. The net power is the difference between
the forward joules/sec and the reflected joules/sec.

Instead of using the word "power", let's switch over to
the dimensions of power, i.e. "joules/second". Those
joules are indeed *actual energy components*.

The so called "forward power" is a forward traveling
EM wave containing energy moving at the speed of light.
There are indeed actual forward joules/sec moving past
a point on the transmission line.

The so called "reflected power" is a rearward traveling
EM wave containing energy moving at the speed of light.
There are indeed actual reflected joules/sec moving past
a point on the transmission line.

Note that an EM wave cannot stand still. According
to the theory of relativity, EM waves always move at
the speed of light (taking VF into account).

Standing waves consist of a forward traveling wave
containing joules/second and a reflected traveling
wave containing joules/second. The joules/second in
those two waves are supplied during the transient
power-on state. During steady-state, that energy has
not yet reached the load. But the total energy contained
in the transmission line during steady-state is exactly
the amount of energy needed to support the forward
traveling wave and the reflected traveling wave. Standing
waves would not be possible without those two real EM
wave energy components traveling in opposite directions.

At power-down, assuming the source is disconnected
from the transmission line, all of the forward wave
energy and reflected wave energy stored in the lossless
transmission line is eventually dissipated in the load.

That happens during a time when the source is supplying
zero energy.
--
73, Cecil http://www.w5dxp.com

1832. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 17:17:47 UTC
From: jimlux@earthlink.net
Message-ID: <1172510267.254985.220630@j27g2000cwj.googlegroups.com>
Source record: 45496

On Feb 23, 7:15 pm, craigm <n...@domain.invalid> wrote:
> art wrote:
>
> > Gene, forgive me if I am incorrect but I am going to assume you have
> > an engineering degree and are fully conversant with the work of the
> > masters. I f I am not correct then we can stop at this point Otherwise
> > I fully recommend that you check out the web foe a book on fields and
> > waves or something like that by a professor at Rutgers University. In
> > chapter 21 he delves very deeply into an array consisting of four
> > elements all of which are resonant.
>
> You really need to learn how to communicate your ideas. You don't know or
> won't say the author or the title of the book, or you would just have us
> guess.

Sophocles Orfanidis
"Electromagnetic Waves and Antennas"
http://www.ece.rutgers.edu/~orfanidi/ewa/

Quite a handy resource.

1833. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 17:20:53 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <i956u2ppf9jft3q08hmrd0vko2ugpv5m5h@4ax.com>
Source record: 45497

On Mon, 26 Feb 2007 08:10:49 -0800, dansawyeror
<dansawyeror@comcast.net> wrote:

>I think it may be a common mode problem. There is no choke on the
>dipole. I will bring it closer to resonance.

Hi Dan,

One very simple test is to fire up your rig and note the SWR. Patch in a short, loose length of transmission line to the existing run (about an eighth wave) and fire up the rig again.

Did the SWR change?

If so, you are being SWR whipped by Common Mode currents.

You can keep introducing different lengths of line until you find 1:1 (unlikely, but perhaps close) and let it go at that. This will be a single frequency solution, but take care that it does NOT cure Common Modality. Instead, it adds a vertical component to your transmission (maybe).

This is not always good as that same transmission line (plus extension) may run past RF sensitive devices (like intercoms, VCRs, light dimmers, etc.) that go whacko. It may also fill in the nulls of your dipole (sometimes good, sometimes bad).

73's
Richard Clark, KB7QHC

1834. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 17:32:17 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <dq56u2l4bjd437ad0bbi8vnod889ur9po7@4ax.com>
Source record: 45498

On Mon, 26 Feb 2007 10:25:10 -0000, "Jeff" <jeff@local.host> wrote:

>I am sorry, but I disagree

Hi Jeff,

Your appologies aside, it is the convention you are disagreeing with.
The injection of such terminology as
>'transmitted' power
is not part of conventional usage in this discussion. The trap here
of inventing terms is that your term would not account for Ohmic loss
as either forward or reverse power in the balance sheet (and this loss
could well be the source of mismatch); and yet this loss would have a
definite impact on what is "transmitted."

A simple instance proves this. Add a 14 Ohm resistor in series at the
feed to a perfect quarterwave radiator. The reverse reading would be
nada, the forward reading would NOT be "transmitted" power. Further,
the conventional usage of terms seen in this thread would still be
accurate.

73's
Richard Clark, KB7QHC

1835. Re: 60m mobile operation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 17:37:46 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <vi66u2p3rnhts65j9hlfnassui5r7lohn5@4ax.com>
Source record: 45499

On Sat, 24 Feb 2007 03:57:24 +0000, Scott <acepilot@bloomer.net>
wrote:

>OK, I take that answer...now, why did the FCC go with an ERP as that
>would require calculation rather than a measurement. Hard to measure
>ERP as far as I know...

Hi Scott,

This never intimidated the FCC when they handed me tests for
RadioTelephone Second and First Class. In this group, we can account
for ERP by using modeling tools such as EZNEC. This and other
modeling tools generally agree with measurements found in the field.

73's
Richard Clark, KB7QHC

1836. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 18:10:42 UTC
From: Jeff <jeff@local.host>
Message-ID: <45e322a1$0$26695$834e42db@reader.greatnowhere.com>
Source record: 45500

"> Your appologies aside, it is the convention you are disagreeing with.

I think that most engineers would disagree, what you are describing is the power delivered into the load, both forward and reverse power exist both by convention and as a real entity.

> The injection of such terminology as
>>'transmitted' power
> is not part of conventional usage in this discussion.

Perhaps that is sloopy wording on my part, I sould have said 'power transmitted to the load'; I was not implying radiated power.

73
Jeff

1837. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 18:29:39 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <6m96u2phfbpe6l3a9hpgu0lf33i9fulj86@4ax.com>
Source record: 45501

On Mon, 26 Feb 2007 18:10:42 -0000, "Jeff" <jeff@local.host> wrote:

>what you are describing is the
>power delivered into the load,

Hi Jeff,

Perhaps you should re-read your original complaint.

>Perhaps that is sloopy wording on my part

So it would seem. ;-)

73's
Richard Clark, KB7QHC

1838. Re: Antenna to cover AM broadcast to 999 mhz?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 18:33:09 UTC
From: Tam/WB2TT <t-tammaru@c0mca$t.net>
Message-ID: <zLKdnXob5lFLun7YnZ2dnUVZ_tOmnZ2d@comcast.com>
Source record: 45502

"ve2cjw" <ve2cjw@videotron.ca> wrote in message
news:1172204119.314906.84820@a75g2000cwd.googlegroups.com...
> What would be the best combination to cover that frequency range in
> receive only? Would a 100 feet dipole with a discone cover it? Any
> other suggestions? Thanks.
> Mike.
>
A 100 foot dipole will work great on the broadcast band, and for receiving,
will be usable up to around 30 MHz. You will need at least 1 other antenna.
A 20 - 1000 MHz discone won't work very well, compared to a beam cut for a
particular frequency, but is probably the simplest way to go.

Tam

1839. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 19:04:43 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <fbGEh.3841$re4.3420@newssvr12.news.prodigy.net>
Source record: 45503

Jeff wrote:
> Perhaps that is sloopy wording on my part, I sould have said 'power
> transmitted to the load'; I was not implying radiated power.

Indeed, "transmitted power" could simply mean power
from the transmitter, i.e. "source power".
--
73, Cecil http://www.w5dxp.com

1840. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 19:24:23 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E4412B7A345nonenowhere@61.9.191.5>
Source record: 45504

"Jeff" <jeff@local.host> wrote in
news:45e2b588$0$26698$834e42db@reader.greatnowhere.com:

>> The so called "forward power" and "reflected power" are notional
>> values, but not actual power "components". The only power is the
>> average rate at which energy passes a point, and it is in one
>> direction or the other.
>
> I am sorry, but I disagree, forward power is real and can be measured,
> or if you wish separated out with a circulator or isolator. What you
> are describing could be called 'transmitted' power or power delivered
> into a mismatched load, but that it different from forward power, or
> the power delivered by the source.

Jeff,

You dropped a number of terms here:
- 'transmitted' power;
- power delivered into a mismatched load;
- forward power;
- power delivered by the source;

The power delivered to a load (of any kind) from a lossless transmission line section, is the same as the power delivered by the source. In the case of the lossy line, then the line characteristics and load impedance also need to be taken into account to calculate the power lost in the line section, and it is not as simple as using up a dB/100' rating in a table (unless the line is matched).

You assertion that you have travelling forward and reflected power waves on the transmission line runs into a problem when you try to analyse the combination of both at a point (eg the input to the line) as power doesn't combine vectorially.

When you devise configurations with circulators, isolaters, directional couplers, hybrids etc to "trap and reroute" reflected power, you have probably changed the nature of the load on a line section and that accounts for why the reflected power seems to have been isolated from forward power.

Owen

1841. Re: LQQKING FOR INFO ON TAPE ANTENNA

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 19:46:40 UTC
From: Fred McKenzie <fmmck@aol.com>
Message-ID: <fmmck-CCDE48.14463926022007@nntp.aioe.org>
Source record: 45505

In article <HpedndwJY87tok7YnZ2dnUVZ_vOlnZ2d@adelphia.com>,
"John Doe" <hgorden@adelphia.net> wrote:

> LQQking for a source of a TAPE antenna. Unit has center mounting, and both
> arms are tapes unwinding from the center.
> This antenna can be used on both HF & VHF.

John-

I don't think they are in production any longer. Look for a Telex
Hy-Gain model 18TD Tape Doublet or a Hy-Gain model H-4000 Portable Reel
Tape Doublet Antenna. I think there was also a Mil-Spec version.

These antennas have a scale in meters on each tape, and came with a
meter to frequency conversion chart. The instructions claim a frequency
range of 3.5 to 30 MHz. You could adjust the elements to VHF lengths,
but the wound-up tape may interfere with the antenna's operation.

73,
Fred
K4DII

1842. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 19:53:04 UTC
From: Jeff <jeff@local.host>
Message-ID: <45e33a9f$0$26696$834e42db@reader.greatnowhere.com>
Source record: 45506

"

> The power delivered to a load (of any kind) from a lossless transmission
> line section, is the same as the power delivered by the source.

So it is your contention that power is not reflected at a mismatch. The wave certainly is so the power contained in the reflected portion must be as well.

> You assertion that you have travelling forward and reflected power waves
> on the transmission line runs into a problem when you try to analyse the
> combination of both at a point (eg the input to the line) as power
> doesn't combine vectorially.

I was not trying to analyse the combination of any wave on the line ("power" waves, whatever they may be, or anything else), I was merely noting that you can quantify and measure the power contained the both the forward and reflected waves and they are real quantities.

Jeff

1843. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 20:03:25 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <i2HEh.19$iw4.12@newssvr23.news.prodigy.net>
Source record: 45507

Owen Duffy wrote:
> You assertion that you have travelling forward and reflected power waves
> on the transmission line runs into a problem when you try to analyse the
> combination of both at a point (eg the input to the line) as power
> doesn't combine vectorially.

But it does combine according to the following formula
which is the irradiance equation from the field of
optics.

Ptot = P1 + P2 + 2*SQRT(P1*P2)cos(A)

where 'A' is the angle between V1 and V2 and V1 is
the voltage associated with P1 and V2 is the voltage
associated with P2.

The first time I saw this equation was in Dr. Best's
Nov/Dec 2001 QEX article on Transmissions Lines. It
really does work for "adding" the two powers in two
coherent waves.
--
73, Cecil http://www.w5dxp.com

1844. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 20:12:09 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <uaHEh.20$iw4.4@newssvr23.news.prodigy.net>
Source record: 45508

Jeff wrote:
> I was not trying to analyse the combination of any wave on the line ("power"
> waves, whatever they may be, or anything else), I was merely noting that you
> can quantify and measure the power contained the both the forward and
> reflected waves and they are real quantities.

The joules/sec are real quantities but whether joules/sec
is power depends upon the definition of "power". Some say
the joules/sec in a reflected wave is not power and they
produce a definition of "power" from a physics book to
prove it, i.e. no work done. To satisfy the purists you
may need to change your statement to: "I was merely noting
that you can quantify and measure the joules/sec contained
in both the forward and reflected waves and they are real
quantities."
--
73, Cecil http://www.w5dxp.com

1845. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 20:20:24 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E44AAAF297Enonenowhere@61.9.191.5>
Source record: 45509

Cecil Moore <mycall@hotmail.com> wrote in
news:i2HEh.19$iw4.12@newssvr23.news.prodigy.net:

> Owen Duffy wrote:
>> You assertion that you have travelling forward and reflected power
>> waves on the transmission line runs into a problem when you try to
>> analyse the combination of both at a point (eg the input to the line)
>> as power doesn't combine vectorially.
>
> But it does combine according to the following formula
> which is the irradiance equation from the field of
> optics.
>
> Ptot = P1 + P2 + 2*SQRT(P1*P2)cos(A)
>
> where 'A' is the angle between V1 and V2 and V1 is
> the voltage associated with P1 and V2 is the voltage
> associated with P2.

Cecil,

A is not a property of P1 or P2, and cannot be derived from them. I
maintain that you cannot vectorially combine P1 and P2.

Owen

1846. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 20:38:00 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E44DA6DF869nonenowhere@61.9.191.5>
Source record: 45510

"Jeff" <jeff@local.host> wrote in
news:45e33a9f$0$26696$834e42db@reader.greatnowhere.com:

>
> "
>> The power delivered to a load (of any kind) from a lossless
>> transmission line section, is the same as the power delivered by the
>> source.
>
> So it is your contention that power is not reflected at a mismatch.
> The wave certainly is so the power contained in the reflected portion
> must be as well.

The danger in the "power is refelected at a mismatch" explanation, is
that it follows that power reflected at a mismatched antenna flows back
toward the transmitter and is at least partially absorbed in the PA as
heat. Though that is a popular belief, it is not supported by fact.

The power at a point in a transmission line is P=real(V*conjugate(I)).
This expands to four terms, and people arbitrarily allocate the terms
forward power and reflected power to just two of the four terms because
they happen to be VfIf and VrIr.

>
>> You assertion that you have travelling forward and reflected power
>> waves on the transmission line runs into a problem when you try to
>> analyse the combination of both at a point (eg the input to the line)
>> as power doesn't combine vectorially.
>
> I was not trying to analyse the combination of any wave on the line
> ("power" waves, whatever they may be, or anything else), I was merely
> noting that you can quantify and measure the power contained the both
> the forward and reflected waves and they are real quantities.

The Bird 43 does not measure power directly, it responds to Vf or Vr
components at a point as explained in the article I quoted. The article
deals with the conditions under which readings can be converted to power,
and whether forward power or reverse power are of themselves meaninful.

If you have read it and disagree, then thats ok. If you can identify
flaws in the article, constructive feedback is welcome.

Owen

1847. Re: Issue with antenna causing instabillity

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 20:56:44 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45e34584$0$1386$4c368faf@roadrunner.com>
Source record: 45511

"David" <dhuisman@bigpond.net.au> wrote in message
news:9SuEh.3761$8U4.3204@news-server.bigpond.net.au...
>I have just completed the design of a 151 MHz ASK transceiver.
>
> On the bench the unit works fine with sensitivity to around -115 dBm
> however, when I attach an antenna, the RSSI level increases dramatically
> and it appears something may have become unstable.
>
> I have tried a commercial ground independent antenna and a 1/4 wave whip
> and the results are the same.
>
> If I disconnect the antenna and leave the RF input floating, it behaves
> properly. I can also attach a small wire (say 300mm) directly to the RF
> input and it also works fine. It just plays up when I have a proper
> antenna connected.
>
> I am not sure if this may be some issue with the VSWR of the antenna
> causing some instability (I tried a 3dB pad between RF input and antenna
> and this did not fix the problem), or whether the input is so sensitive
> that it is picking up the LO from the radio and causing regeneration ?
>
> A Spectrum Analyser was used to determine if anything else is being
> transmitted in that region and it appears to be clear to well outside the
> bandwidth of my receiver.
>
> Any ideas much appreciated for what might be happening or methods of
> debugging my design.
> (The circuit consists of an RF switch after the Antenna port (selects
> TX/RX) then into a 50 Ohm RF Amp, followed by a tuned circuit into an
> SA6505 RF IF. The LO is crystal based harmonic Butler emitter follower.
>
> PS. I also tried bypassing the RF Amp but still no improvement.
>
> Thanks in advance
>
> Regards
>
> David

I had a similar problem once. The RX would pick up everything form DC to
daylight, lots of interference from local broadcast AM stations. Problem was
a shorted bypass cap in he second stage of the RF amp. This stage was
suppose to be operating at near unity but with the shorted cap it was
operating at near 20db overloading the rx and sometimes breaking into

oscilation. Also check the output of the LO for harmonic content. Harmonics. may not seem to be a noticable problem when the rx is connected to a signal generator but could be a major issue when the radio is connected to an antenna.

1848. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 21:34:20 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <wnIEh.2899$8x.278@newssvr14.news.prodigy.net>
Source record: 45512

Owen Duffy wrote:
> A is not a property of P1 or P2, and cannot be derived from them. I
> maintain that you cannot vectorially combine P1 and P2.

P1 is a property of V1^2/Z0, A is a property of V1.
P2 is a property of V2^2/Z0, A is a property of V2.
There is an unbroken chain of cause and effect.
It is true that one cannot directly vectorially
combine P1 and P2 because P1 and P2 are not vectors.

However, the ability to combine the P1 and P2 of
coherent EM waves dates back to before you were born.
Optical engineers didn't have the luxury of being
able to measure the phase angles. All they could
measure was the total amplitude. Please don't try
to tell us that their total amplitude measurements
were wrong throughout the 20th century and are
still wrong in the 21st century.

The rules for combining P1 and P2 when they are
coherent are known as the irradiance equations in
optics. Dr. Best applied them to RF quantities.
Please reference "Optics", by Hecht, 4th edition,
page 388 and Dr. Best's, "Wave Mechanics of Transmission
Lines, Part 3: ..." in the Nov/Dec 2001 issue of "QEX".
--
73, Cecil http://www.w5dxp.com

1849. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 21:38:39 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <BrlEh.31$iw4.14@newssvr23.news.prodigy.net>
Source record: 45513

Owen Duffy wrote:
> The danger in the "power is refelected at a mismatch" explanation, is
> that it follows that power reflected at a mismatched antenna flows back
> toward the transmitter and is at least partially absorbed in the PA as
> heat. Though that is a popular belief, it is not supported by fact.

That only applies to mismatched systems. For systems
Z0-matched by an antenna tuner, the situation becomes
trivial to understand. The reflected energy is re-
reflected by the Z0-match provided by the properly
tuned antenna tuner. It's all explained in my energy
analysis article at: http://www.w5dxp.com/energy.htm
--
73, Cecil http://www.w5dxp.com

1850. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 21:54:18 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E45A967C36Bnonenowhere@61.9.191.5>
Source record: 45514

Cecil Moore <mycall@hotmail.com> wrote in news:wnIEh.2899$8x.278
@newssvr14.news.prodigy.net:

> Owen Duffy wrote:
>> A is not a property of P1 or P2, and cannot be derived from them. I
>> maintain that you cannot vectorially combine P1 and P2.
>
...
> It is true that one cannot directly vectorially
> combine P1 and P2 because P1 and P2 are not vectors.

Thanks

...

1851. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 22:08:54 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <WTIEh.2905$8x.2646@newssvr14.news.prodigy.net>
Source record: 45515

Owen Duffy wrote:
> Cecil Moore <mycall@hotmail.com> wrote in news:wnIEh.2899$8x.278
>> It is true that one cannot directly vectorially
>> combine P1 and P2 because P1 and P2 are not vectors.
>
> Thanks

That doesn't mean that there are not valid rules for
combining P1 and P2. Optical engineers have been doing
it for decades. RF engineers seem to lag behind.

You seemed to be questioning the validity of the power
combination equation. Have you changed your mind?
--
73, Cecil http://www.w5dxp.com

1852. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 22:14:23 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E45DFE1D313nonenowhere@61.9.191.5>
Source record: 45516

Cecil Moore <mycall@hotmail.com> wrote in
news:BrIEh.31$iw4.14@newssvr23.news.prodigy.net:

> Owen Duffy wrote:
>> The danger in the "power is refelected at a mismatch" explanation, is
>> that it follows that power reflected at a mismatched antenna flows
>> back toward the transmitter and is at least partially absorbed in the
>> PA as heat. Though that is a popular belief, it is not supported by
>> fact.
>
> That only applies to mismatched systems. For systems
> Z0-matched by an antenna tuner, the situation becomes
> trivial to understand. The reflected energy is re-
> reflected by the Z0-match provided by the properly
> tuned antenna tuner. It's all explained in my energy
> analysis article at: http://www.w5dxp.com/energy.htm

Cecil, it seems that between the two of you, you are constructing a picture that (in a lossless line for simplicity) if the Bird 43 reads 100W forward and 50 watts reflected, the power radiated (ignoring antenna ohmic losses) is 100W, but 50W is reflected toward the transmitter... but that's allright because the 50W will be reflected by a Zo matched PA, and energy is conserved on the line.

The reality is that the Bird responds to Vf and Vr (depending on the orientation of the slug), and in the special case where the sampler is calibrated to respond to |Vf| and |Vr| for a purely real ratio of V/I (Zn=Rn+j0 which is 50+j0 in the case of the '43), on the line at the point of the sampler, then the average power passing that point is a single number, it is |Vf|^2/Rn-|Vr|^2/Rn. The foward and reflected power readings are not meaningful in themselves, but you can deconstruct rho, and (knowing Zn) |Vf| and |Vr| from them.

Owen

1853. Now theres a reciever I'd like to homebrew an antenna for ...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 22:26:17 UTC
From: "J. Smith I" <assemblywizard10@yahoo.com>
Message-ID: <ervmq1$bc7$1@aioe.org>
Source record: 45517

http://www.universal-radio.com/catalog/widerxvr/0095.html

5 kHz to 3335 MHz coverage (less cellular).

JS

1854. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 22:33:20 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <QeJEh.2909$8x.1740@newssvr14.news.prodigy.net>
Source record: 45518

Owen Duffy wrote:
> Cecil, it seems that between the two of you, you are constructing a
> picture that (in a lossless line for simplicity) if the Bird 43 reads
> 100W forward and 50 watts reflected, the power radiated (ignoring
> antenna ohmic losses) is 100W, but 50W is reflected toward the
> transmitter... but that's allright because the 50W will be reflected by
> a Zo matched PA, and energy is conserved on the line.

Please don't insult our intelligence. If the Bird reads
100w forward and 50w reflected, the power radiated by
the antenna is 50w, neglecting losses.

Pload = Pfor - Pref

The situation at the output of a lossless tuner is:

Pfor = Psource + Pref

Please honor the conservation of energy principle in your
postings.
--
73, Cecil http://www.w5dxp.com

1855. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 23:00:15 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E465C488D40nonenowhere@61.9.191.5>
Source record: 45519

Cecil Moore <mycall@hotmail.com> wrote in news:QeJEh.2909$8x.1740
@newssvr14.news.prodigy.net:

> Owen Duffy wrote:
>> Cecil, it seems that between the two of you, you are constructing a
>> picture that (in a lossless line for simplicity) if the Bird 43 reads
>> 100W forward and 50 watts reflected, the power radiated (ignoring
>> antenna ohmic losses) is 100W, but 50W is reflected toward the
>> transmitter... but that's allright because the 50W will be reflected
by
>> a Zo matched PA, and energy is conserved on the line.
>
> Please don't insult our intelligence. If the Bird reads

Of course it is nonsense, but it is a logical development based on Jeff's
words "What you are describing could be called 'transmitted' power or
power delivered into a mismatched load, but that it different from
forward power, or the power delivered by the source" and your words "For
systems
Z0-matched by an antenna tuner, the situation becomes trivial to
understand. The reflected energy is re-reflected by the Z0-match provided
by the properly tuned antenna tuner".

The steady state solution of the ratio of V/I at the input to a real
transmission line section (ie lossy) that has a load of some arbitrary
impedance is solved using equations that do not include forward and
reflected power terms. The power at any point is the real part of
V*conjugate(I) at that point, no matter whether it is at the source,
load, line input, output or anywhere along the line.

Owen

1856. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 23:08:49 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <a3q6u258ajcae732itb03imk5bjl4k0j0s@4ax.com>
Source record: 45520

On Mon, 26 Feb 2007 20:38:00 GMT, Owen Duffy <none@no.where> wrote:

>The danger in the "power is refelected at a mismatch" explanation, is
>that it follows that power reflected at a mismatched antenna flows back
>toward the transmitter and is at least partially absorbed in the PA as
>heat. Though that is a popular belief, it is not supported by fact.

Hi Owen,

This denies experience.

73's
Richard Clark, KB7QHC

1857. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 23:18:39 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <jVJEh.2385$m85.457@newssvr29.news.prodigy.net>
Source record: 45521

Owen Duffy wrote:
> Of course it is nonsense, but it is a logical development based on Jeff's
> words ...

Please don't blame me for someone else's words.

The irradiance (power) equations from optical engineering
for the combining of electromagnetic power from two EM waves
are accepted as a fact of physics. Do you really think that
the amateur radio community should reject that fact
of physics?
--
73, Cecil http://www.w5dxp.com

1858. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 23:24:13 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E469D4D3FA8nonenowhere@61.9.191.5>
Source record: 45522

Richard Clark <kb7qhc@comcast.net> wrote in
news:a3q6u258ajcae732itb03imk5bjl4k0j0s@4ax.com:

> On Mon, 26 Feb 2007 20:38:00 GMT, Owen Duffy <none@no.where> wrote:
>
>>The danger in the "power is refelected at a mismatch" explanation, is
>>that it follows that power reflected at a mismatched antenna flows back
>>toward the transmitter and is at least partially absorbed in the PA as
>>heat. Though that is a popular belief, it is not supported by fact.
>
> Hi Owen,
>
> This denies experience.

Do you mean the experience that the PA may (but not necessarily) run
hotter on other than its rated load impedance?

Could that be exlained without introducing transmission lines and the
reflected power issue by examining how the PA works on a load different
to its rated load?

I suggest that if a PA / line / load situation transforms the actual load
to some arbitrary impedance Z at the PA end of the line, the PA will
peform exactly as if the PA were directly loaded by a lumped constant
load of Z. The explanation of any heating effects or changed operating
voltages is in the effect of the load impedance Z (however it is
obtained) on the PA.

Does that make sense?

Owen

1859. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-26 23:48:13 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <1lKEh.2388$m85.2216@newssvr29.news.prodigy.net>
Source record: 45523

Owen Duffy wrote:
> I suggest that if a PA / line / load situation transforms the actual load
> to some arbitrary impedance Z at the PA end of the line, the PA will
> peform exactly as if the PA were directly loaded by a lumped constant
> load of Z.

Yes, that is true for the performance of the PA.
Certainly not true for the performance of the
transmission line or antenna.

My favorite quotation by an antenna guru on this
newsgroup is that "a 50 ohm antenna can be replaced
by a 50 ohm resistor without changing anything".
If that were true, we don't need antennas. :-)

I'm going to be away from my computer for 48 hours.
--
73, Cecil http://www.w5dxp.com

1860. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 00:02:47 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E4705ECD9Enonenowhere@61.9.191.5>
Source record: 45524

Cecil Moore <mycall@hotmail.com> wrote in
news:jVJEh.2385$m85.457@newssvr29.news.prodigy.net:

> Owen Duffy wrote:
>> Of course it is nonsense, but it is a logical development based on
>> Jeff's words ...
>
> Please don't blame me for someone else's words.

A selective partial quotation to misrepesent what was actually written
Cecil!

Owen

1861. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 00:11:00 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E471C362B0nonenowhere@61.9.191.5>
Source record: 45525

Cecil Moore <mycall@hotmail.com> wrote in
news:1lKEh.2388$m85.2216@newssvr29.news.prodigy.net:

> Owen Duffy wrote:
>> I suggest that if a PA / line / load situation transforms the actual
>> load to some arbitrary impedance Z at the PA end of the line, the PA
>> will peform exactly as if the PA were directly loaded by a lumped
>> constant load of Z.
>
> Yes, that is true for the performance of the PA.
> Certainly not true for the performance of the
> transmission line or antenna.
>

Please explain?

Owen

1862. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 00:24:09 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <k8u6u2t1fh1s9u70ikpp8btmckd7kvn2j8@4ax.com>
Source record: 45376

On Mon, 26 Feb 2007 23:24:13 GMT, Owen Duffy <none@no.where> wrote:

>Could that be exlained without introducing transmission lines and the
>reflected power issue by examining how the PA works on a load different
>to its rated load?

Hi Owen,

Let's treat this like the Chinese Box problem.

If you didn't know what the load was, could you explain it any
differently? No. Apriori knowledge is not a proof.

73's
Richard Clark, KB7QHC

1863. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 01:07:12 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E47B4A56430nonenowhere@61.9.191.5>
Source record: 45377

Richard Clark <kb7qhc@comcast.net> wrote in
news:k8u6u2t1fh1s9u70ikpp8btmckd7kvn2j8@4ax.com:

> On Mon, 26 Feb 2007 23:24:13 GMT, Owen Duffy <none@no.where> wrote:
>
>>Could that be exlained without introducing transmission lines and the
>>reflected power issue by examining how the PA works on a load different
>>to its rated load?
>
> Hi Owen,
>
> Let's treat this like the Chinese Box problem.
>
> If you didn't know what the load was, could you explain it any
> differently? No. Apriori knowledge is not a proof.

Richard, I content that:
- the power output of the PA; and
- the efficiency of the PA may be (and usually are) sensitive to the load impedance.

A steady state analysis is usually adequate for most ham radio applications, though there may be cases where establishment of steady state brings its own issues. This discussion is about the steady state.

Though it is often asserted that the PA will get hotter as a result of "reflected power" being dissipated in the dynamic output impedance of the PA, and that this may / will damage the PA, the power explanation doesn't work numerically in the general case.

The constrained ratio of V/I is an aspect of the field setup in a transmission line, and the launching of a reflected wave to reconcile the load V/I with the constrained (Vf+Vr)/If-Ir) at the load end of the line is a solution for what happens on the transmission line. At the source end of the line, (Vf+Vr)/If-Ir) at that point (a function of (Vf+Vr)/If-Ir at the load end, and the complex propagation coefficient and Zo of the line) give us the equivalent (complex) impedance seen by the PA, and we can predict / explain the behaviour of the PA (maximum power out, efficiency) on that equivalent load. This method of analysis does work numerically.

Owen

1864. Radials

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 01:18:35 UTC
From: ricknj10@hotmail.com
Message-ID: <45e38697.18772812@news.optonline.net>
Source record: 45378

Is there any danger that the ends of my verticals radials could set the leaves in the woods afire? There's high voltage there at the ends, right?

Rick K2XT

1865. Re: I Built the 10m Sleeve Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 03:44:59 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <%ONEh.47920$pe4.20038@newsfe06.phx>
Source record: 45379

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:xlhEh.1387$m85.844@newssvr29.news.prodigy.net...
> Sal M. Onella wrote:
> > I'm starting to think in terms of Smith charts, which I never thought I
> > would need or use. Surprise!
>
> Carrying a Smith Chart around in your head is a
> good way to conceptualize transmission line and
> antenna configurations.
> --
> 73, Cecil http://www.w5dxp.com

Yes. I have seen a lot of Smith charts for broadband Navy shipboard antennas. The people who match them obviously have to do a chart for the raw antenna in place on the ship, then design and adjust a matching network, followed by a chart of the results, with every point inside the 3:1 (or 4:1) circle. Their efforts are generally documented in the ships' antenna files.

I agree about the Smith chart for conceptualizing but at this stage, I am just a Smith baby.

Back on topic, I am using the sleeve in a conventional dipole configuration until I can take the time to apply the ideas presented in this NG. I noticed this afternoon that coiling four turns of decoupling loop a few feet from the feed actually raised the VSWR, which I didn't understand. Also, where the coax hangs down next to the antenna makes a difference in the VSWR, so obviously the line is not "flat" and is instead part of the antenna. (Do we still use the term "flat" to describe a transmission line which is properly matched to the load? I recall it from Navy training more than 40 years ago.) My first HF antenna works, but it's clearly no marvel.

1866. Re: I Built the 10m Sleeve Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 04:23:41 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E49C9A31F80nonenowhere@61.9.191.5>
Source record: 45380

"Sal M. Onella" <salmonella@food.poisoning.org> wrote in
news:%ONEh.47920$pe4.20038@newsfe06.phx:

>
> "Cecil Moore" <mycall@hotmail.com> wrote in message
> news:xlhEh.1387$m85.844@newssvr29.news.prodigy.net...
>> Sal M. Onella wrote:
>> > I'm starting to think in terms of Smith charts, which I never
>> > thought I would need or use. Surprise!
>>
>> Carrying a Smith Chart around in your head is a
>> good way to conceptualize transmission line and
>> antenna configurations.
>> --
>> 73, Cecil http://www.w5dxp.com
>
> Yes. I have seen a lot of Smith charts for broadband Navy shipboard
> antennas. The people who match them obviously have to do a chart for
> the raw antenna in place on the ship, then design and adjust a
> matching network, followed by a chart of the results, with every point
> inside the 3:1 (or 4:1) circle. Their efforts are generally
> documented in the ships' antenna files.
>
> I agree about the Smith chart for conceptualizing but at this stage, I
> am just a Smith baby.
>
> Back on topic, I am using the sleeve in a conventional dipole
> configuration until I can take the time to apply the ideas presented
> in this NG. I noticed this afternoon that coiling four turns of
> decoupling loop a few feet from the feed actually raised the VSWR,
> which I didn't understand. Also, where the coax hangs down next to
> the antenna makes a difference in the VSWR, so obviously the line is
> not "flat" and is instead part of the antenna. (Do we still use the
> term "flat" to describe a transmission line which is properly matched
> to the load? I recall it from Navy training more than 40 years ago.)

Yes, I think that the meaning taken for a "flat line" is one with 1:1 or
close VSWR, flat to mean the magnitude of the voltage (or current) is
approximately constant all all positions on the line, and that describes
only what is happening on the inside of the line. That doesn't preclude
current flowing on the outside of the line which seems to be your issue.
I won't confuse you with examples of where the outside of the line is
intended to carry current and at the same time the VSWR is low, but it is
possible and sometimes desired.

I agree with you that if you change the feedline routing physically, and you see a consequent change in VSWR, that suggests the outside of the feedline carries current and is part of the radiating system, and I don't think that is what you want.

> My first HF antenna works, but it's clearly no marvel.

Look upon it as an opportunity for learning. After all, what would you do if it just worked?

Owen

1867. Re: Ferrite rod antenna for ne602 mixer

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 05:43:00 UTC
From: Bill Bowden <wrongaddress@att.net>
Message-ID: <1172554980.727057.116500@8g2000cwh.googlegroups.com>
Source record: 45381

On Feb 21, 4:44 am, "Denny" <k...@mailblocks.com> wrote:
> try herehttp://home.att.net/~ray.l.cross/murod_mm/
>
> denny / k8do

Thanks for the link. Interesting but a little bit advanced for me.

I talked with an RF engineer who worked for Collins radio who suggested just using a JFET buffer between the antenna rod and the mixer input so the impedance matching problem would go away, and I would get much more signal since the antenna rod will see an open circuit (no load) and have maximum Q.

He was right, and I was able to get about 18dB more signal from the antenna rod without using any additional windings. But I had to add a JFET, resistor, and two caps.

-Bill

1868. Re: I Built the 10m Sleeve Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 05:57:03 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <QKPEh.52207$1H5.2175@newsfe16.phx>
Source record: 45382

"Owen Duffy" <none@no.where> wrote in message
news:Xns98E49C9A31F80nonenowhere@61.9.191.5...

>
> Look upon it as an opportunity for learning. After all, what would you do
> if it just worked?

Head off to another band, perhaps? Make more and start passing them out?
But you're right, of course. I still have three or four suggestions to try
for the sleeve.

1869. Re: I Built the 10m Sleeve Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 05:58:06 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E4AC9C6726Dnonenowhere@61.9.191.5>
Source record: 45383

"Sal M. Onella" <salmonella@food.poisoning.org> wrote in
news:%ONEh.47920$pe4.20038@newsfe06.phx:

> Back on topic, I am using the sleeve in a conventional dipole
> configuration until I can take the time to apply the ideas presented
> in this NG. I noticed this afternoon that coiling four turns of
> decoupling loop a few feet from the feed actually raised the VSWR,
> which I didn't understand. Also, where the coax hangs down next to
> the antenna makes a difference in the VSWR, so obviously the line is
> not "flat" and is instead part of the antenna. (Do we still use the
> term "flat" to describe a transmission line which is properly matched
> to the load? I recall it from Navy training more than 40 years ago.)
> My first HF antenna works, but it's clearly no marvel.

I just read your first posting. It sounds like you are building what I refer to as a coaxial dipole. The key to success with coaxial dipoles is decoupling the feedline. A common configuration is to place a set of radials, or a quarter wave choke to be effective a quarter wave below the bottom of the dipole lower element... this actually attempts to reduce current below the radials, and uses the quarter wave of feedline above the radials as part of the radiator for a little more gain.

IIRC, the ARRL had some suggestions about decoupling a coaxial dipole.

Owen

1870. Re: I Built the 10m Sleeve Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 06:22:20 UTC
From: "J. Smith I" <assemblywizard10@yahoo.com>
Message-ID: <es0imi$4si$1@aioe.org>
Source record: 45384

Sal M. Onella wrote:
> "Owen Duffy" <none@no.where> wrote in message
> news:Xns98E49C9A31F80nonenowhere@61.9.191.5...
>
>> Look upon it as an opportunity for learning. After all, what would you do
>> if it just worked?
>
> Head off to another band, perhaps? Make more and start passing them out?
> But you're right, of course. I still have three or four suggestions to try
> for the sleeve.
>
>

Sal:

I thought it might be clear from my previous post, but I see it was
rather "cryptic."

I DID find that the coax wanted to couple into the antenna and become
part of it (the sleeve itself was NOT a sufficient de-coupling device.)
I found the 1:1 current balun was absolutely necessary to make the
antenna "stable"--remove the sensitivity to
location/orientation/length/etc. of the coax feed.

JS

1871. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 08:29:19 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <s1n7u297cp5ithb85l6v9g5p1tf440n0q9@4ax.com>
Source record: 45385

On Tue, 27 Feb 2007 01:07:12 GMT, Owen Duffy <none@no.where> wrote:

>Richard Clark <kb7qhc@comcast.net> wrote in
>> Let's treat this like the Chinese Box problem.
>>
>> If you didn't know what the load was, could you explain it any
>> differently? No. Apriori knowledge is not a proof.
>
>Richard, I content that:

Contend or offer in contention.

>- the power output of the PA; and
>- the efficiency of the PA may be (and usually are) sensitive to the load
>impedance.

This is not contending nor contention and is content only for a non
sequitur. The line following a tuner exhibits considerable loss (poor
efficiency) that can only occur on the basis of power and mismatch.
You yourself offered in other correspondence that it exceeds cable
attenuation specifications found only in a matching condition. To
suggest that a PA's sensitivity is somehow exhalted in the face of
identical, ordinary behavior of a passive component is hardly
seperable. Consider the simple substitution to your quote:
>- the power output at the terminus of the line; and
>- the efficiency at the terminus of the line may be (and usually are) sensitive to the
load
>impedance.

continuing on...
>A steady state analysis is usually adequate for most ham radio
>applications, though there may be cases where establishment of steady
>state brings its own issues. This discussion is about the steady state.

I expressed nothing of transitory behavior.

>Though it is often asserted that the PA will get hotter as a result of
>"reflected power" being dissipated in the dynamic output impedance of the
>PA, and that this may / will damage the PA, the power explanation doesn't
>work numerically in the general case.

Heat is the outward proof of power and is always demonstrable in both
specific and general cases. Occurrences of other, significant
radiation from the source (as long as that source physically occupies
a substantially minor region of wavelength) is exceedingly difficult
to achieve.

You don't offer a numerical proof of a general case, and given that the general case must allow for the specific cases already allowed in your discussion above - that may be an untenable assertion for you. Those specific cases are demonstrably caloric and must follow the same math you suggest.

I suspect you are trying to argue differences by degree (no pun intended as to heat); but I seriously doubt you can produce the math to do that. The arguments that flow from that involve what is called source resistance, and those arguments are legion in this forum (where naysayers embrace a refusal to accept or name ANY value - a curious paradox and an engineering nihilism I enjoy to watch).

73's
Richard Clark, KB7QHC

1872. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 08:53:59 UTC
From: Jeff <jeff@local.host>
Message-ID: <45e3f1a9$0$26697$834e42db@reader.greatnowhere.com>
Source record: 45386

>> Please don't insult our intelligence. If the Bird reads
>
> Of course it is nonsense, but it is a logical development based on Jeff's
> words "What you are describing could be called 'transmitted' power or
> power delivered into a mismatched load, but that it different from
> forward power, or the power delivered by the source" and your words "For
> systems

Only a logical development if you selectively snip Owen.

"What you are describing could be called 'transmitted' power or
power delivered into a mismatched load" was referring to "Pload = Pfor -
Pref".

Ok I admit that 'transmitted' power could have been better phrased.

Power may not actually be dissipated in a lossless line but that does not
detract from the fact that there is current flow and a voltage along the
line produced by two distinct and independent waves travelling in opposite
directions. True that the power can only be realised when it encounters a
load, but it is highly pedantic not to regard the reflected signal as having
'power' until it actually encounters such a load. If you extend this theory
to a radiated signal, you could equally say that there is no power
travelling through the aether until it encounters a receiver.

It is naive to believe that reflected power is not dissipated in a matched
source, or partially re-reflected at the source/line interface is not
matched. Again going back to the optics corollary you would not expect a
reflected light signal not to impinge on, and interact with a source.

If you pad out a source with a sufficiently high attenuator such that the
reflected signal will not have significant effect on it, you will see an
increase in dissipation in the attenuators when the load is mis-matched. I
am confident that an attenuator is not having its "load line" changed such
that its dissipation goes up magically just by the same amount as the power
in the reflected wave!! (Of course the dissipation in the load is measurable
as heat).

Adding a circulator to a system will not change "the load line" (if a
transmission line or circulator can have such a thing), but it will cause
the power in the reflected wave to be separated so that it can be monitored
and measured. Surprisingly power monitored in this way ties up with the
notion that power is reflected at a mis-matched load.

73
Jeff

1873. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 09:10:12 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <UeluOqE0V$4FFAMm@ifwtech.co.uk>
Source record: 45387

Cecil Moore wrote:
>
>My favorite quotation by an antenna guru on this
>newsgroup is that "a 50 ohm antenna can be replaced
>by a 50 ohm resistor without changing anything".
>If that were true, we don't need antennas. :-)
>

That sounds like a direct misquotation of me.

What I HAVE said - and often - is that if you measure the load impedance presented by an antenna and feedline at the output socket of the transmitter, and replace it by the same impedance made from lumped R and L/C components, then the steady-state operating conditions of the transmitter will not change.

If the transmitter isn't touched, it will deliver exactly the same power as before - because that happens to be how much power it can deliver into that particular load impedance.

That's all the RF power there is. In a lossless system, all of that power will be radiated from the antenna. With the alternative lumped load, exactly the same power will be delivered into the resistive part of the load, and dissipated as heat.

Of course the transmitter is under more stress from voltage, current and heat when it's operating into an incorrect load impedance (not what it was designed for) but that's all it is. There is no need to invent reflected power that is being "dumped" back into the transmitter to cause this stress.

There is also a strong tendency to invent virtual instruments such as "directional wattmeters" which do not actually exist. An instrument such as the Bird 43 is calibrated in watts, but it doesn't actually sample power. As Owen relates (and so have I) these instrument only sample V and I on the line - they categorically DO NOT sample power.

The power scale is only a meter calibration - literally, only ink on a meter scale. It indicates the amount of power delivered into a matched load, when the "reverse" reading is exactly zero [1]. The instrument was calibrated under those specific conditions, and the "forward power" reading is only physically meaningful for that specific case.

For a mismatched load, the meter will read higher in the forward direction than in the reverse - but that is purely a feature of the instrument. It all looks so plausible on the meter scale, but those are not genuine power waves flowing in opposite directions.

Everything that's happening inside the instrument can be completely explained from the new V and I conditions on the line. Waves of power simply don't come into it. Most people don't want to go that deep into the theory... but, regrettably, that may be the only way to understand that the "power" readings on the meter scale are no longer valid under these conditions.

What IS physically meaningful is the DIFFERENCE between the forward and reverse "power" readings. That difference will equal the net power delivered to the load [1]. But those two readings are only meaningful as a pair - individually they are only "intermediate results" with no physical meaning of their own.

[1] Ignoring real-life meter errors such as directivity and scale accuracy.

>I'm going to be away from my computer for 48 hours.

But you'll be back... :-)

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

1874. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 15:43:47 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1172591027.781557.276270@m58g2000cwm.googlegroups.com>
Source record: 45388

On Feb 26, 6:02 pm, Owen Duffy <n...@no.where> wrote:
> Cecil Moore <myc...@hotmail.com> wrote
innews:jVJEh.2385$m85.457@newssvr29.news.prodigy.net:
> > Please don't blame me for someone else's words.
>
> A selective partial quotation to misrepesent what was actually written Cecil!

My true statement was combined with someone else's false statement to
make the combination false. I'm asking politely that not be done
again.
--
73, Cecil, w5dxp.com

1875. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 15:46:46 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1172591206.314201.114680@v33g2000cwv.googlegroups.com>
Source record: 45389

On Feb 26, 6:11 pm, Owen Duffy <n...@no.where> wrote:
> Cecil Moore <myc...@hotmail.com> wrote
innews:1lKEh.2388$m85.2216@newssvr29.news.prodigy.net:
>
> > Owen Duffy wrote:
> >> I suggest that if a PA / line / load situation transforms the actual
> >> load to some arbitrary impedance Z at the PA end of the line, the PA
> >> will peform exactly as if the PA were directly loaded by a lumped
> >> constant load of Z.
>
> > Yes, that is true for the performance of the PA.
> > Certainly not true for the performance of the
> > transmission line or antenna.
>
> Please explain?

If the transmission line and antenna are replaced by a lumped constant
load, the transmission line and antenna cease to function. IMO, that's
not "performing exactly as".
--
73, Cecil, w5dxp.com

1876. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 16:16:34 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <v0m8u2pfocm893gk76t1siqbp9lsqptdtg@4ax.com>
Source record: 45390

On Tue, 27 Feb 2007 09:10:12 +0000, Ian White GM3SEK
<gm3sek@ifwtech.co.uk> wrote:

>As Owen relates (and so have I) these instrument only sample V
>and I on the line - they categorically DO NOT sample power.

Hi Ian,

We've been through this before. No instrument operates in the absence of power. Simply because you and Owen are graced with instruments that demand so little, does not negate what power they do rob from what is available. Even the humble electrometer has to overcome the force of gravity to open its foil leaves, and climbing that potential energy hill is work over time - power.

Hammer down the directivity as much as you want, and it will still resolve to some diminution of power available to the load. To wave a hand and say NOTHING does not make it so.

73's
Richard Clark, KB7QHC

1877. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 16:24:25 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1172593465.273727.237990@k78g2000cwa.googlegroups.com>
Source record: 45391

On Feb 27, 3:10 am, Ian White GM3SEK <gm3...@ifwtech.co.uk> wrote:
> Cecil Moore wrote:
> >My favorite quotation by an antenna guru on this
> >newsgroup is that "a 50 ohm antenna can be replaced
> >by a 50 ohm resistor without changing anything".
> >If that were true, we don't need antennas. :-)
>
> That sounds like a direct misquotation of me.

Nope, it wasn't you, Ian. You are usually more careful than that.

> For a mismatched load, the meter will read higher in the forward
> direction than in the reverse - but that is purely a feature of the
> instrument. It all looks so plausible on the meter scale, but those are
> not genuine power waves flowing in opposite directions.

But they are genuine energy waves flowing in opposite directions.
Standing waves require two coherent energy waves flowing in opposite
directions. Can you explain how to create a standing wave without
two energy waves flowing in opposite directions? And remember, the
two EM wave components in the standing wave cannot stand still.

There's truth in what you say, Ian, but it is not the whole truth.
There's
no difference except frequency (and all that frequency implies)
between
an RF electromagnetic wave and a visible light electromagnetic wave.
In fact, RF waves are covered in many physics textbooks whose subject
is light. There is a wealth of information available from the field of
optics
that is applicable to RF waves.

Visible light physicists don't have the luxury of measuring voltage or
directly measuring phase. They have to rely on a power measurement
of irradiance. As a result, visible light measurements are actually
power measurements so we indeed do know how EM waves behave
at the joules/second level.

Visible light physicists found that when they superpose two coherent
light waves, Ptotal = P1 + P2 + 2*SQRT(P1*P2)cos(A)
where 'A' is the angle between the electric fields of the two waves.
That exact same equation applies to coherent RF waves. Phasor
addition is used for the superposition of two coherent RF voltages.
The power equation is used to find out what happens to the power
during that voltage superposition. P1 = V1^2*Z0 and P2 = V2^2*Z0
The last term in the power equation is known as the interference term

and is either constructive, destructive, or zero.

Since antenna radiation patterns depend upon constructive and
destructive interference of EM waves in space, we hams could
learn a lot from the field of physics known as optics.

> >I'm going to be away from my computer for 48 hours.

> But you'll be back... :-)

Yep, I'm posting from my sister's computer through my Google account.
--
73, Cecil, w5dxp.com

1878. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 16:31:29 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1172593889.500861.129580@s48g2000cws.googlegroups.com>
Source record: 45392

On Feb 27, 2:53 am, "Jeff" <j...@local.host> wrote:
> Adding a circulator to a system will not change "the load line" (if a
> transmission line or circulator can have such a thing), but it will cause
> the power in the reflected wave to be separated so that it can be monitored
> and measured. Surprisingly power monitored in this way ties up with the
> notion that power is reflected at a mis-matched load.

Yes, and a little modulation added to the source signal will prove
that the
signal being dissipated by the circulator resistor has made a round
trip
to the load and back. That's hard to explain if reflected energy
doesn't
actually exist.
--
73, Cecil, w5dxp.com

1879. MI5 Persecution: Stand up for Free Speech 14/8/95 (586)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 16:46:19 UTC
From: MI5Victim@mi5.gov.uk
Message-ID: <m07012716460703@4ax.com>
Source record: 45393
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

From: rji@cheetah.inmos.co.uk (Richard Ingram)
Newsgroups: uk.misc
Date: Mon Aug 14 10:08:32 1995

Some cencorship loving bore wrote :

> In article <GEVANS.95Aug14094119@mvagusta.uk.tele.nokia.fi>
gevans@mvagusta.uk.tele.nokia.fi (Gareth Evans) writes:
>
> His sysadmin is also next to useless, and has not replied to my request or
> even acknowledged it. Maybe this person *is* a sysadmin?
>
> He's not. It seems the public access site he uses has got no proper
> management over its users. Here's a copy of a reply I got from a
> complaint I made. [After returning every one of Corley's postings to

[snip a large pile of winging complaining drivel]

Geez what a bunch of tossers you all are - you don't like someones postings so you try and get him evicted from the net, why not just use a kill file - you DONT have to read his posts/threads now do you ?

Why is it the net is getting populated by the biggest bunch of self absorbed little Hitlers ? You don't like someones posts so you bloody complain or mail bomb them - grow up you bunch of fucking sad gits !

Richard.

586

1880. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 16:51:21 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <WzL+ItVJGG5FFA36@ifwtech.co.uk>
Source record: 45394

Richard Clark wrote:
>On Tue, 27 Feb 2007 09:10:12 +0000, Ian White GM3SEK
><gm3sek@ifwtech.co.uk> wrote:
>
>>As Owen relates (and so have I) these instrument only sample V
>>and I on the line - they categorically DO NOT sample power.
>
>Hi Ian,
>
>We've been through this before. No instrument operates in the absence
>of power. Simply because you and Owen are graced with instruments
>that demand so little, does not negate what power they do rob from
>what is available. Even the humble electrometer has to overcome the
>force of gravity to open its foil leaves, and climbing that potential
>energy hill is work over time - power.
>
>Hammer down the directivity as much as you want, and it will still
>resolve to some diminution of power available to the load.

Richard, that argument is otiose.

What I said (in full context) was that their principle of operation as measuring instruments does not involve sampling traveling waves of power from the line.

Of course they must incidentally consume some power to move the meter needle, but that is not part of their operating principle.

For that matter, almost all measuring instruments abstract some energy or power from whatever they are measuring - but that is usually incidental. It certainly does not make every instrument into a power meter.

Can you not see this?

>To wave a
>hand and say NOTHING does not make it so.

To wave another hand and say traveling waves of power exist does not make that so, either.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

1881. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 17:43:05 UTC
From: Jeff <jeff@local.host>
Message-ID: <45e46da8$0$26697$834e42db@reader.greatnowhere.com>
Source record: 45395

"Cecil Moore" <w5dxp@hotmail.com> wrote in message
news:1172593889.500861.129580@s48g2000cws.googlegroups.com...
> On Feb 27, 2:53 am, "Jeff" <j...@local.host> wrote:
>> Adding a circulator to a system will not change "the load line" (if a
>> transmission line or circulator can have such a thing), but it will cause
>> the power in the reflected wave to be separated so that it can be
>> monitored
>> and measured. Surprisingly power monitored in this way ties up with the
>> notion that power is reflected at a mis-matched load.
>
> Yes, and a little modulation added to the source signal will prove
> that the
> signal being dissipated by the circulator resistor has made a round
> trip
> to the load and back. That's hard to explain if reflected energy
> doesn't
> actually exist.
> --
> 73, Cecil, w5dxp.com

Indeed; TDR's would have areally hard time (;-))

Jeff
>

1882. MI5 Persecution: Troubling Censorship Issues 20/8/95 (3241)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 18:08:19 UTC
From: MI5Victim@mi5.gov.uk
Message-ID: <m07012718080809@4ax.com>
Source record: 45396
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Fred Read (postmaster@foxhouse.demon.co.uk) wrote:

: He posts this drivel every week or so to a number of groups that
: I subscribe to and nothing seems to stop him. *ALL* of his posts
: are off topic and unwelcome to the groups he posts to.

: We have complained about him to his postmaster on at least four
: previous occasions and he still posts the same crap. As his SP
: seem unwilling, or unable, to do anything about him, we were
: windering if there was anything you could do?

If he is not actively using tactics to avoid or sabotage killfiles (posting from various systems, forging, massive crossposting to create cross-newsgroup flame wars) then it should be quite easy to killfile him.

It does seem that the frequency and the size of his posts are approaching net abuse. However, IMHO, they aren't quite there yet. If his postmaster were to act in this instance, it would raise troubling censorship issues.

--
Karen Lofstrom lofstrom@lava.net

"Adventures for those of the inadmissable kind,
with no follow through."
--- a flaming bonzo beckwithian idiot

3241

1883. Re: Radials

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 18:58:24 UTC
From: F8BOE <f8boe@bluemail.ch>
Message-ID: <45e47f13$0$24251$426a74cc@news.free.fr>
Source record: 45397

Rick wrote:

> Is there any danger that the ends of my verticals radials could set the
> leaves
> in the woods afire? There's high voltage there at the ends, right?
>
> Rick K2XT

right!

1884. Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 19:16:55 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1172603815.010072.207520@m58g2000cwm.googlegroups.com>
Source record: 45398

On Feb 23, 11:35 pm, "art" <aun...@insightbb.com> wrote:
> On 23 Feb, 20:05, Gene Fuller <W4SZzzz...@att.net> wrote:
>
>
>
>
>
> > art wrote:
> > > On 23 Feb, 15:07, Gene Fuller <W4SZzzz...@att.net> wrote:
>
> > > > To keep it simple, Gauss' Law is precisely one of the four standard
> > > > Maxwell Equations. Gauss' Law has been part of electromagnetics and
> > > > antenna theory for eons.
>
> > > > As for electromechanics, who knows?
>
> > > > 73,
> > > > Gene
> > > > W4SZ
>
> > > Gene, forgive me if I am incorrect but I am going to assume you have
> > > an engineering degree and are fully conversant with the work of the
> > > masters. I f I am not correct then we can stop at this point Otherwise
> > > I fully recommend that you check out the web foe a book on fields and
> > > waves or something like that by a professor at Rutgers University. In
> > > chapter 21 he delves very deeply into an array consisting of four
> > > elements all of which are resonant.
> > > Ofcourse he doesn't mention anything of mine but you will notice that
> > > the array he chose is actually what I refer to as a Gaussian array
> > > since it meets all the requirements that I have exposed on my page.
> > > He doesn't use computor programs but basic mathematics to provide all
> > > the desirables plus a radiation field. This array is really a
> > > derivitation of one designed some 50 years ago and is the only one I
> > > know that exists in literature. If you study this chapter and relate
> > > it to what I am expousing then possible you will see things with fresh
> > > eyes. But again if you are not fully educated in this field save your
> > > self from the bother. I personaly have a program that if you isert any
> > > fugure and tell it to obtain maximim gain I assure you it will not
> > > produce a yagi but a gaussian array..... and I am thrilled with
> > > that.
> > > Nuff said
> > > Art
>
> > Art,

>
> > You seem to have misunderstood my point.
>
> > AAALLLLLL antennas, regardless of structure, material, efficiency,
> > resonance, location, or phase of the moon are Gaussian. Gauss' Law is an
> > integral part of classical electromagnetics. Nothing can escape.
>
> > No, I do not have an engineering degree, but I do have several degrees
> > in physics. Unfortunately, I am significantly dumber than a rock, so I
> > have no more to offer in this thread.
>
> > 73,
> > Gene
> > W4SZ- Hide quoted text -
>
> > - Show quoted text -
>
> Watch out Gene, I stated that Statics was a subset of electromagnetics
> and I caught hell from everybody. Seems like things are infectional
> around here.The book that I proferred would really be to much for a
> lot of people no matter how much they over estimate their abilities
> especially when they try to debate reasons why the writer is incorrect!
> When I asked for academic help regarding research I got an Email from
> a guy at the space antenna agency who referred me to chapter 1 and 21.
> I never dreamt that I would find an actual array with all elements
> resonant being discussed
>
> Art- Hide quoted text -
>
> - Show quoted text -

no need to be surprised at having an antenna with elements that are
all phased. I doubt if ther is anyone on the news group that doesnt
know that a Yagi Uda antenna doesnt represent some kind of comprimise
to an antenna with all of the elements feed. No one has ever said
otherwise although you have claimed they have.
The problem with having all the elements feed is that it is
impractical to control power distribution and phasing when changing
frequencies. The Yagi Uda overcomes this problem at a slight cost in
gain. Your idea of an antenna with multiple fed resonant elements is a
giant step backwards to a day when high gain steerable antennas were
impractical most of the hams who didnt have the money or the real
estate for huge arrays

Antenna with multiple resonant element all being fed is very common in
RADAR and space communication, you can achive very high gains in this
manner just as you have stated. It is also very expensive, has narrow
bandwidth and is a mechanical nightmare. NASA, AM BCB, commercial
shortwave stations and various other agencies and private companies
sometimes have a need for this type of antenna and they they have the
money to build them, few hams do. The Yagi Uda antenna just fills a

practical niche in antenna requirements. No ham I know of ever thought the Yagi antenna was the end-all of antennas as you have claimed. While it may not have the highest gain it certainly is the most practical antenna for a lot of us.

Jimmie

1885. screwdriver vs. tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 20:54:22 UTC
From: KE5MBX <nelson.blaha@gmail.com>
Message-ID: <1172609662.492672.322020@z35g2000cwz.googlegroups.com>
Source record: 45399

I'm planning to get a Yaesu FT-857D and operate mobile HF on as many bands as possible. I see two options so far for my Jeep Wrangler- a 102" whip with a tuner or a screwdriver antenna. Which is the better way to go?

1886. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 21:14:38 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E553DC45D46nonenowhere@61.9.191.5>
Source record: 45400

Richard Clark <kb7qhc@comcast.net> wrote in
news:s1n7u297cp5ithb85l6v9g5p1tf440n0q9@4ax.com:

> On Tue, 27 Feb 2007 01:07:12 GMT, Owen Duffy <none@no.where> wrote:
>
>>Richard Clark <kb7qhc@comcast.net> wrote in
>>> Let's treat this like the Chinese Box problem.
>>>
>>> If you didn't know what the load was, could you explain it any
>>> differently? No. Apriori knowledge is not a proof.
>>
>>Richard, I content that:
>
> Contend or offer in contention.

Richard

Yes, my spelling mistake.

>
>>- the power output of the PA; and
>>- the efficiency of the PA may be (and usually are) sensitive to the
>>load impedance.
>
> This is not contending nor contention and is content only for a non
> sequitur. The line following a tuner exhibits considerable loss (poor
> efficiency) that can only occur on the basis of power and mismatch.
> You yourself offered in other correspondence that it exceeds cable
> attenuation specifications found only in a matching condition. To

I am being picky, but "it *may* exceed cable attenuation specifications
found only in a matching condition, it may also be lower". If I said it
as you stated, I made an error. The common statement (and I have no doubt
made it) that VSWR exacerbates line loss is actually wrong in the general
case. (Having Googled my own web site I see one statement along those
lines which needs further qualification!)

> suggest that a PA's sensitivity is somehow exhalted in the face of
> identical, ordinary behavior of a passive component is hardly
> seperable. Consider the simple substitution to your quote:
>>- the power output at the terminus of the line; and
>>- the efficiency at the terminus of the line may be (and usually are)
>>sensitive to the load impedance.

I meant the output at the PA terminals where an lumped constant load
would be attached for comparison.

>
...

>>Though it is often asserted that the PA will get hotter as a result of
>>"reflected power" being dissipated in the dynamic output impedance of
>>the PA, and that this may / will damage the PA, the power explanation
>>doesn't work numerically in the general case.
>
> Heat is the outward proof of power and is always demonstrable in both
> specific and general cases. Occurrences of other, significant
> radiation from the source (as long as that source physically occupies
> a substantially minor region of wavelength) is exceedingly difficult
> to achieve.
>
> You don't offer a numerical proof of a general case, and given that
> the general case must allow for the specific cases already allowed in
> your discussion above - that may be an untenable assertion for you.
> Those specific cases are demonstrably caloric and must follow the same
> math you suggest.
>
> I suspect you are trying to argue differences by degree (no pun
> intended as to heat); but I seriously doubt you can produce the math
> to do that. The arguments that flow from that involve what is called
> source resistance, and those arguments are legion in this forum (where
> naysayers embrace a refusal to accept or name ANY value - a curious
> paradox and an engineering nihilism I enjoy to watch).

PAs can be designed to behave as an equivalent fixed voltage or current source with fixed source impedance of Zo, but HF PAs are not usually designed in that way.

I know that there is a vein of thought that the process of adjusting a PA for maximum output always, somewhat magically, creates a match condition where the source impedance is the conjugate of the load at the PA terminals, but it is contentious. What of broadband PA designs with no such adjustment, are they source matched over a broad range of frequencies? Observations are that experiments to discover the source impedance by incrementally changing load current can produce a range of values for the same PA on different frequencies, and at different power levels. Why do amplifiers with say tetrodes and triodes which exhibit such different dynamic plate resistance but requiring the same load impedance deliver the same equivalent source impedance?

I am also aware that supporters of the inherent source match position assert that you must be selective in choosing tests for source impedance. It is all rather unconvincing when only some of the implications of a particular source impedance are effective.

It is my view that modelling the PA as a fixed voltage or current source with fixed source impedance of Zo, and where reflected waves on a transmission line are absorbed by the matched source is not a good general model for HF PAs.

The application of small signal analysis to amplifiers that sweep from near cutoff to near saturation is suspect.

I believe that it is sound (in the steady state) to resolve the forward and reflected wave voltages and currents at the source end of the transmission line, calculate the complex impedance, and predict the effects of that impedance as a PA load using the same techniques that were used to design the PA.

Owen

1887. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 21:29:24 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <0u69u2h38p9jjs37iok4ib6077kkp94e2h@4ax.com>
Source record: 45401

On Tue, 27 Feb 2007 16:51:21 +0000, Ian White GM3SEK
<gm3sek@ifwtech.co.uk> wrote:

>For that matter, almost all measuring instruments abstract some energy
>or power from whatever they are measuring - but that is usually
>incidental. It certainly does not make every instrument into a power
>meter.
>
>Can you not see this?

Hi Ian,

As a trained metrologist, I've seen it far closer up than you. I've accurately measured the physics of technology out to more decimal places than most, and there is nothing incidental about it - it is quite fundamental. In fact I've encountered a spectrum of conflicting and interfering physical principles to every measurement that had to be accounted for to obtain that accuracy.

I dare say none here can equal the accuracy of my bench work at RF Power measurement here, even those with a shelf full of digital meters used as bookends for their library.

>>To wave a
>>hand and say NOTHING does not make it so.
>
>To wave another hand and say traveling waves of power exist does not
>make that so, either.

Your counter is not an argument for their inexistence.

The examples of "traveling waves of power" abound, even to the trade craft of antennas. Examples of "traveling wave of power" are classic in whole to the explanation for the operation of the standard Directional Couplers (to distinguish them from the Bruene design).

There are more such examples, but the Directional Coupler is quite suitable to their class, and its operation satisfies the proof of power flow in both directions. There are other examples outside of this class that also provide proofs; and they are based on physical principles as well (polarization and magnetic moment).

Traditionally, these points pass in silence until some later time when we visit them once again.

73's
Richard Clark, KB7QHC

1888. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 21:37:15 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E557B205A93nonenowhere@61.9.191.5>
Source record: 45402

Richard Clark <kb7qhc@comcast.net> wrote in
news:v0m8u2pfocm893gk76t1siqbp9lsqptdtg@4ax.com:

...
> We've been through this before. No instrument operates in the absence
> of power. Simply because you and Owen are graced with instruments
> that demand so little, does not negate what power they do rob from
> what is available. Even the humble electrometer has to overcome the
> force of gravity to open its foil leaves, and climbing that potential
> energy hill is work over time - power.
>
> Hammer down the directivity as much as you want, and it will still
> resolve to some diminution of power available to the load. To wave a
> hand and say NOTHING does not make it so.

The fact that an instrument may consume power from the circuit does not
imply that it measures power.

For example, a "voltmeter" that samples the voltage and draws a small
current from the cicuit under test does consume some power, but it cannot
"measure" power in the circuit under test without knowledge of the
complex load impedance.

I wrote an analysis of the Breune circuit and show that the meter
deflection is a response to the Vf or Vr component, and I dealt with how
that information can be used (including applicable conditions). If you
(or others) think there are flaws in the article, I welcome constructive
feedback.

Owen

1889. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 21:59:48 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <es2fg5$5kg$1@news.service.uci.edu>
Source record: 45406

Cecil Moore wrote:
> The joules/sec are real quantities but whether joules/sec
> is power depends upon the definition of "power".

In our case here on the internet, it depends on whether or not you
choose to equate 'units of power' with the definition of power.

73 ac6xg

1890. Re: Radials

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 23:05:40 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1172617538.441090.151480@q2g2000cwa.googlegroups.com>
Source record: 45403

On 27 feb, 02:18, rickn...@hotmail.com (Rick) wrote:
> Is there any danger that the ends of my verticals radials could set the leaves
> in the woods afire? There's high voltage there at the ends, right?
>
> Rick K2XT

Hello Rick,

It will depends on the power, when it is up to several hundreds watts,
I think it is not likely.

Probably you will use about 3 or more radials, so the current and
hence the voltage at the end will not be as high as in the vertical
radiator. The strong E-field very close to the ends will generate
heat in fresh wood/leaves. However before the material will become
flammable, the water has to evaporate. When the water contents
decreases, the loss factor will decrease also. Because of this, the
heat generation per volume will decrease also.

Other issue is corona breakdown directly to foliage. Highest voltage
at the ends will be in case of quarter wave and 5/8 antenna. A Halve
wave will induce significant lower current into the radial system (and
hence lower voltage at the ends).

You might do an experiment and point the material in question towards
the end of the radials (parallel with the E-field lines and grounded).
Take some distance, turn on maximum power and afterwards (power of)
check for temperature rise. This may also show possible effects of
corona breakdown from the radial wire(s) to the material under test.

Best Regards.

Wim
PA3DJS.

1891. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 23:17:34 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <u399u2d6li8f4f3jau2nkb5m9gvgegv4oq@4ax.com>
Source record: 45404

On Tue, 27 Feb 2007 21:14:38 GMT, Owen Duffy <none@no.where> wrote:

>> This is not contending nor contention and is content only for a non
>> sequitur. The line following a tuner exhibits considerable loss (poor
>> efficiency) that can only occur on the basis of power and mismatch.
>> You yourself offered in other correspondence that it exceeds cable
>> attenuation specifications found only in a matching condition. To
>
>I am being picky, but "it *may* exceed cable attenuation specifications
>found only in a matching condition, it may also be lower".

Hi Owen,

Lower? That is rather astonishing in light of responding to my
comment.

>If I said it
>as you stated, I made an error. The common statement (and I have no doubt
>made it) that VSWR exacerbates line loss is actually wrong in the general
>case. (Having Googled my own web site I see one statement along those
>lines which needs further qualification!)

This is even more astonishing. Irrespective of you being the source,
why inject this confusing comment? SWR always exacerbates line loss!
Give me any normal line attenuation and SWR at the load, and I will
tell you exactly how much additional loss will occur. There's a
general solution for you.

Something tells me that your comments are based on a confusion between
the power loss of a cable, and its mismatch loss. They are not the
same thing although they are usually tightly twined in discussion. You
later exhibit a confusion between a conjugate match and an impedance
match. They are not the same thing either. The confusion on both
these points have abounded in this group in past "debates."

>I meant the output at the PA terminals where an lumped constant load
>would be attached for comparison.

This then removes the reflection from the argument, doesn't it? It
actually doesn't; but this unwarranted substitution is like Zen
Archery in that the line already demonstrates the validity of
reflected power as distinct from that "power" just being a
mathematical fiction.

Putting the lumped load at the PA terminal merely casts the proof back
into the box, it doesn't negate reflected power. As the proof is
already supported in the line, then removing it is not strictly a

valid counter argument. However, we will explore it further:

>PAs can be designed to behave as an equivalent fixed voltage or current
>source with fixed source impedance of Zo, but HF PAs are not usually
>designed in that way.

OK so we are now in my sidebar of source resistance. Even so, it has nothing to do with the concept of reflected power except insofar as that resistance's ability to reveal that power's dissipation.

Other's should ponder how the reflected power has a caloric proof in the line, and then question why it wouldn't prove out when it arrives back in the box where the temperature rises on its return.

Same source, same power, same reflection, same loss. The only thing that varies is the capacity of any point along this signal chain to support that heat burden. Let's skip these as choices of design.

>I know that there is a vein of thought that the process of adjusting a PA
>for maximum output always, somewhat magically, creates a match condition
>where the source impedance is the conjugate of the load at the PA
>terminals, but it is contentious.

That contention arises out of mistaking Z0 Matches with Conjugate Matches. This is a common affliction among "debaters" here. Let's skip their prejudices.

>What of broadband PA designs with no
>such adjustment, are they source matched over a broad range of
>frequencies?

Having had designed broadband amps, this is simply accomplished with the proper feedback such that, yes, they are matched over a broad range. The math is quite simple, the cost is another matter. Can you afford one? Probably not. The lack of commercial examples available to the Ham is not proof they do not exist. Let's pass on from issues of economy.

On the other side of the aisle, I've worked with active loads that will absorb as much power (up to a limit) at any frequency (up to a limit) that you care to throw at it.

>Observations are that experiments to discover the source
>impedance by incrementally changing load current can produce a range of
>values for the same PA on different frequencies, and at different power
>levels.

This is called "Load Pulling," and is a classic technique to demonstrate source Z. Thevenin first described it and Norton followed suit. I cannot, for the life of me, recall any other intellectual giants that have pulled these apart.

I have done this with my own gear. The variation from a source Z of 50 Ohms wandered the SWR range of 1.5:1 over all bands and most power

levels. Given this conformed to the manufacturer's specification, I
was not particularly surprised. Where it deviated the most, the rig
also operated the worst. What can we say about experience and
performance design converging?

>Why do amplifiers with say tetrodes and triodes which exhibit
>such different dynamic plate resistance but requiring the same load
>impedance deliver the same equivalent source impedance?

A cable connector instead of binding posts? Let's dismiss this as
being obvious.

>I am also aware that supporters of the inherent source match position
>assert that you must be selective in choosing tests for source impedance.
>It is all rather unconvincing when only some of the implications of a
>particular source impedance are effective.

Where is the rig specified to exhibit this condition?

Is your rig a VW that stalls trying to pull a trailer from a stop in
3rd gear? Or is it a Mack truck trying to park in the handicap zone
in an underground mall parking lot? Arguing other's incapabilities is
something I like doing, but with more flair. Let's skip these
Tritonic minnows.

>It is my view that modelling the PA as a fixed voltage or current source
>with fixed source impedance of Zo, and where reflected waves on a
>transmission line are absorbed by the matched source is not a good
>general model for HF PAs.

You have already said as much. I see nothing new so far.

>The application of small signal analysis to amplifiers that sweep from
>near cutoff to near saturation is suspect.

If it is near cutoff or saturation, it is suspect small signal
analysis. Certainly, anyone can conspire to fail gracelessly. Would
you care to elaborate the suspicion beyond the evidence of gross
negligence? Why don't we skip this minor excursion?

>I believe that it is sound (in the steady state) to resolve the forward
>and reflected wave voltages and currents at the source end of the
>transmission line, calculate the complex impedance, and predict the
>effects of that impedance as a PA load using the same techniques that
>were used to design the PA.

Sound though it may be, if I were to line up another transmitter
boresight down the antenna connector of the first, light it up to
provide power with no equivocation of it being fictional; then yes,
all things may appear to be the same. ...and yet I have just
demonstrated reverse power arriving at the antenna terminal (where did
it go?). My having experience in doing just this (aka active load
already described above) fully conforms to your sound idea, and yet,
as for myself, it is not an idea I would rely on to deny the existence

of reverse power nor its capacity to fry the innards of a transmitter
(active loads are heavily heat-sinked and fan driven).

73's
Richard Clark, KB7QHC

1892. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-27 23:31:02 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <qnf9u2dcubd5ppfohoqpaalkbhj4rrumd2@4ax.com>
Source record: 45405

On Tue, 27 Feb 2007 21:37:15 GMT, Owen Duffy <none@no.where> wrote:

>The fact that an instrument may consume power from the circuit does not
>imply that it measures power.

Hi Owen,

If that power is from a reflection, then we've come to the logical
conclusion of the argument.

73's
Richard Clark, KB7QHC

1893. Re: Radials

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 00:03:50 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <45E4C6E9.23696DF4@shaw.ca>
Source record: 45407

I can't really answer the question, but in 49 years of hamming
I've never heard of radial ends setting anything on fire. I'm
interested in seeing more replies to your question.

Irv VE6BP

Rick wrote:
>
> Is there any danger that the ends of my verticals radials could set the leaves
> in the woods afire? There's high voltage there at the ends, right?
>
> Rick K2XT

--

Visit my HomePage at http://members.shaw.ca/finkirv/index.html
Visit my Baby Sofia website at http://members.shaw.ca/finkirv4/index.htm
Visit my OLDTIMERS website at http://members.shaw.ca/finkirv5/index.htm
---
Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

1894. Re: screwdriver vs. tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 00:17:09 UTC
From: Dave <W1MCE@comcast.net>
Message-ID: <A66dnVT0VcSZV3nYnZ2dnUVZ_tLinZ2d@comcast.com>
Source record: 45408

Given the choice of ONLY those two options, the screwdriver!

KE5MBX wrote:

> I'm planning to get a Yaesu FT-857D and operate mobile HF on as many
> bands as possible. I see two options so far for my Jeep Wrangler- a
> 102" whip with a tuner or a screwdriver antenna. Which is the better
> way to go?
>

1895. Re: screwdriver vs. tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 00:34:32 UTC
From: jimlux@earthlink.net
Message-ID: <1172622872.357297.222840@z35g2000cwz.googlegroups.com>
Source record: 45409

On Feb 27, 12:54 pm, "KE5MBX" <nelson.bl...@gmail.com> wrote:
> I'm planning to get a Yaesu FT-857D and operate mobile HF on as many
> bands as possible. I see two options so far for my Jeep Wrangler- a
> 102" whip with a tuner or a screwdriver antenna. Which is the better
> way to go?

Do you need fast tuning from band to band?

Can you see the antenna from where you operate?

Do you want to operate while actually driving, or just when you're
parked.

I had a screwdriver on the roof of my VW Passat for a while. It was
tedious to adjust because I didn't have feedback about where it was
set. I then moved it to the front bumper, and it was a lot easier to
do band changes (you can quickly see when you're in the right
region). Worked greate for 10,12,15,17, and 20, because you can tune
to a visible mark, and then just check SWR. However, it's still a bit
tedious to tune for 40 and 75, because it has a pretty sharp
resonance, so if you QSY very far, you have to readjust the antenna.

There are some newer screwdriver antennas with automatic controllers
that make life much easier. They can count turns, or actually look at
the reflected power and adjust up and down for the match. However, you
still have the "tuning speed" issue.. that motor only moves so fast.

And, no matter how you look at it, you're only adjusting one parameter
(series L), which limits the best possible match you can get.
Granted, with the lossiness of a typical screwdriver, and the usual
clever 4:1 transformer with leakage C, you can do pretty well. better
than 2:1 from 10-40 is no problem and you can probably do somewhat
better.

A whip and auto tuner at the base of the antenna, on the other hand,
is virtually instantaneous to tune and requires no manual intervention
on the part of the operator. Squeeze the pickle and you're matched
and ready to go. I suspect that the loss in the tuner is not
materially different than in the variable loading coil, particularly
when you consider the mismatch from only having one adjustable device,
and besides, the dominant efficiency issue is going to be from having
a physically short radiator on lower frequencies, which is the same
regardless of how you tune it.

I didn't have very good luck with a single whip on a SGC tuner, (as
far as getting a match on all bands) but when I improvised a dualband
whip by wrapping another wire around the first whip (say, 25-30 ft of

AWG 16 hookup wire) and connecting them at the base, it works quite well. (this is similar to what's inside the SGC whips and other similar wideband whips... essentially it's like having two verticals in parallel, with widely varying resonant frequencies... when you're close to the resonance of one, the other just looks like a lumped L or C in parallel, and the tuner takes it out)

1896. phased array practicality was Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 00:51:03 UTC
From: jimlux@earthlink.net
Message-ID: <1172623863.445972.54000@q2g2000cwa.googlegroups.com>
Source record: 45410

On Feb 27, 11:16 am, "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote:

> no need to be surprised at having an antenna with elements that are
> all phased. I doubt if ther is anyone on the news group that doesnt
> know that a Yagi Uda antenna doesnt represent some kind of comprimise
> to an antenna with all of the elements feed. No one has ever said
> otherwise although you have claimed they have.

> The problem with having all the elements feed is that it is
> impractical to control power distribution and phasing when changing
> frequencies.

This is just not true. A SteppIR does it mechanically by changing the element lengths. A 4 square does it by switching ports around on a phasing network. One can buy everything you need to build a generic 4 element HF phased array with computer adjustable LC networks for less than a few thousand dollars. (see, e.g. LDG's AT200PC tuner with an RS232 interface)

The Yagi Uda overcomes this problem at a slight cost in
> gain. Your idea of an antenna with multiple fed resonant elements is a
> giant step backwards to a day when high gain steerable antennas were
> impractical most of the hams who didnt have the money or the real
> estate for huge arrays

hardly backwards. Phased arrays may well save the day in this era of ever increasing community resistance to traditional Beam on rotator on tower installations.
>
> Antenna with multiple resonant element all being fed is very common in
> RADAR and space communication, you can achive very high gains in this
> manner just as you have stated.

You can get low gains too. or just sharp adjustable nulls, which is probably more useful.

It is also very expensive, has narrow
> bandwidth and is a mechanical nightmare.

Expensive compared to what? We're not talking about a electronically steered phased array radar here with thousands of elements. I'll bet the hardware cost of a electronically steered phased array for HF suitable for ham use is comparable to the hardware cost of a big tower, rotator, and Yagi.. the phased array just isn't available as an off the shelf product yet.

NASA, AM BCB, commercial
> shortwave stations and various other agencies and private companies
> sometimes have a need for this type of antenna and they they have the
> money to build them, few hams do.

A ham could build an adjustable directional array of verticals,
essentially identical to an AM broadcast directional array, for
several thousand dollars. Yep, that's a bunch o'bux compared to a
Rockmite and a wire over the balcony railing. But it's not a bunch
o'bux in the context of a big station with a legal limit amp, a state
of the art transceiver, etc. If you're willing to homebrew and
scrounge, you can build computer controlled phasing networks with
stepper motors (or servos), roller inductors and variable caps.
Adjusting it is non trivial, but so is learning Morse code, or how to
use NEC or lots of other things in ham radio.. it's just not
particularly common. All the math and design information is laid out
in detail in ON4UN's book, with the implementation left "as an
exercise for the reader".

Jim, W6RMK

1897. Re: Radials

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 00:58:23 UTC
From: ricknj10@hotmail.com
Message-ID: <45e4d1d6.19917171@news.optonline.net>
Source record: 45415

>I've never heard of radial ends setting anything on fire. I'm
>interested in seeing more replies to your question.

Well, let's think of it this way. You sure wouldn't grab hold of the end of a quarter wave vertical with a kilowatt of power applied to it. Same for the end of a single raised radial because it would have similar high voltage on it, would it not? We would put a big old insulator on it to support it if this was our antenna configuration, right?
Ok, say we laid the one radial made of insulated wire on the ground. Now the earth would detune it ???????? Would it still have extremely high voltage at the end? And if so, could it arc to earth? That was my question. I really dont have 1 radial at the present time, I have 20 so the current divides 1:20 and the resultant voltage at the end of each radial may be nothing to be concerned about. I don't know, that why I asked on this cold winter night.

Rick K2XT

1898. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 01:01:55 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E57A653FF0Cnonenowhere@61.9.191.5>
Source record: 45411

Richard Clark <kb7qhc@comcast.net> wrote in
news:u399u2d6li8f4f3jau2nkb5m9gvgegv4oq@4ax.com:

> On Tue, 27 Feb 2007 21:14:38 GMT, Owen Duffy <none@no.where> wrote:
>
>>> This is not contending nor contention and is content only for a non
>>> sequitur. The line following a tuner exhibits considerable loss
>>> (poor efficiency) that can only occur on the basis of power and
>>> mismatch. You yourself offered in other correspondence that it
>>> exceeds cable attenuation specifications found only in a matching
>>> condition. To
>>
>>I am being picky, but "it *may* exceed cable attenuation
>>specifications found only in a matching condition, it may also be
>>lower".
>
> Hi Owen,
>
> Lower? That is rather astonishing in light of responding to my
> comment.
>
>>If I said it
>>as you stated, I made an error. The common statement (and I have no
>>doubt made it) that VSWR exacerbates line loss is actually wrong in
>>the general case. (Having Googled my own web site I see one statement
>>along those lines which needs further qualification!)
>
> This is even more astonishing. Irrespective of you being the source,
> why inject this confusing comment? SWR always exacerbates line loss!
> Give me any normal line attenuation and SWR at the load, and I will
> tell you exactly how much additional loss will occur. There's a
> general solution for you.
>
> Something tells me that your comments are based on a confusion between
> the power loss of a cable, and its mismatch loss. They are not the
> same thing although they are usually tightly twined in discussion. You
> later exhibit a confusion between a conjugate match and an impedance
> match. They are not the same thing either. The confusion on both
> these points have abounded in this group in past "debates."

Just to deal with this issue, line loss under VSWR, which at first seems
a side issue, but it illustrates one of the problems of a "power
perspective" in analysing a transmission line.

By "line loss" I mean the ratio of power at the load end of the line to power at the source end of the line, not "forward power" or "reflected power", but the average rate of flow of energy at those points.

So, to your challenge:

The problem is 1m of Belden 8262 (RG58C/U type) at 3.5MHz with three loads, 50+j0, 5+j0, and 500+j0.

The loss for 50+j0 load is 0.025dB (equivalent to the Matched Line Loss).

What Line Loss to you get for the other two cases?

(I make it 0.24dB for 5+j0, and 0.014 for 500+j0.)

Owen

1899. Re: screwdriver vs. tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 01:05:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <tl0fb4-jue.ln1@mail.specsol.com>
Source record: 45412

KE5MBX <nelson.blaha@gmail.com> wrote:
> I'm planning to get a Yaesu FT-857D and operate mobile HF on as many
> bands as possible. I see two options so far for my Jeep Wrangler- a
> 102" whip with a tuner or a screwdriver antenna. Which is the better
> way to go?

Depends on what you mean by better.

One caveat on autotuners; most I've looked at will be marginal at
tuning a 102" whip on 40 and won't tune lower than that.

If you decide on an autotuner, read the specs carefully before you buy.

--
Jim Pennino

Remove .spam.sux to reply.

1900. Re: phased array practicality was Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 01:12:32 UTC
From: Dave <noone@nowhere.com>
Message-ID: <4G4Fh.15798$sv6.284@trndny08>
Source record: 45413

<jimlux@earthlink.net> wrote in message
news:1172623863.445972.54000@q2g2000cwa.googlegroups.com...
> On Feb 27, 11:16 am, "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote:
> the phased array just isn't available as an
> off the shelf product yet.

sure it is, i have one for 80m, and one for 40m that were off the shelf
phasing systems... comtek sells lots of them. and i have a home made one
for 160m.

1901. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 01:51:37 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <9km9u2tk5etrtmschbs8s3qiqrlirbi3qq@4ax.com>
Source record: 45414

On Wed, 28 Feb 2007 01:01:55 GMT, Owen Duffy <none@no.where> wrote:

>By "line loss" I mean the ratio of power at the load end of the line to
>power at the source end of the line, not "forward power" or "reflected
>power", but the average rate of flow of energy at those points.

Hi Owen,

What's wrong with conventional terms so that we BOTH know what you
mean? The convention would call this Mismatch Loss. If you dispute
this, then it serves my complaint. Further, convention has no
interest in "forward power" nor "reflected power" except as expressed
as SWR. I thought I was quite terse in this regard.

>So, to your challenge:
>The problem is 1m of Belden 8262 (RG58C/U type) at 3.5MHz with three
>loads, 50+j0, 5+j0, and 500+j0.

Well, as I've pointed out, it is not strictly in the terms of my
challenge, is it?

>The loss for 50+j0 load is 0.025dB (equivalent to the Matched Line Loss).

Sigh... parentheticals?

>What Line Loss to you get for the other two cases?
>
>(I make it 0.24dB for 5+j0, and 0.014 for 500+j0.)

An additional 0.1dB However, this example strains the utility of the
challenge.

Let's try a perverse challenge.

Presume a source of 100+j0 Ohms impedance sees a 50 Ohm line that is
5.35 wavelengths long and is terminated with a load of 200+j0 Ohms.
The normal attenuation of the line is 2.00 dB. What is the loss in
the line?

Can your general solution solve this? It uniquely describes both the
kinetics of reverse power flow AND the impact of source resistance.

No one has every answered this one correctly, by the way (and I can
anticipate you are ready to spring that observation on me with your
source feeding essentialy a voltage oriented high Z load as opposed to
the current oriented low Z load).

73's
Richard Clark, KB7QHC

1902. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 02:32:48 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <41q9u2p6nm95em7lgvi0kf0m428bhbmksq@4ax.com>
Source record: 45416

On Tue, 27 Feb 2007 17:51:37 -0800, Richard Clark <kb7qhc@comcast.net>
wrote:

>Presume a source of 100+j0 Ohms impedance sees a 50 Ohm line that is
>5.35 wavelengths long and is terminated with a load of 200+j0 Ohms.
>The normal attenuation of the line is 2.00 dB. What is the loss in
>the line?

For the others,

Any who complain about their transmitter having:
1. No source resistance;
2. Not this much resistance:
3. Not this little resistance;
4. None of the above (the usual response).
can take heart that if you simply substitute a tuner which presents
the equivalent SWR at the plane of the input to the line, then you can
progress to the solution with equal fluidity (which is to say like
molasses in December).

This particular example has been around for at least 40 years if not
since WWII. No one has rushed to answer it here in at least a quarter
of that time, I don't expect a cascade of guesses soon either.

73's
Richard Clark, KB7QHC

1903. Re: I Built the 10m Sleeve Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 03:02:46 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45e4ecd4$0$4857$4c368faf@roadrunner.com>
Source record: 45417

"Owen Duffy" <none@no.where> wrote in message
news:Xns98E4AC9C6726Dnonenowhere@61.9.191.5...
> "Sal M. Onella" <salmonella@food.poisoning.org> wrote in
> news:%ONEh.47920$pe4.20038@newsfe06.phx:
>
>> Back on topic, I am using the sleeve in a conventional dipole
>> configuration until I can take the time to apply the ideas presented
>> in this NG. I noticed this afternoon that coiling four turns of
>> decoupling loop a few feet from the feed actually raised the VSWR,
>> which I didn't understand. Also, where the coax hangs down next to
>> the antenna makes a difference in the VSWR, so obviously the line is
>> not "flat" and is instead part of the antenna. (Do we still use the
>> term "flat" to describe a transmission line which is properly matched
>> to the load? I recall it from Navy training more than 40 years ago.)
>> My first HF antenna works, but it's clearly no marvel.
>
> I just read your first posting. It sounds like you are building what I
> refer to as a coaxial dipole. The key to success with coaxial dipoles is
> decoupling the feedline. A common configuration is to place a set of
> radials, or a quarter wave choke to be effective a quarter wave below the
> bottom of the dipole lower element... this actually attempts to reduce
> current below the radials, and uses the quarter wave of feedline above
> the radials as part of the radiator for a little more gain.
>
> IIRC, the ARRL had some suggestions about decoupling a coaxial dipole.
>
> Owen

I was thinking it might be interesting to make a ferrite choke that you can
slide on the coax to tune the antenna. You might not have to slide the whole
choke just a bead or two that you can move a few inches.

Jimmie.

1904. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 03:10:28 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E59030C182Anonenowhere@61.9.191.5>
Source record: 45418

Richard Clark <kb7qhc@comcast.net> wrote in
news:9km9u2tk5etrtmschbs8s3qiqrlirbi3qg@4ax.com:

> On Wed, 28 Feb 2007 01:01:55 GMT, Owen Duffy <none@no.where> wrote:
>
>>By "line loss" I mean the ratio of power at the load end of the line to
>>power at the source end of the line, not "forward power" or "reflected
>>power", but the average rate of flow of energy at those points.
>
> Hi Owen,
>
> What's wrong with conventional terms so that we BOTH know what you
> mean? The convention would call this Mismatch Loss. If you dispute
> this, then it serves my complaint. Further, convention has no
> interest in "forward power" nor "reflected power" except as expressed
> as SWR. I thought I was quite terse in this regard.
>
>>So, to your challenge:
>>The problem is 1m of Belden 8262 (RG58C/U type) at 3.5MHz with three
>>loads, 50+j0, 5+j0, and 500+j0.
>
> Well, as I've pointed out, it is not strictly in the terms of my
> challenge, is it?

Richard,

Your challenge was "Give me any normal line attenuation and SWR at the
load, and I will tell you exactly how much additional loss will occur."

I didn't state the VSWR, but it is 10:1 in both cases. The "normal line
attenation" you refer to is I expect the Matched Line Loss" which I have
given you.

>
>>The loss for 50+j0 load is 0.025dB (equivalent to the Matched Line
Loss).
>
> Sigh... parentheticals?
>
>>What Line Loss to you get for the other two cases?
>>
>>(I make it 0.24dB for 5+j0, and 0.014 for 500+j0.)
>
> An additional 0.1dB However, this example strains the utility of the
> challenge.

Is that your answer, an additional 0.1db due to the 10:1 VSWR? We do not agree on either answer.

BTW, my figures were not additional loss, but total Line Loss as I defined it.

You will note that my calculation for the 5+j0 case is less than the Matched Line Loss, not higher.

In practical transmission lines, most of the loss is in current flowing in the R component of an RLGC equivalent of the line, the loss in the copper conductors forming the line. For VSWR>1, the net current varies along the line forming the classic standing wave pattern, and the loss in incremental lengths of the line varies approximately with the square of current in that increment.

So in the two cases above, even though the load VSWR is the same, the loss is quite different due to the different current distribution in both cases, one is near a current maximum, and the other is near a current minimum. Any adjustment of Matched Line Loss for VSWR>1 using only the VSWR cannot take the location of the standing wave pattern into account, and is an inaccurate approximation in some situations.

Many books showing a VSWR based formula for "additional loss due to VSWR" don't spell out the assumptions underlying the formula. Phillip Smith does in his book "Electronic Applications of the Smith Chart", he says "If a waveguide is one or more wavelengths long, the average loss due to standing waves in a region extending plus or minus a half wavelength from the point of observation may be expressed as a coefficient or factor of the one way transmission loss per unit length." and he gives the ratio as (1+S^2)/(2*S). Though the ARRL shows graphs and formulas they don't always (if ever) spell out the assmptions.

So, yes I assert that the Line Loss under mismatch conditions may be less than the Matched Line Loss.

Owen

PS: I calculated my answers using http://www.vk1od.net/tl/tllc.php , Dan's TLDETAILS.EXE and ARRL's TLW3.EXE give similar results.

1905. Re: phased array practicality was Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 03:53:38 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45e4f8bf$0$16917$4c368faf@roadrunner.com>
Source record: 45419

"Dave" <noone@nowhere.com> wrote in message
news:4G4Fh.15798$sv6.284@trndny08...
>
> <jimlux@earthlink.net> wrote in message
> news:1172623863.445972.54000@q2g2000cwa.googlegroups.com...
>> On Feb 27, 11:16 am, "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote:
>> the phased array just isn't available as an
>> off the shelf product yet.
>
> sure it is, i have one for 80m, and one for 40m that were off the shelf
> phasing systems... comtek sells lots of them. and i have a home made one
> for 160m.
>
>
And 160 and 80 and 40 is where these antennas have there niche. Where the
big yagi isnt so popular or practical. I wouldnt think of putting up a Yagi
for 80 either but I might put of a couple of towers I can run in or out of
phase.

Jimmie

1906. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 05:05:47 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E5A3BDD4F70nonenowhere@61.9.191.5>
Source record: 45420

Richard Clark <kb7qhc@comcast.net> wrote in
news:qnf9u2dcubd5ppfohoqpaalkbhj4rrumd2@4ax.com:

> On Tue, 27 Feb 2007 21:37:15 GMT, Owen Duffy <none@no.where> wrote:
>
>>The fact that an instrument may consume power from the circuit does not
>>imply that it measures power.
>
> Hi Owen,
>
> If that power is from a reflection, then we've come to the logical
> conclusion of the argument.

Richard,

If you read and understood the article, you would see that the instrument is based on sampling the V/I ratio at a point, and that being surrounded by transmission line is not important to the principle of operation, in other words, it does not directly measure a reflected wave.

Owen

1907. Re: Radials

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 06:13:28 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <45E51D8C.CB1C4ACF@shaw.ca>
Source record: 45421

I agree with your theory. I once had a vertical with one horizontal radial which
was about two feet off the ground. It was fed with open wire line.
The design came from the ARRL handbook. To me it would
be similar to an inverted Vee set in an odd position, and the HV should be
present at the end of the radial however I never really did anything to
check it out with respect to HV at the end -- maybe just as well!

Irv

Rick wrote:
>
> >I've never heard of radial ends setting anything on fire. I'm
> >interested in seeing more replies to your question.
>
> Well, let's think of it this way. You sure wouldn't grab hold of the end of a
> quarter wave vertical with a kilowatt of power applied to it. Same for the
> end of a single raised radial because it would have similar high voltage on
> it, would it not? We would put a big old insulator on it to support it if
> this was our antenna configuration, right?
> Ok, say we laid the one radial made of insulated wire on the ground. Now the
> earth would detune it ???????? Would it still have extremely high voltage at
> the end? And if so, could it arc to earth? That was my question. I really
> dont have 1 radial at the present time, I have 20 so the current divides 1:20
> and the resultant voltage at the end of each radial may be nothing to be
> concerned about. I don't know, that why I asked on this cold winter night.
>
> Rick K2XT

--

Visit my HomePage at http://members.shaw.ca/finkirv/index.html
Visit my Baby Sofia website at http://members.shaw.ca/finkirv4/index.htm
Visit my OLDTIMERS website at http://members.shaw.ca/finkirv5/index.htm
---
Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

1908. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 07:12:07 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <0l7au2dag22p3s8je0923r4cl204s1tvf5@4ax.com>
Source record: 45422

On Wed, 28 Feb 2007 03:10:28 GMT, Owen Duffy <none@no.where> wrote:

>You will note that my calculation for the 5+j0 case is less than the
>Matched Line Loss, not higher.

Hi Owen,

I already anticipated that, didn't I? Certainly parsing my last discussion is hardly necessary.

I note you have no solution that answers for the loss in a fairly typical instance for a fairly typical line condition. It couldn't have been any more difficult than your former computations, could it? (In fact it is, but not conceptually.) And yet the absence of that effort is notable (OK, so you've been ambushed). I may have stumbled on a novelty application but I didn't trip over a boulder of a common usage.

Given this sub-thread flowed from my response that a source does dissipate a reverse power flow (both of which, the direction and dissipation, are held in contention); and further given my "perverse" challenge fully specifies such a condition and has a real solution, it stands to reason that if your general computation is in fact general, then it can resolve the contention to one or both of our satisfaction. All it requires is that your math treatment accepts both directions of power flow, and loss in the source. This is not unreasonable, especially when any number of references encompass just such concepts.

73's
Richard Clark, KB7QHC

1909. Re: screwdriver vs. tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 07:25:13 UTC
From: Rick Frazier <rickf@rickfrazier.com>
Message-ID: <45E52E59.3030902@rickfrazier.com>
Source record: 45423

Jeep? I'd go for the 102" whip and tuner, or a set of tuned hamsticks on spring mount. Wouldn't even consider the screwdriver unless you always stay on the pavement and don't live in an area with trees next to the highway/street. Now here's why...

I have a Yaesu FT-857 with the digital option (nearly the same as the 857D, which is newer) and when I initially installed it, I had the Yaesu Atas-120 Screwdriver, which I mounted on a "rollbar loop" behind the cab on my Toyota Tacoma 4x4 pickup. It worked fine, auto-tuning under command from the 857 merely by pressing the tune button, for bands from 40 meters up (even underway at speeds up to 55, which is the speed limit here in Hawaii). However, I eventually took if off after replacing the whip three or four times (the last time, I drilled out the mount for a larger diameter whip from a hamstick antenna). Yep, you guessed it already, overhanging trees killed the whips, over and over.

The other problem I had was that I had to re-solder the "matching base" to it's internal PCB twice, as vibration would cause the solder joint to fail. Nothing fatal, but clearly a pain in the butt.

After putting up with the issues of periodic soldering and whip replacement, I moved to a Hamstick mounted at the left rear corner of the truck, using 1 1/2" square steel tubing bolted to my hitch receiver. The tubing has a 3/8-24 adapter connected to it, with about 18" of pipe with another adapter, and a spring on top with a quick disconnect for the ham sticks. Moving it up 18" from the bumper level made the hamstick get out better, and gave them both a wider bandwidth and lower swr, but of course, they had to be retuned when I added the 18" pipe extension. I've had the whip bend back a bit in the wind, and at "passing speeds" the entire hamstick leans back about 20 degrees or so, but still gets out just fine. I haven't broken a whip on the hamstick yet, though it does take a minute or so to pull over, jump out and swap antennas to do a band change. Oh yeah, going through a drive-through gets me some really wierd looks if I forget to hop out and unplug the whip, because it drags over the ceiling of their drive-through awning if I don't (looks sort of line the power bar above a bumper car at that point). I keep the bands of choice (usually 40, 20 and 15 or 17 depending on mood) in the pickup bed, so I don't need to mark the whip to make them fit inside. Normally run on 40 meters because we have a daily net here on 7.088 at 0200 Zulu. (4 pm local time in Hawaii). Bandwidth on 80 is pretty narrow, but usable if you have a relatively narrow interest there. The 40 meter and higher frequency bands get out pretty well, I've had contacts to mainland US (2300 miles minimum) on 40, with world class contacts (Russia, Australia, South America, Japan, etc.) on 20 meters, and up. Used to talk to east coast on 10 meters in

the morning hours a couple of years ago, but haven't been out in the truck much lately, working on building a house right now...

Another thing about the screwdriver: When I had the Atas-120 screwdriver on, I made it a snap-lock mount, so I could fold it over the bed of the truck when I parked in the garage. It also snapped over when I forgot to lower it before I drove into the garage, so I didn't kill the antenna.

If you ever enter a parking garage you'll have to have a way to fold or remove the screwdriver or youll kill it. A jeep with a 102 can just be pulled over and held down with a short cord you can remove after you get back outside.

KE5MBX wrote:
> I'm planning to get a Yaesu FT-857D and operate mobile HF on as many
> bands as possible. I see two options so far for my Jeep Wrangler- a
> 102" whip with a tuner or a screwdriver antenna. Which is the better
> way to go?
>

1910. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 07:59:43 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <1daau2hj7fi70jhgl9ve8iudna28ga1hes@4ax.com>
Source record: 45424

On Wed, 28 Feb 2007 05:05:47 GMT, Owen Duffy <none@no.where> wrote:

>If you read and understood the article, you would see that the instrument
>is based on sampling the V/I ratio at a point, and that being surrounded by
>transmission line is not important to the principle of operation, in other
>words, it does not directly measure a reflected wave.

Hi Owen,

Can you express it without the presumption and still carry the
argument? I have read and understood many treatments on the topic,
and none claim to be the sole and unadulterated truth as it is
generally understood that many analyses work simultaneously and none
deny the validity of the others.

You have not yet actually offered any treatment that denies the bone
of contention that lies in two subject lines:
1. Reverse power is manifest;
2. The source will absorb and dissipate it.

You may have struggled with others over this in times past, but by
your own descriptions they had little intellectual horsepower, and
less experience in the matter.

I have attended schooling specific to these issues, and have practiced
professionally in their measure to the highest of standards. My peers
have instituted national metrology laboratories in your half of the
planet (OK, so it was Korea).

I have measured SWR with Bruene designs (as vulgar as that is);
Directional Couplers, Slotted Lines; and power with half a dozen
different style of sensors, and as many different methodologies. I
have also calibrated these instruments (all of them including the
vulgar Bruene designs). I can separate out the constituent waves (in
spite of the denial of their existence) by several means - each
appropriate to the problem at hand. I can measure excessively high
SWR precisely where others would shrug and simply call it infinite (it
isn't). I can also reduce residual SWR (anyone know what that is?).
I've done this over a spectrum from nearly D.C. to 12 GHz. And I get
a chuckle out of a claim for 0.014dB loss when I know full well
through experience it is unverifiable, unmeasurable, and hence
unproveable except in a spread sheet as a statistical curiosity.

73's
Richard Clark, KB7QHC

1911. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 08:11:30 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E5C33A6C0A4nonenowhere@61.9.191.5>
Source record: 45425

Richard Clark <kb7qhc@comcast.net> wrote in
news:0l7au2dag22p3s8je0923r4cl204s1tvf5@4ax.com:

...
> I note you have no solution that answers for the loss in a fairly
> typical instance for a fairly typical line condition. It couldn't
> have been any more difficult than your former computations, could it?
> (In fact it is, but not conceptually.) And yet the absence of that
> effort is notable (OK, so you've been ambushed). I may have stumbled
> on a novelty application but I didn't trip over a boulder of a common
> usage.
...

Richard,

No, it is just that I have not posted a solution as yet.

Your problem was described as "Presume a source of 100+j0 Ohms impedance sees a 50 Ohm line that is 5.35 wavelengths long and is terminated with a load of 200+j0 Ohms. The normal attenuation of the line is 2.00 dB. What is the loss in the line?"

Rather than sit down an write a bunch of stuff to calculate it, I took the lazy way out and played with a scenario using Belden 8262 (RG58C/U) in my line loss calculator that was pretty close to your scenario (Zo is a touch different at 50-j0.24, most lines with loss will have a non-zero jX component in Zo). My result for 15.8m of 8262 at 67MHz with a 200+j0 load is a transmission line loss (power into the load divided by power into the line at the source end) is 3.3dB. This value of line loss is independent of the source equivalent impedance.

If I reproduced the algorithms with the exact propagation constant and Zo for your problem scenario, the answer would be more accurate, but I think similar, and still obtained independently of the source impedance, and not worth the time.

The figures from the calculator are below if someone wants to play with it.

Now, are you prepared to post your solution?

Owen

Parameters
Transmission Line Belden 8262 (RG-58C/U)
Code B8262
Data source Belden

Frequency 67.000 MHz
Length 15.800 metres
Zload 200.00+j0.00 ?
Yload 0.005000+j0.000000 ?
Results
Zo 50.00-j0.24 ?
Velocity Factor 0.660
Length 1924.75 &#65533;, 5.347 ?
Line Loss (matched) 1.997 dB
Line Loss 3.279 dB
Efficiency 47.00%
Zin 30.48+j24.99 ?
Yin 0.019622-j0.016087 ?
VSWR(source end) 2.22
VSWR(load end) 4.00
? 1.46e-2+j2.13e+0
k1, k2 1.30e-5, 2.95e-10
Correlation coefficient (r) 0.999884

1912. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 08:24:24 UTC
From: Jeff <jeff@local.host>
Message-ID: <45e53c39$0$26694$834e42db@reader.greatnowhere.com>
Source record: 45326

> Presume a source of 100+j0 Ohms impedance sees a 50 Ohm line that is
> 5.35 wavelengths long and is terminated with a load of 200+j0 Ohms.
> The normal attenuation of the line is 2.00 dB. What is the loss in
> the line?
>
> Can your general solution solve this? It uniquely describes both the
> kinetics of reverse power flow AND the impact of source resistance.
>
> No one has every answered this one correctly, by the way (and I can
> anticipate you are ready to spring that observation on me with your
> source feeding essentialy a voltage oriented high Z load as opposed to
> the current oriented low Z load).
>

VSWR 4.75
Loss 3.55dB

73
Jeff

1913. Re: phased array practicality was Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 08:29:56 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <13nlVNEE2T5FFAi4@ifwtech.co.uk>
Source record: 45327

Jim wrote:
> I'll bet the hardware cost of a electronically steered phased array
>for HF suitable for ham use is comparable to the hardware cost of a big
>tower, rotator, and Yagi.. the phased array just isn't available as an
>off the shelf product yet.
>

The fully steerable phased array that can also handle 1.5kW TX power is not available as a HAM product off the shelf yet... but we can already see where the future is headed.

Many people already have four-square phased arrays for the lower HF bands, but we have hardly begun to tap their true potential.

The design company Plextek has a downloadable demonstration which shows what a four-square phased array can really do:
http://download.plextek.co.uk/AKS06.zip

The user interface is a bit clunky, but stay with it...

The program starts with an omnidirectional pattern, receiving signal 1 coming from 90deg (blue arrow at 3 o'clock). The thermometer bar at the top right is showing a positive signal/noise ratio (green).

Click in the 'Interferers' columns to bring up either one or two interfering stations which are the yellow arrows. The thermometer bar now shows a negative s/n ratio on the wanted signal (red).

Now the fun starts: in the 'Algorithm' column, click on 'SMART' to turn on Plextek's proprietary adaptive array software - watch the phased array reconfigure itself automatically. The pattern adapts to null out *both* of the interfering signals, while still keeping a lobe pointing towards the wanted signal. The wanted signal reappears from under the QRM and its s/n ratio increases dramatically.

You can then drag the interfering signals to different directions, and the array keeps on adapting. The only case where it can't give any improvement is where the interfering signal comes from exactly the same direction as the wanted signal.

All this is done by varying the amplitude and phasing of the signals from each of the elements before combining them. The 'WEIGHTS' table at centre right shows what is required. On transmit, the same directional patterns could be achieved by applying the same weightings to the currents that are fed to the four elements - or of course you could switch to a different pattern while transmitting.

OK, this is only a demonstration. It doesn't consider signals at a range of different vertical angles; it doesn't consider the big practical problems of achieving the correct current weightings when all four elements are interacting; and it doesn't consider how to handle the TX power. Even so, it will open your eyes to what a phased array can really do.

It's all down to the magic phasing box at the centre of the array. Whatever goes into that box will be hard to design, complicated to control, and expensive to build... but most four-square owners would be happy to have even a fraction of those extra capabilities.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

1914. Re: NEC computor programs

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 08:46:06 UTC
From: 4nec2 <4nec2@gmx.net>
Message-ID: <1172652365.800286.38230@m58g2000cwm.googlegroups.com>
Source record: 45328

On 27 feb, 20:22, "art" <aun...@insightbb.com> wrote:

> But what if it doesn't? Do you want to learn from it or keep quiet.?

It was just fun trying to make such a program, it kept me from the
streets and I learned a lot from it...

:-)

Arie.

1915. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 08:55:24 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E5CAAC0B46Dnonenowhere@61.9.191.5>
Source record: 45329

Richard Clark <kb7qhc@comcast.net> wrote in
news:1daau2hj7fi70jhgl9ve8iudna28ga1hes@4ax.com:

...
>
> You have not yet actually offered any treatment that denies the bone
> of contention that lies in two subject lines:
> 1. Reverse power is manifest;
> 2. The source will absorb and dissipate it.

Richard, if you go back over my postings in this thread, I have not denied either of these things.

I did comment on 2 as an explanation, one which I think is poor because of the conclusions that might be drawn from it, eg any mismatch creates reflected power which must be dissipated in the PA.

I did suggest that in the steady state, in a tx-line-load scenario, the impedance looking into the line can be found, and that equivalent load adequately explains the PA's behaviour.

>
> You may have struggled with others over this in times past, but by
> your own descriptions they had little intellectual horsepower, and
> less experience in the matter.

I never said such a thing, if it is your conclusion, I disagree with it.

...

Owen

1916. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 10:57:55 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E5DF717FF9nonenowhere@61.9.191.5>
Source record: 45330

"Jeff" <jeff@local.host> wrote in news:45e53c39$0$26694
$834e42db@reader.greatnowhere.com:

>
>> Presume a source of 100+j0 Ohms impedance sees a 50 Ohm line that is
>> 5.35 wavelengths long and is terminated with a load of 200+j0 Ohms.
>> The normal attenuation of the line is 2.00 dB. What is the loss in
>> the line?
>>
>> Can your general solution solve this? It uniquely describes both the
>> kinetics of reverse power flow AND the impact of source resistance.
>>
>> No one has every answered this one correctly, by the way (and I can
>> anticipate you are ready to spring that observation on me with your
>> source feeding essentialy a voltage oriented high Z load as opposed to
>> the current oriented low Z load).
>>
>
>
> VSWR 4.75

A 200 ohm load on a 50 ohm line is 4:1 at the load end in my view, and it
is lower as you move toward the source.

Owen

> Loss 3.55dB
>
> 73
> Jeff
>
>
>

1917. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 12:33:40 UTC
From: Jeff <jeff@local.host>
Message-ID: <45e576a5$0$26696$834e42db@reader.greatnowhere.com>
Source record: 45331

>>
>> VSWR 4.75
>
> A 200 ohm load on a 50 ohm line is 4:1 at the load end in my view, and it
> is lower as you move toward the source.
>

Indeed; 4:1 decreasing to 3.2:1 at the source, BUT only when the source is 50ohms.

Change the source impedance to 100ohms and the picture changes to 5.5:1 at the load and 4.75:1 at the source end.

By the way the vswr figures will change cyclically with frequency assuming a fixed length of coax (5.35 wavelengths at a fixed frequency), between about 7.5 and 2.5 at the load and 7 and 1.5 at the source.

73
Jeff

1918. CUSHCRAFT is SOLD

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 12:49:15 UTC
From: Dave <W1MCE@comcast.net>
Message-ID: <aq6dnRCHq6PU53jYnZ2dnUVZ_h7inZ2d@comcast.com>
Source record: 45332

Local news here in New Hampshire:

"A Manchester company that makes high-performance antennas has been sold to a U.K.-based firm for more than $89 million in cash.

Cushcraft Corp., once the world's largest producer of ham and short-wave radio antennas, will become part of the Laird Group, officials said.

About 100 Cushcraft employees are based in Manchester and another 20 elsewhere."

WMUR-TV dated 28 February 2007.

1919. Microwave dish blockages

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 13:09:34 UTC
From: doraemon <doraemon.xp@gmail.com>
Message-ID: <1172668174.542067.35590@a75g2000cwd.googlegroups.com>
Source record: 45333

There is a microwave dish (1.8m) operating around 6GHz (tramsit and receive). What is the clearance zone that I need to avoid to build a structure at 3m distance away? It seem to me that my structure is within the near-field radiating zone. Am I ok if my structure is not blocking the dish aperture at all but is around it?

1920. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 15:15:38 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <es4da1bhu1@news.service.uci.edu>
Source record: 45338

Richard Clark wrote:
> On Wed, 28 Feb 2007 05:05:47 GMT, Owen Duffy <none@no.where> wrote:
>
>
>>If you read and understood the article, you would see that the instrument
>>is based on sampling the V/I ratio at a point, and that being surrounded by
>>transmission line is not important to the principle of operation, in other
>>words, it does not directly measure a reflected wave.
>
>
> Hi Owen,
>
> Can you express it without the presumption and still carry the
> argument? I have read and understood many treatments on the topic,
> and none claim to be the sole and unadulterated truth as it is
> generally understood that many analyses work simultaneously and none
> deny the validity of the others.
>
> You have not yet actually offered any treatment that denies the bone
> of contention that lies in two subject lines:
> 1. Reverse power is manifest;
> 2. The source will absorb and dissipate it.
>
> You may have struggled with others over this in times past, but by
> your own descriptions they had little intellectual horsepower, and
> less experience in the matter.
>
> I have attended schooling specific to these issues, and have practiced
> professionally in their measure to the highest of standards. My peers
> have instituted national metrology laboratories in your half of the
> planet (OK, so it was Korea).
>
> I have measured SWR with Bruene designs (as vulgar as that is);
> Directional Couplers, Slotted Lines; and power with half a dozen
> different style of sensors, and as many different methodologies. I
> have also calibrated these instruments (all of them including the
> vulgar Bruene designs). I can separate out the constituent waves (in
> spite of the denial of their existence) by several means - each
> appropriate to the problem at hand. I can measure excessively high
> SWR precisely where others would shrug and simply call it infinite (it
> isn't). I can also reduce residual SWR (anyone know what that is?).
> I've done this over a spectrum from nearly D.C. to 12 GHz. And I get
> a chuckle out of a claim for 0.014dB loss when I know full well
> through experience it is unverifiable, unmeasurable, and hence

> unproveable except in a spread sheet as a statistical curiosity.
>
> 73's
> Richard Clark, KB7QHC

Hi Richard,

Not that I dispute anything here necessarily, but I would like to know how you went about measuring the reflected power dissipated within a source. Also, how the power being dissipated?

Thanks and regards,

Jim, AC6XG

1921. Re: I Built the 10m Sleeve Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 15:22:28 UTC
From: nm5k@wt.net
Message-ID: <1172676148.183579.259590@z35g2000cwz.googlegroups.com>
Source record: 45334

On Feb 26, 10:23 pm, Owen Duffy <n...@no.where> wrote:
That doesn't preclude
> current flowing on the outside of the line which seems to be your issue.
> I won't confuse you with examples of where the outside of the line is
> intended to carry current and at the same time the VSWR is low, but it is
> possible and sometimes desired.

Yep, SWR and feedline decoupling are pretty much totally unrelated.
It's possible to have a great match, and horrible decoupling from the
line.
And visa versa.. Or versa versa, or visa visa..

>JS ruminated
>I DID find that the coax wanted to couple into the antenna and become
>part of it (the sleeve itself was NOT a sufficient de-coupling device.)

It's not a decoupling device at all really. It's the lower half of the
antenna. A sleeve
half wave needs additional sleeves for decoupling. There are quite a
few
commercial variations that can be looked at. Many were built as heavy
duty VHF public service type antennas. The extra decoupling sleeves
can
be applied to the usual ground planes also. For VHF, etc, I usually
prefer using
sleeves, cones, radials, etc vs the usual rf choke or beads.
MK

1922. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 16:42:22 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <b1cbu2tj7g32or8ukaf0irsvojl188apdd@4ax.com>
Source record: 45335

On Mon, 26 Feb 2007 20:38:00 GMT, Owen Duffy <none@no.where> wrote:

>The danger in the "power is refelected at a mismatch" explanation, is
>that it follows that power reflected at a mismatched antenna flows back
>toward the transmitter and is at least partially absorbed in the PA as
>heat. Though that is a popular belief, it is not supported by fact.

This is the complete quote to which I responded in a recent
side-thread. You have lately expressed:

On Wed, 28 Feb 2007 08:55:24 GMT, Owen Duffy <none@no.where> wrote:

>> You have not yet actually offered any treatment that denies the bone
>> of contention that lies in two subject lines:
>> 1. Reverse power is manifest;
>> 2. The source will absorb and dissipate it.
>
>Richard, if you go back over my postings in this thread, I have not denied
>either of these things.

What have I missed about "it is not supported by fact?" What do you
mean by "is a popular belief?" I am swayed by facts and I don't
really like general statements that are couched in belief systems.

73's
Richard Clark, KB7QHC

1923. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 17:12:12 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <gpbbu29u23pp6pik5e5mtamvrhds07i57a@4ax.com>
Source record: 45336

On Wed, 28 Feb 2007 08:55:24 GMT, Owen Duffy <none@no.where> wrote:

>Richard Clark <kb7qhc@comcast.net> wrote in
>news:1daau2hj7fi70jhgl9ve8iudna28ga1hes@4ax.com:
>
>...
>>
>> You have not yet actually offered any treatment that denies the bone
>> of contention that lies in two subject lines:
>> 1. Reverse power is manifest;
>> 2. The source will absorb and dissipate it.
>
>Richard, if you go back over my postings in this thread, I have not denied
>either of these things.

Hi Owen,

It is surprising the conclusions I've drawn from our correspondence
then. As I've steadfastly expressed nearly every posting in these
terms, you have not exactly responded to my misunderstanding in an
uniform manner.

I shall return to those postings to enquire further rather than
laboring the point here.

>I did comment on 2 as an explanation, one which I think is poor because of
>the conclusions that might be drawn from it, eg any mismatch creates
>reflected power which must be dissipated in the PA.

This is not a denial? I see no positive characteristic you have
derived from 2 as allowing it is acceptable.

>I did suggest that in the steady state, in a tx-line-load scenario, the
>impedance looking into the line can be found, and that equivalent load
>adequately explains the PA's behaviour.

Yes, this allowing reflected power in your terms, allowing you to
express it as a fiction suitable to providing a truth in creating the
lumped equivalent. This may have the heavy hand of my
editorialization, but it is forced by the equivocation I find in your
points I am responding to here.

>> You may have struggled with others over this in times past, but by
>> your own descriptions they had little intellectual horsepower, and
>> less experience in the matter.
>
>I never said such a thing, if it is your conclusion, I disagree with it.

As I have never raised the discussion of "others" or how "they" developed poor explanations or subscribed to faulty premises; then my perhaps over-arching characterization is what you are rejecting as your having said. You may note that at that time I explicitly offered that their contributions were not germane to the facts.

73's
Richard Clark, KB7QHC

1924. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 17:12:18 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <cccbu2d3t66k6ge8rk51681c1flopmkncn@4ax.com>
Source record: 45337

On Tue, 27 Feb 2007 21:14:38 GMT, Owen Duffy <none@no.where> wrote:

>I am also aware that supporters of the inherent source match position
>assert that you must be selective in choosing tests for source impedance.
>It is all rather unconvincing when only some of the implications of a
>particular source impedance are effective.
>
>It is my view that modelling the PA as a fixed voltage or current source
>with fixed source impedance of Zo, and where reflected waves on a
>transmission line are absorbed by the matched source is not a good
>general model for HF PAs.

Hi Owen,

This quote gives me no confidence in what you have offered to me
recently:

On Wed, 28 Feb 2007 08:55:24 GMT, Owen Duffy <none@no.where> wrote:

>> You have not yet actually offered any treatment that denies the bone
>> of contention that lies in two subject lines:
>> 1. Reverse power is manifest;
>> 2. The source will absorb and dissipate it.
>
>Richard, if you go back over my postings in this thread, I have not denied
>either of these things.

As to point 1 (or 2 it is difficult to determine what you are
responding to specifically), explicitly stated by me, you have
expressed your self in relation to "supporters of the inherent source
match position" without actually identifying if you stand
1. With them;
2. Against them;
3. Indifferent to them.

As to point 2, explicitly stated by me, you have again described
yourself in a negative relation by discussing a model that does not
work.

Perhaps it is this style of ambivalence that clouded my appreciation
of your statement:
>I believe that it is sound (in the steady state) to resolve the forward
>and reflected wave voltages and currents at the source end of the
>transmission line, calculate the complex impedance, and predict the
>effects of that impedance as a PA load using the same techniques that
>were used to design the PA.
where you do allow 1 and 2.

However, I could be mistaken again because you don't actually acknowledge return power impinges upon the final stage, you transform it into another solution. Note that I accept such a transformation of the problem. It is common alternative explanation and perfectly valid. However, that transformation, in and of itself, does not speak to the issue of reflected power as a physical fact and a separable entity. In fact, the development of a lumped equivalent doesn't need to acknowledge SWR either.

73's
Richard Clark, KB7QHC

1925. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 17:41:56 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <e0ebu25oslg69rcfu72gfnfaih12lbv1ld@4ax.com>
Source record: 45339

On Wed, 28 Feb 2007 08:11:30 GMT, Owen Duffy <none@no.where> wrote:

>Now, are you prepared to post your solution?

Hi Owen,

Your quick computation of 3.3 dB is suitably close to my reference's first pass solution (3.27 dB), but it neglects the contribution of the source's resistance.

The solution is 4.9 dB.

If we were to revisit your 1 meter long cable used in the 80M band and force the transmitter to be a voltage source through the common mechanism of adding a substantial resistor, and mismatch the other end of that 1 meter long cable to the same degree (each end seeing 10K Ohm for the purpose of this statistical curiosity); then that same cable will heat up with its contribution of at least 3dB of ADDITIONAL loss.

The 10K Ohm specification is a forced one, but it responds in kind to the original forced solution too. In fact, it comes close to the source resistance found in a tube amplifier (a common voltage source) driving a halfwave element (a common application for such a source) and demonstrates the common futility of using coax (that I have already expressed) to accomplish this.

However, we don't have voltage sources to conveniently solve either of these statistical curiosities. Both the tube transmitter, and the solid state transmitter employ impedance matching to either draw down, or pull up the native source resistance to a level suitable for applying to a transmission line.

I would again point out that reverse power suitably accounts for the 1.6 dB difference between your answer and the solution, it also accounts for the 3 dB difference between your short cable's example, and my twist in its application.

All such differences have been described and used in design for quite a few decades, and they have been couched in exactly the terms I've used here.

If anyone wants to challenge the 4.9 dB solution, they can impeach my reference "Reference Data for Radio Engineers," (various editions). I can supply other references that have been named in this group too, but I would suggest with tackling one authority at a time.

73's
Richard Clark, KB7QHC

1926. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 18:07:50 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <psfbu2hn8d4j0ooahibsin9i08slguggkq@4ax.com>
Source record: 45340

On Wed, 28 Feb 2007 07:15:38 -0800, Jim Kelley <jwkelley@uci.edu>
wrote:

>Not that I dispute anything here necessarily, but I would like to know
>how you went about measuring the reflected power dissipated within a
>source. Also, how the power being dissipated?

Hi Jim,

Dissipation is caloric, however it can arrive catastrophically by one
of two mechanisms; and they reflect, no pun here, the two types of
phase sense offered by the random opportunity (being phase adding or
subtracting for current or voltage as the occasion demands).

One caloric method is simple in measuring the heat load expressed by
airflow temperature measurements in a confined volume. When I
designed the Flight Recorder, the FAA mandated a heat budget for its
acceptance. This is certainly far afield from the immediate topic,
but it responds to the attention offered in design to this issue. The
point of this sidebar is that efficiency translated immediately into
temperature and this was rigorously anticipated and tested. The same
design philosophy is mandated in RF final design and considerable
attention has been devoted to it in the trade papers.

Returning to our concerns, for certain phase combinations that caloric
solution can arrive suddenly in the form of an arc. Most operators
will immediately act to correct that situation and the heat build up
may not be great, but the damage may still be irreversible. This
harkens back to my discussion of a kitchen table laser cracking a
window pane. Average power may be unspectacular, but instantaneous
power, localized, can be very dramatic and destructive beyond
expectation (it certainly surprised my friend).

For other phase combinations that caloric solution can arrive
gradually (heat soaking); and catastrophe arrives through thermal
runaway. Operators rarely observe this until it is too late.

I hope that the readers can differentiate between these two, and how
certain designs (eg. solid state, and tube design) respond in these
cases and correlate to experience each to their own characteristic
failure mechanism.

73's
Richard Clark, KB7QHC

1927. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 18:35:09 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <unhbu2dg2qi2ja2mh26uv951qtdb6jiir3@4ax.com>
Source record: 45341

Expanding generously (gusting on):

>When I
>designed the Flight Recorder, the FAA mandated a heat budget for its
>acceptance.

Aircraft electronics lives with a common airduct. Your design must
not load the cooling air such that it becomes a flame thrower into the
next instrument in the stack. I won't go into issues of crash
survivability.

>Returning to our concerns, for certain phase combinations that caloric
>solution can arrive suddenly in the form of an arc.

I'm sure most readers who run tube rigs will recognize this situation
immediately. However, there is more than one combination of phases
and currents/voltages. I have also seen heat soaking arrive at a tube
to watch the plates glow cheerily. This, too, is probably an
experience borne by several tube rig operators. In fact, it can be
tolerated far more than a solid state amplifier, and tubes are noted
for their resilience. However, I have also seen the glass envelopes
turned into a taffy consistincy and the vacuum draw them like
heatshrink around the internal structure. Surprisingly, I have also
witnessed that these tubes still worked!

>For other phase combinations that caloric solution can arrive
>gradually (heat soaking); and catastrophe arrives through thermal
>runaway. Operators rarely observe this until it is too late.

The latest generation of solid state components have survivability
design into them such that they are specified to operate into an
infinite mismatch (or some such similar claim). This is suitably
taken care of by being able to withstand more voltage. Other issues
of current crowding, the original thermal disaster for transistors,
has been long solved. That solution revealed how the problem was in
heat confined to a small volume.

>

Finally, my measurements were never pushed to the point of failure.
All may well anticipate that this sudden arrival would preclude any
accuracy in the heat determination to demonstrate a quid-pro-quo of
returned power. Further, once the failure occured, heat is usually
removed by the very failure it brought - it usually removes the source
too. ;-)

73's
Richard Clark, KB7QHC

1928. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 18:54:12 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <v2jbu2logpont1ojuee1dq5c2hn7k0508a@4ax.com>
Source record: 45342

On Wed, 28 Feb 2007 09:41:56 -0800, Richard Clark <kb7qhc@comcast.net>
wrote:

>I would again point out that reverse power suitably accounts for the
>1.6 dB difference between your answer and the solution, it also
>accounts for the 3 dB difference between your short cable's example,
>and my twist in its application.

Lest there be any doubt about there being concurrent explanations,
this loss is also expressed in lumped equivalency and circulating
currents. It can be correlated to a very common issue with literal
lumped circuit antenna tuners. It can also be described in terms of Q
and cavities. It can also be correlated to short radiators, radiation
resistance, and Ohmic loss.

Each description is accurate, and as varied as the authors each
offering their interpretations, but no explanation denies the validity
of the other, and reflected power in a line is no exception.

73's
Richard Clark, KB7QHC

1929. The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 20:35:27 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E64D38131A0nonenowhere@61.9.191.5>
Source record: 45343

Breaking out of the previous thread to explore the "power explanation" in a steady state situation:

The scenario for discussion is a transmitter connected to a half wave of 600 ohm lossless transmission line connected to an antenna with a feedpoint impedance of 70+j0.

The transmitter is rated for 100W output, 100W is developed in the 70 ohm load, the VSWR on the transmission line is 8.6, the "forward power" (meaning Vf^2/Zo) on the transmission line is 267W, the "reflected power" (meaning Vr^2/Zo) on the transmission line is 167W, the DC input power to the transmitter is 200W.

The questions are:

Is there any internal inconsistency in the scenario characterisation, if so, identify / explain?

What is the heat dissipated in the transmitter (and why)?

What part of the "reflected power" of 167W is dissipated in the transmitter (and why)?

Owen

1930. Effect of raising vertical antenna higher

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 20:39:36 UTC
From: Comcast newsgroups <newsgroups2000@hotmail.com>
Message-ID: <XeGdnbtv2b1RdXjYnZ2dnUVZ_o6gnZ2d@comcast.com>
Source record: 45344

Hello all,

I have a mono-band 20-meter vertical currently mounted only about
12 feet up (less than a quarter wave). There are 4 radials and it tunes
very well - very low VSWR across entire band, with decent signal reports.

Question: If I were to rent a cherry picker, I could mount the thing on
the end of the peak of my house, at about 40 feet up. That would put the
bottom of the radials at greater than 1/4 wave.

But would I notice any difference? If so, would it be potentially
dramaticly
better, or just 'technically' better? It would be a major project to do, so
I'm
trying to decide if it would be worth it or not.

Thanks,

Dave WB7AWK

1931. Re: Effect of raising vertical antenna higher

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 21:00:54 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <es4qhsllf1@nnrp.linuxfan.it>
Source record: 45345

Comcast newsgroups wrote:
> Hello all,
>
> I have a mono-band 20-meter vertical currently mounted only about
> 12 feet up (less than a quarter wave). There are 4 radials and it tunes
> very well - very low VSWR across entire band, with decent signal reports.
>
> Question: If I were to rent a cherry picker, I could mount the thing on
> the end of the peak of my house, at about 40 feet up. That would put the
> bottom of the radials at greater than 1/4 wave.
>
> But would I notice any difference? If so, would it be potentially
> dramaticly
> better, or just 'technically' better? It would be a major project to do, so
> I'm
> trying to decide if it would be worth it or not.
>
> Thanks,
>
> Dave WB7AWK
>
>

Dave:

"Higher the better" is the golden rule.

I'd venture it would be noticeably better. But, rent a cherry picker?
I usually find much more reasonable ways to achieve decent heights ...

JS

1932. Re: Effect of raising vertical antenna higher

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 21:28:06 UTC
From: Tam/WB2TT <t-tammaru@c0mca$t.net>
Message-ID: <1sKdnZCRb5tPbnjYnZ2dnUVZ_oCmnZ2d@comcast.com>
Source record: 45346

"Comcast newsgroups" <newsgroups2000@hotmail.com> wrote in message
news:XeGdnbtv2b1RdXjYnZ2dnUVZ_o6gnZ2d@comcast.com...
> Hello all,
>
> I have a mono-band 20-meter vertical currently mounted only about
> 12 feet up (less than a quarter wave). There are 4 radials and it tunes
> very well - very low VSWR across entire band, with decent signal reports.
>
> Question: If I were to rent a cherry picker, I could mount the thing on
> the end of the peak of my house, at about 40 feet up. That would put the
> bottom of the radials at greater than 1/4 wave.
>
> But would I notice any difference? If so, would it be potentially
> dramaticly
> better, or just 'technically' better? It would be a major project to do,
> so I'm
> trying to decide if it would be worth it or not.
>
> Thanks,
>
> Dave WB7AWK
>
Download the free version of EZNEC, and run simulations at both heights. I
would look for differences in gain and vertical radiation angle.

Tam/WB2TT

1933. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 21:55:47 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <es4tp0kuf1@news.service.uci.edu>
Source record: 45347

Richard Clark wrote:
> On Wed, 28 Feb 2007 07:15:38 -0800, Jim Kelley <jwkelley@uci.edu>
> wrote:
>
>
>>Not that I dispute anything here necessarily, but I would like to know
>>how you went about measuring the reflected power dissipated within a
>>source. Also, how the power being dissipated?
>
>
> Hi Jim,
>
> Dissipation is caloric, however it can arrive catastrophically by one
> of two mechanisms; and they reflect, no pun here, the two types of
> phase sense offered by the random opportunity (being phase adding or
> subtracting for current or voltage as the occasion demands).
>
> One caloric method is simple in measuring the heat load expressed by
> airflow temperature measurements in a confined volume. When I
> designed the Flight Recorder, the FAA mandated a heat budget for its
> acceptance. This is certainly far afield from the immediate topic,
> but it responds to the attention offered in design to this issue. The
> point of this sidebar is that efficiency translated immediately into
> temperature and this was rigorously anticipated and tested. The same
> design philosophy is mandated in RF final design and considerable
> attention has been devoted to it in the trade papers.

What I meant was, in what way were you able to attribute and apportion this heat to its various sources? What evidence were you able to obtain to show reflected energy re-entering the source output? What component in the system in fact dissipated the reflected energy? How were you able to determine the exact source and amount of energy at any given location within the source? Or did you just presume that you understood the underlying mechanisms?

Thanks in advance,

Jim AC6XG

1934. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 22:44:53 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <es50l3mlo1@news.service.uci.edu>
Source record: 45348

Cecil Moore wrote:

> On Feb 27, 2:53 am, "Jeff" <j...@local.host> wrote:
>
>>Adding a circulator to a system will not change "the load line" (if a
>>transmission line or circulator can have such a thing), but it will cause
>>the power in the reflected wave to be separated so that it can be monitored
>>and measured. Surprisingly power monitored in this way ties up with the
>>notion that power is reflected at a mis-matched load.
>
>
> Yes, and a little modulation added to the source signal will prove
> that the
> signal being dissipated by the circulator resistor has made a round
> trip
> to the load and back. That's hard to explain if reflected energy
> doesn't
> actually exist.
> --
> 73, Cecil, w5dxp.com

Your example is the same as putting a load resistor on an open
transmission line, measuring the dissipated power, and then claiming
the same thing happens without the load resistor there.

ac6xg

1935. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-02-28 23:01:17 UTC
From: Dave <noone@nowhere.com>
Message-ID: <1RnFh.11355$tA1.8718@trndny02>
Source record: 45349

"Owen Duffy" <none@no.where> wrote in message
news:Xns98E64D38131A0nonenowhere@61.9.191.5...
> Breaking out of the previous thread to explore the "power explanation" in
> a steady state situation:
>
> The scenario for discussion is a transmitter connected to a half wave of
> 600 ohm lossless transmission line connected to an antenna with a
> feedpoint impedance of 70+j0.
>
> The transmitter is rated for 100W output, 100W is developed in the 70 ohm
> load, the VSWR on the transmission line is 8.6, the "forward power"
> (meaning Vf^2/Zo) on the transmission line is 267W, the "reflected
> power" (meaning Vr^2/Zo) on the transmission line is 167W, the DC input
> power to the transmitter is 200W.
>
> The questions are:
>
> Is there any internal inconsistency in the scenario characterisation, if
> so, identify / explain?

i think the best answer is... it depends.
it depends on what the radio looks like to the reflected power.
for instance, if the tx output network included a circulator and dummy load,
then the reflected power would be lost and there would be no way to get 100w
into the load.
however, because of the conditions given it would appear you have assumed a
perfect re-reflection of the reflected power at the tx end of the line so
everything balances perfectly.

>
> What is the heat dissipated in the transmitter (and why)?

200w dc in, 100w rf into load, lossless line, sounds like 100w dissipated in
the tx to me.

>
> What part of the "reflected power" of 167W is dissipated in the
> transmitter (and why)?

none. it is all re-reflected back toward the load.

1936. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 00:05:37 UTC
From: Dan Andersson <dan@andersson.co.uk>
Message-ID: <spOdnSh9SrdFhXvYnZ2dneKdnZypnZ2d@eclipse.net.uk>
Source record: 45350

Roy Lewallen wrote:

> Recompiling Fortran code which has no interaction with the user other
> than getting text input from one file and writing text output to another
> is a vastly different problem than re-writing a 60,000 line Visual Basic
> interactive graphical user interface in another language then
> recompiling for Linux while retaining full functionality of all
> features. The difference between the two problems seems to escape a lot
> of people, but problems do always look easier to solve when it's someone
> else's job to solve them.
>
> Roy Lewallen, W7EL
>
> J. B. Wood wrote:
>> In article <12tnpo655jure73@corp.supernews.com>, Roy Lewallen
>> <w7el@eznec.com> wrote:
>>
>>> Cebu_Charlie wrote:
>>>> great Roy, but do us all a favor and port it out to linux so we dont
>>>> have to play with wine to use it.
>>> I'm sure you're a cool guy and all, but I'm not about to spend a couple
>>> of years of full time to do you a favor so you won't have to fool with
>>> wine. Sometimes it's just a tough world.
>>>
>>> Roy Lewallen, W7EL
>>
>> Hello, Roy, and all. I have used a g77-compiled version of NEC-4 on a
>> Linux platform and it worked fine. The GNU compiler works with
>> FORTRAN-77
>> source code as well as C. I assume a g77 compilation of the NEC-2 source
>> code would also work. Of course this is just number-crunching NEC that
>> does not provide the other bells and whistles of EZNEC. Sincerely, and
>> 73s from N4GGO,
>>
>> John Wood (Code 5550) e-mail: wood@itd.nrl.navy.mil
>> Naval Research Laboratory
>> 4555 Overlook Avenue, SW
>> Washington, DC 20375-5337

Recompiling Visual Basic code in Linux is simpler now as Mono is VB
compatible! And free of course...

So if someone sits on the VB code for EZNEC, just rebuild it .Mono on Linux
BUT LINK IT STATICALLY! This means the code will run on almost all varietys
of Linux!

//Dan, M0DFI

1937. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 00:11:59 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <375cu2lk30mvt6pe5p4hfbhl5e4rpe838h@4ax.com>
Source record: 45351

On Wed, 28 Feb 2007 13:55:47 -0800, Jim Kelley <jwkelley@uci.edu>
wrote:

>What I meant was, in what way were you able to attribute and apportion
>this heat to its various sources? What evidence were you able to
>obtain to show reflected energy re-entering the source output? What
>component in the system in fact dissipated the reflected energy? How
>were you able to determine the exact source and amount of energy at
>any given location within the source? Or did you just presume that
>you understood the underlying mechanisms?

Hi Jim,

This knowledge arrived by many avenues.

For one, in a heavily heatsinked design, mapping of temperatures
generally reveal a very diffuse origin. That, of course, is the
purpose of the heatsink. So, in that regard the assignment of where
dissipation occurs is done by induction. You can eliminate a lot
circuitry as being incapable of supporting this dissipation, as it is
both remote from the signal path, and remote physically. The
literature of design reveals much of what is discovered in the field.

That literature reveals the dissipation occurs in the
emitter/collector junction of the finals' transistors. Failures have
been confirmed through post-mortem examination by microscope (no, I
have not done this).

Experience with new designs and frequency of failure (those activities
that I have participated in) lead to the same conclusion. In one
particular case it was a manufacturing/assembly problem of mounting
the transistor to the heatsink. A bur was found in many such mounts
that interfered with a complete mating of surfaces. This raised the
thermal resistance in the path from that same junction to the mating
surface, to the heatsink, to the environment. Knowing each thermal
resistance in that path makes it rather simple to forecast the
junction temperature at the time of failure (or rather, to say failure
which occurred was guaranteed a fatal temperature) when you know the
power consumed by the component. All such "resistance" conform to the
simple math of Ohm's law (once you substitute the necessary units for
heat).

When we return to the design guidelines and this junction, almost
every manufacturer of power transistors specifies a junction
resistance value at rated power. Casting this value through the chain
of transformations and to the antenna connector reveals a value very

nearly 50 Ohms. There are newer power amplification designs today, and yet the market for Ham gear is dominated by the Class AB design which is exhibits this property nicely.

Inductive logic leads us to this junction as the principle target of reflected power (the signal path is symmetric, after all). Experience has supported this logic. Failures are attributable to design flaw (or assembly flaw), or poor application (driving a mismatch), or both.

As for tubes, I've already testified to the obvious location for dissipation. It is far easier to see.

73's
Richard Clark, KB7QHC

1938. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 00:22:00 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <I0pFh.2637$M65.1814@newssvr21.news.prodigy.net>
Source record: 45352

Jim Kelley wrote:
>
> Cecil Moore wrote:
>> The joules/sec are real quantities but whether joules/sec
>> is power depends upon the definition of "power".
>
> In our case here on the internet, it depends on whether or not you
> choose to equate 'units of power' with the definition of power.

Most engineers equate the units of power to power, i.e.
joules/sec = watts and so does the IEEE dictionary. But I
am content to assert that the joules in the joules per
second of a reflected wave is real energy. Do you disagree?
--
73, Cecil http://www.w5dxp.com

1939. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 00:36:22 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <aepFh.2640$M65.144@newssvr21.news.prodigy.net>
Source record: 45353

Richard Clark wrote:
> Any who complain about their transmitter having:
> 1. No source resistance;
> 2. Not this much resistance:
> 3. Not this little resistance;
> 4. None of the above (the usual response).
> can take heart that if you simply substitute a tuner ...

Yep, the great majority of amateur radio antenna systems
are matched by a tuner. That act of matching prohibits
reflected load energy from reaching the PA. Except for
overall efficiency, when an antenna system is matched,
the PA impedance doesn't matter. A 5 ohm PA, a 50 ohm PA,
and a 500 ohm PA all output the same power if the output
voltage is the same into the same load.
--
73, Cecil http://www.w5dxp.com

1940. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 00:52:18 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <6tpFh.2643$M65.1450@newssvr21.news.prodigy.net>
Source record: 45354

Owen Duffy wrote:
> Breaking out of the previous thread to explore the "power explanation" in
> a steady state situation:
>
> The scenario for discussion is a transmitter connected to a half wave of
> 600 ohm lossless transmission line connected to an antenna with a
> feedpoint impedance of 70+j0.
>
> The transmitter is rated for 100W output, 100W is developed in the 70 ohm
> load, the VSWR on the transmission line is 8.6, the "forward power"
> (meaning Vf^2/Zo) on the transmission line is 267W, the "reflected
> power" (meaning Vr^2/Zo) on the transmission line is 167W, the DC input
> power to the transmitter is 200W.
>
> The questions are:
>
> Is there any internal inconsistency in the scenario characterisation, if
> so, identify / explain?
>
> What is the heat dissipated in the transmitter (and why)?
>
> What part of the "reflected power" of 167W is dissipated in the
> transmitter (and why)?

IMO, you missed the most important questions.

Is the amplitude of the energy stored in the transmission
line when steady-state is reached exactly equal to the
amount it takes to support 267w+167w = 434w of total power?

What happens to the 434w of total steady-state energy stored
in the transmission line when the source is disconnected?
--
73, Cecil http://www.w5dxp.com

1941. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 01:00:46 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <2BpFh.2644$M65.745@newssvr21.news.prodigy.net>
Source record: 45355

Jim Kelley wrote:
>
>
> Cecil Moore wrote:
> Your example is the same as putting a load resistor on an open
> transmission line, measuring the dissipated power, and then claiming the
> same thing happens without the load resistor there.

No, it is more akin to presenting all the evidence.
Your approach is akin to rolling dice in the dark
where you are the only one allowed to report the
results. :-)

Are you willing to assert that the power being
dissipated in the circulator resistor didn't
make a round trip to the load and back even though
the actual delay is easy to measure?

Do the reflected waves that you see when looking
at yourself in the mirror contain any joules/sec?
--
73, Cecil http://www.w5dxp.com

1942. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 01:26:16 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <YYpFh.2647$M65.1764@newssvr21.news.prodigy.net>
Source record: 45356

Owen Duffy wrote:
> Breaking out of the previous thread to explore the "power explanation" in
> a steady state situation:
>
> The scenario for discussion is a transmitter connected to a half wave of
> 600 ohm lossless transmission line connected to an antenna with a
> feedpoint impedance of 70+j0.
>
> The transmitter is rated for 100W output, 100W is developed in the 70 ohm
> load, the VSWR on the transmission line is 8.6, the "forward power"
> (meaning Vf^2/Zo) on the transmission line is 267W, the "reflected
> power" (meaning Vr^2/Zo) on the transmission line is 167W, the DC input
> power to the transmitter is 200W.
>
> What part of the "reflected power" of 167W is dissipated in the
> transmitter (and why)?

There is a conceptual exercise that I use on such problems.

Source---1WL 70 ohm line---+---1/2WL 600 ohm line---70 ohm load
Pfor1=100w--> Pfor2=267w--> 100w
<--Pref1=0 <--Pref2=167w

Now the picture becomes perfectly clear. The insertion of 1WL
70 ohm line doesn't affect the steady-state condition. A 70
ohm Z0-match is achieved at '+' so none of the 167w is dissipated
in the transmitter. What happens at point '+' toward the source
is total destructive interference, i.e. no reflected energy. What
happens at point '+' toward the load is total constructive
interference. Reference "Optics", by Hecht, 4th edition, page 388.

rho at '+' is 0.791. That makes rho^2 = 0.626.

The amount of Pfor1 that makes it through the impedance discontinuity
at '+' is Pfor1(1-rho^2) = 100w(0.374) = 37.4 watts - call that P1

The amount of Pref2 that is reflected from the impedance discontinuity
at '+' is Pref2(rho^2) = 167w(0.626) = 104.5 watts - call that P2

The power equation says that Pfor2 = P1 + P2 + 2*SQRT(P1*P2)cos(A)

Since it is a Z0-match point A=0 so cos(A)=1. Therefore,

Pfor2 = 37.4w + 104.5w + 2*SQRT(37.4w*104.5w) = 267 watts

What do you know? The power equation works perfectly. Pfor2 didn't
even need to be given.

--
73, Cecil http://www.w5dxp.com

1943. Antenna recommendations for160-10 Meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 01:28:54 UTC
From: Joaquin Tall <opalockamishabob@'86DASPAMnetscape.net>
Message-ID: <SO-dnUeDu-7KsXvYnZ2dnUVZ_qyjnZ2d@got.net>
Source record: 45357

Hello All,

As a young SWL, I loved reading all the posts & antenna discussions posted here. I lived in a small, 8'X8' bedroom and dreamed of the time that I would have some room to really have one, very efficient and effective antenna/transceiver combination. That time has arrived, I passed my General exam last Saturday.

I currently live on a 3+ acres at the 2,000+ elevation. It faces North on a rather precipitous slope.

I have read ON4UN's book, but I am very interested in your thoughts. First, let me tell you where my interests lay.

I am close to making the purchase of a IC-755DSP; I would very much like to feed this wonderful transceiver with an equally wonderful, efficient and durable antenna. I am very interested in working 160 meters, at first.

There are several equally efficient dipoles on the market; Alpha-Delta DX-EE, WA2Nan's Tru-Talk, Par Electronics End-Fed half wave, Cobra UltraLite Senior or the G5RV's that are manufactured by both Antennas & More, as well as HF Antennas.

I've just noticed that Antennas & More produces what they call their "OmniLoop", which is 560' long.

Each antenna will easily fit on the property, but I was hoping that your personal experience with one of these could help me finally decide.

Many thanks for taking the time to respond!

Alain

1944. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 01:29:35 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <30qFh.2648$M65.937@newssvr21.news.prodigy.net>
Source record: 45358

Jeff wrote:
> Change the source impedance to 100ohms and the picture changes to 5.5:1 at
> the load and 4.75:1 at the source end.

Here's the equation for rho at the load.

rho = (Z0-Zload)/(Z0+Zload)

SWR = (1+rho)/(1-rho)

I don't see the source impedance in those equations.
--
73, Cecil http://www.w5dxp.com

1945. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 01:51:30 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <k29cu25nvcn2sqeb7nifvnu1fq4vqbcifi@4ax.com>
Source record: 45359

On Wed, 28 Feb 2007 20:35:27 GMT, Owen Duffy <none@no.where> wrote:

>Breaking out of the previous thread to explore the "power explanation" in
>a steady state situation:
>
>The scenario for discussion is a transmitter connected to a half wave of
>600 ohm lossless transmission line connected to an antenna with a
>feedpoint impedance of 70+j0.
>
>The transmitter is rated for 100W output, 100W is developed in the 70 ohm
>load, the VSWR on the transmission line is 8.6, the "forward power"
>(meaning Vf^2/Zo) on the transmission line is 267W, the "reflected
>power" (meaning Vr^2/Zo) on the transmission line is 167W, the DC input
>power to the transmitter is 200W.
>
>The questions are:
>
>Is there any internal inconsistency in the scenario characterisation, if
>so, identify / explain?

Hi Owen,

After a fashion, yes. You don't have enough information. The lesson
of past correspondence reveals the source resistance is not a benign
element that can be discarded in the examination of these problems.

Explain? I thought I had by example, so to continue by simple
analysis we have to ask: "What is the source R?"

If it is 70 Ohms, it sees a 70 Ohm load and an Impedance Match. In
effect there is no other way for a transmitter that is capable of 100W
being able to source 100W to a load, is there?

If it is 50 Ohms, it immediately sees a mismatch at the connector -
you did do your lumped equivalent of the transmission line system,
didn't you? Hence a transmitter limited to supplying 100W could not
supply 100W to a mismatched load.

If it is 600 Ohms, we again see a massive mismatch, further discussion
is unnecessary as being repetitive.

>What is the heat dissipated in the transmitter (and why)?

I will skip that exercise as obvious pending discussion below.

>What part of the "reflected power" of 167W is dissipated in the
>transmitter (and why)?

Presuming the 70 Ohm source as it is the only one capable of supporting the 100W application of power to the 70 Ohm load (by your definition and limitations) we shall proceed to the determination of those pesky powers with absolute finality.

The load voltage is 84 volts (to sufficient accuracy). The voltage at the source port is 84 volts (to sufficient accuracy). The line has been defined to be lossless. The same potential at the same angle is returned to the source through 360 degrees of travel and no loss (analysis allows us to treat the load as a generator). That signal applied to the transmitter finds there is no potential difference, and thus there is no current flow. This variously describes either a short or an open; and either way it represents an infinite mismatch - ALL the reflected power is re-reflected to the load.

Voila, another statistical curiosity!

Tuners do this more generally and we use tuners to re-reflect the power, and to not suffer the transmitter the additional heat burden of reflected power arriving at the finals.

If we repeat this exercise with the other source resistances, we stand to appreciate a paradox in the initial condition of:
>the DC input power to the transmitter is 200W.
forcing us to resolve the additional heat burden (roughly 50W) exceeding the reflected power's ability to contribute that much (especially when all the reflected power is re-reflected); or worse, the source going into clipping. A non-linear source is not a pleasant thing to behold.

73's
Richard Clark, KB7QHC

1946. Re: Effect of raising vertical antenna higher

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 02:45:09 UTC
From: chuck <nospam@nospam.org>
Message-ID: <1172760424_8771@sp6iad.superfeed.net>
Source record: 45278

Jon Kï¿½re Hellan wrote:
> "Tam/WB2TT" <t-tammaru@c0mca$t.net> writes:
>
>> "Comcast newsgroups" <newsgroups2000@hotmail.com> wrote in message
>> news:XeGdnbtv2b1RdXjYnZ2dnUVZ_o6gnZ2d@comcast.com...
>>> Hello all,
>>>
>>> I have a mono-band 20-meter vertical currently mounted only about
>>> 12 feet up (less than a quarter wave). There are 4 radials and it tunes
>>> very well - very low VSWR across entire band, with decent signal reports.
>>>
>>> Question: If I were to rent a cherry picker, I could mount the thing on
>>> the end of the peak of my house, at about 40 feet up. That would put the
>>> bottom of the radials at greater than 1/4 wave.
>>>
>>> But would I notice any difference? If so, would it be potentially
>>> dramaticly
>>> better, or just 'technically' better? It would be a major project to do,
>>> so I'm
>>> trying to decide if it would be worth it or not.
>>>
>>> Thanks,
>>>
>>> Dave WB7AWK
>>>
>> Download the free version of EZNEC, and run simulations at both heights. I
>> would look for differences in gain and vertical radiation angle.
>>
>> Tam/WB2TT
>
> Don't forget that by raising the antenna, you avoid obstructions from your
> house, neighbouring houses and foliage. I suspect those can be
> significant.
>
> 73 de LA4RT Jon

And you reduce the effect of the ground beneath the antenna.

73,

Chuck NT3G

-----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

1947. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 04:29:11 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <es5kqc$1qv$1@news.albasani.net>
Source record: 45360

Dan Andersson wrote:

> ...
> So if someone sits on the VB code for EZNEC, just rebuild it .Mono on Linux
> BUT LINK IT STATICALLY! This means the code will run on almost all varietys
> of Linux!
>
> //Dan, M0DFI

My gawd man. Let us hope no serious program is ever written in Visual Basic!

Oh, I forgot, some idiots did do that, didn't they?

JS

1948. Re: I Built the 10m Sleeve Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 05:04:15 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <k9tFh.52894$iE2.10748@newsfe10.phx>
Source record: 45361

"Jimmie D" <GFENDER@carolina.rr.com> wrote in message
news:45e4ecd4$0$4857$4c368faf@roadrunner.com...
>
> "Owen Duffy" <none@no.where> wrote in message

< snip >

> > The key to success with coaxial dipoles is
> > decoupling the feedline. A common configuration is to place a set of
> > radials, or a quarter wave choke to be effective a quarter wave below
the
> > bottom of the dipole lower element... this actually attempts to reduce
> > current below the radials, and uses the quarter wave of feedline above
> > the radials as part of the radiator for a little more gain.
> >
> > IIRC, the ARRL had some suggestions about decoupling a coaxial dipole.
> >
> > Owen
>
> I was thinking it might be interesting to make a ferrite choke that you
can
> slide on the coax to tune the antenna. You might not have to slide the
whole
> choke just a bead or two that you can move a few inches.
>
> Jimmie.

This is worth trying, too and I had thought of it. Too bad I don't what type
ferrite material I have (all junk-box recoveries, swap meet, etc). I
figured on a low probability of success, but with failure so cheap, quick
and easy -- what the heck!. ;-)

1949. Re: I Built the 10m Sleeve Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 06:10:32 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <es5qog$q6u$1@registered.motzarella.org>
Source record: 45362

Sal M. Onella wrote:
> "Jimmie D" <GFENDER@carolina.rr.com> wrote in message
> news:45e4ecd4$0$4857$4c368faf@roadrunner.com...
>> "Owen Duffy" <none@no.where> wrote in message
>
> < snip >
>
>>> The key to success with coaxial dipoles is
>>> decoupling the feedline. A common configuration is to place a set of
>>> radials, or a quarter wave choke to be effective a quarter wave below
> the
>>> bottom of the dipole lower element... this actually attempts to reduce
>>> current below the radials, and uses the quarter wave of feedline above
>>> the radials as part of the radiator for a little more gain.
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>>> Owen
>> I was thinking it might be interesting to make a ferrite choke that you
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>> slide on the coax to tune the antenna. You might not have to slide the
> whole
>> choke just a bead or two that you can move a few inches.
>>
>> Jimmie.
>
> This is worth trying, too and I had thought of it. Too bad I don't what type
> ferrite material I have (all junk-box recoveries, swap meet, etc). I
> figured on a low probability of success, but with failure so cheap, quick
> and easy -- what the heck!. ;-)
>
>

I have pressed material which was not suppose to work, into working. I
have used type 26 material effectively at 10 meters and above, meaning
20, 40, 80, 160m. (sucks on 6m though :( ) If there is a will, there is
a way. May not be the most efficient--but ya' can make it work!

An inductance meter is a crucial tool, but you can get the plans for one
on the net which will use your fet-vom or vtvm and get ya' by!

JS

JS

1950. Re: phased array practicality was Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 07:20:41 UTC
From: jimlux@earthlink.net
Message-ID: <1172733641.391000.20920@j27g2000cwj.googlegroups.com>
Source record: 45363

On Feb 28, 12:29 am, Ian White GM3SEK <gm3...@ifwtech.co.uk> wrote:
> Jim wrote:
> > I'll bet the hardware cost of a electronically steered phased array
> >for HF suitable for ham use is comparable to the hardware cost of a big
> >tower, rotator, and Yagi.. the phased array just isn't available as an
> >off the shelf product yet.
>
> The fully steerable phased array that can also handle 1.5kW TX power is
> not available as a HAM product off the shelf yet... but we can already
> see where the future is headed.
>
----
snip

> It's all down to the magic phasing box at the centre of the array.
> Whatever goes into that box will be hard to design, complicated to
> control, and expensive to build... but most four-square owners would be
> happy to have even a fraction of those extra capabilities.

I think it might be a bit of time before it's an off the shelf product
(lack of demand is part of the reason).
It also depends a bit on just how good you want the performance to be
(null depth, primarily.. forward gain is not very sensitive to phasing
and amplitude accuracy), and whether you want to make it an antenna
system that just hooks onto an existing rig and PA, essentially
hanging off a single feedline, or whether a higher level of
integration is desirable or feasible. (for instance, rather than power
combining a bunch of solid state amp modules like the current kilowatt
class SSPAs do, put a power module on each antenna)

"the magic box in the center of the array" is more the former model,
and while simple conceptually, in the long run probably isn't the best
way to solve the problem in a system context. For instance, a multi
channel receiver, which can do all the phasing, very precisely, at low
levels, either with analog or digital processing, can give you the
nice deep nulls and adaptation.For TX, though, null depth isn't as
important as maximizing the power squirted in the right direction.

Hardware wise, the design isn't particularly complicated (any of the
current crop of automatic antenna tuners can serve as the building
block). Hard to control is mostly a matter of calibration and the
right algorithms (and, yes, non trivial, but so is building a tetrode
or FET power amp that's stable from 10 to 160, etc.). Expensive is
more a matter of "compared to what".. You can buy a kilowatt autotuner
for $500, so, assuming you needed 8 of them to control 4 elements (a

single L network can only give you 90 degrees of phase shift, and you need 180).. that's $4K. Probably need some relays and transformers, as well as controller. I'd figure $6K, today.. But that's "off the shelf" assemblies. and not purpose designed. Start comparing that to the $10K to put up a tower and a Yagi (comparing new prices to new prices, plus building permits, etc.) and the phased array starts to be competive.

So.. not today, but I'd figure that in 10 years, you'll start to see real broadband phased arrays (not just 4-8 switched beams in a single band like a 4 square). They provide a real solution to restricted space installations, if nothing else, because you can make effective use of the "volume" of space within a small suburban lot (i.e. the max theoretical gain from an antenna that fits in a box that's say, 15x30x10 meters is pretty high).

Jim, W6RMK

1951. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 08:18:54 UTC
From: Jeff <jeff@local.host>
Message-ID: <45e68d20$0$26701$834e42db@reader.greatnowhere.com>
Source record: 45364

> Here's the equation for rho at the load.
>
> rho = (Z0-Zload)/(Z0+Zload)
>
> SWR = (1+rho)/(1-rho)
>
> I don't see the source impedance in those equations.

Your analysis is fine if the source is matched to the coax, but you are neglecting the mismatch at the source to coax interface.

If you used a TDR, for example, to look at the set-up you would see 2 points of discontinuity, firstly at the 100 ohm source to 50 ohm cable interface, and secondly at the cable to 200 ohm load. BOTH of these discontinuities add to the overall mismatch as seen by the 100 ohm load.

Your application of the above equations neglects the first discontinuity.

73
Jeff

1952. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 09:05:43 UTC
From: Jeff <jeff@local.host>
Message-ID: <45e69a10$0$26700$834e42db@reader.greatnowhere.com>
Source record: 45365

```
">
> The solution is 4.9 dB.
>snip
>> If anyone wants to challenge the 4.9 dB solution, they can impeach my
> reference "Reference Data for Radio Engineers," (various editions). I
> can supply other references that have been named in this group too,
> but I would suggest with tackling one authority at a time.
>
> 73's
> Richard Clark, KB7QHC

I have to admit to an error in my analysis of the problem, I made a mistake
with the attenuation of the line.

Re analysing with the correct values gives me the following:

Loss 4.78dB
S11 -5.25dB
Vswr as seen by the source 3.41:1

I think these values are close enough to Richard's answers to make little
difference. I have not got Reference Data for Radio Engineers to hand, but
it may be a graphical solution that could account for the slight
discrepancy. My figures were obtained using Ansoft Designer RF Cad package.

The error crept in because I did the analysis by using 5.35m of coax at 300m
to get the 5.35 wavelengths, and forgot to scale the attenuation value for
the coax.

73
Jeff
```

1953. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 09:30:05 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E6D08D2E709nonenowhere@61.9.191.5>
Source record: 45366

"Jeff" <jeff@local.host> wrote in
news:45e68d20$0$26701$834e42db@reader.greatnowhere.com:

> If you used a TDR, for example, to look at the set-up you would see 2
> points of discontinuity, firstly at the 100 ohm source to 50 ohm cable
> interface, and secondly at the cable to 200 ohm load. BOTH of these
> discontinuities add to the overall mismatch as seen by the 100 ohm
> load.

Your TDR does not work in the steady state frequency domain space, and is misleading you.

In the steady state, the (complex) ratio of forward voltage to reflected voltage is determined solely by the load impedance and characteristic impedance of the line.

In crude terms, during establishement of steady state, you can view that a load end reflected wave which is then partially reflected at a mismatched source end, will reach the load end and be reflected in the same ratio as the earlier passes. The subsequent round trips as steady state is approached do not change the (complex) ratio of forward voltage to reflected voltage in the steady state.

I know you have support here for the assertion that source end mismatch affects VSWR in the steady state, but you won't find it in reputable text books.

Owen

1954. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 09:49:52 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E6D3E7C5B42nonenowhere@61.9.191.5>
Source record: 45367

Richard Clark <kb7qhc@comcast.net> wrote in
news:e0ebu25oslg69rcfu72gfnfaih12lbv1ld@4ax.com:

> On Wed, 28 Feb 2007 08:11:30 GMT, Owen Duffy <none@no.where> wrote:
>
>>Now, are you prepared to post your solution?
>
> Hi Owen,
>
>
> Your quick computation of 3.3 dB is suitably close to my reference's
> first pass solution (3.27 dB), but it neglects the contribution of the
> source's resistance.
>
> The solution is 4.9 dB.

Reminding you that your question was "What is the loss in the line?",
check your own post.

Well, you posted an answer, not a solution. It wouldn't have been your
solution anyway, because it looks like it is copied straight out of a
book.

Looking at Reference Data for Engineers, Sixth Edition, p24-12, Example 3
(which is the same as the problem you posed), they give the answer as
3.27dB.

I am happy that my answer rounded to 3.3dB is correct.

The source resistance has no influence over the line loss at all.

You posed this problem as difficult and one that no one has ever got
right. No wonder, you have a different answer to the the book!

Owen

1955. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 10:46:11 UTC
From: Jeff <jeff@local.host>
Message-ID: <45e6aef2$0$26700$834e42db@reader.greatnowhere.com>
Source record: 45368

>
> Your TDR does not work in the steady state frequency domain space, and is
> misleading you.
>
> In the steady state, the (complex) ratio of forward voltage to reflected
> voltage is determined solely by the load impedance and characteristic
> impedance of the line.
>

What utter rot. The TDR indicates a discontinuity that is IN ADDITION to the one that gives you your result. Ignoring that discontinuity will certainly give you the wrong answer, regardless if which domain you are working in!!!

Jeff

1956. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 11:00:30 UTC
From: Jeff <jeff@local.host>
Message-ID: <45e6b321$0$26697$834e42db@reader.greatnowhere.com>
Source record: 45369

> I am happy that my answer rounded to 3.3dB is correct.
>
> The source resistance has no influence over the line loss at all.
>

Well it certainly does not agree with Ansoft Designer, the result it gives
is very close to Richards, and it shows a marked effect when you change the
source resistance.

With a 50 ohm source and 200 ohm load the loss is calculated as is 3.93dB
and VSWR is 3.98:1
Changing to a 100 ohm source the loss is calculated as is 4.78dB and VSWR
is 3.41:1

So a very well respected CAD package agrees with Richard at least!!

73
Jeff

1957. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 12:17:14 UTC
From: Christopher Cox <chrisTOPHERcOX@coboxincORORATED.com>
Message-ID: <45E6C44A.10105@coboxincORORATED.com>
Source record: 45370

John Smith I wrote:
> Dan Andersson wrote:
>
> > ...
>
>> So if someone sits on the VB code for EZNEC, just rebuild it .Mono on
>> Linux
>> BUT LINK IT STATICALLY! This means the code will run on almost all
>> varietys
>> of Linux!
>>
>> //Dan, M0DFI
>
>
> My gawd man. Let us hope no serious program is ever written in Visual
> Basic!
>
> Oh, I forgot, some idiots did do that, didn't they?
>
> JS

eeah, just another structured programing language.

The latest seems to be 'D'.

A statically linked program, particularly one which is object based,
would result in a hefty sized binary. But it would work.

Chris

1958. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 13:26:53 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <xwAFh.366$uo3.243@newssvr14.news.prodigy.net>
Source record: 45371

Jeff wrote:
>> rho = (Z0-Zload)/(Z0+Zload)
>>
>> SWR = (1+rho)/(1-rho)

> Your application of the above equations neglects the first discontinuity.

The first discontinuity (inside the source) doesn't
have any effect on the SWR on the transmission line.
Tuners at the source present another discontinuity
and have no effect on transmission line SWR.
--
73, Cecil http://www.w5dxp.com

1959. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 13:35:22 UTC
From: Jeff <jeff@local.host>
Message-ID: <45e6d69a$0$26694$834e42db@reader.greatnowhere.com>
Source record: 45372

>> Your application of the above equations neglects the first discontinuity.
>
> The first discontinuity (inside the source) doesn't
> have any effect on the SWR on the transmission line.

The discontinuity is NOT "inside the source", it is at the source to coax
interface, and as such effects the VSWR that the source sees.

> Tuners at the source present another discontinuity
> and have no effect on transmission line SWR.

There are no tuners involved in the current example.

Jeff

1960. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 13:40:42 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <vJAFh.2102$tv6.1618@newssvr19.news.prodigy.net>
Source record: 45373

Jeff wrote:
> What utter rot. The TDR indicates a discontinuity that is IN ADDITION to
> the one that gives you your result. Ignoring that discontinuity will
> certainly give you the wrong answer, regardless if which domain you are
> working in!!!

When line loss is given in watts, the discontinuity
at the source certainly has an effect.

When line loss is given in dB (10x log of a ratio),
the discontinuity at the source has NO effect.

The discontinuity at the source has NO effect on
the RATIO of two powers.
--
73, Cecil http://www.w5dxp.com

1961. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 13:50:54 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <2TAFh.372$uo3.329@newssvr14.news.prodigy.net>
Source record: 45374

Jeff wrote:
> With a 50 ohm source and 200 ohm load the loss is calculated as is 3.93dB
> and VSWR is 3.98:1
> Changing to a 100 ohm source the loss is calculated as is 4.78dB and VSWR
> is 3.41:1

Looks like your losses and VSWR are taken on the wrong
side of the source resistor.

source R
source V----x--/\/\/\/\/\/\--y----T-line---load

Loss and VSWR should be calculated at 'y', not at 'x'.
We are interested in the VSWR and losses *on the T-line*.
Please change your reference point from 'x' to 'y'.
--
73, Cecil http://www.w5dxp.com

1962. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 14:19:58 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <iiBFh.374$uo3.56@newssvr14.news.prodigy.net>
Source record: 45375

Jeff wrote:
>>> Your application of the above equations neglects the first discontinuity.
>> The first discontinuity (inside the source) doesn't
>> have any effect on the SWR on the transmission line.
>
> The discontinuity is NOT "inside the source", it is at the source to coax
> interface, and as such effects the VSWR that the source sees.

There is usually a piece of coax running from the
source connector back to a filter. I would suggest
that the discontinuity that you are talking about
is indeed some distance "inside the source".

But we users don't care or measure what VSWR the source
sees. Only the PA designer worries about such. We users
only care and measure the VSWR *ON* the transmission line.
--
73, Cecil http://www.w5dxp.com

1963. Re: Effect of raising vertical antenna higher

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 14:39:17 UTC
From: Jon Kåre Hellan <dev@null.com>
Message-ID: <1mvehlni3u.fsf@persaunet.uninett.no>
Source record: 45276

"Tam/WB2TT" <t-tammaru@c0mca$t.net> writes:

> "Comcast newsgroups" <newsgroups2000@hotmail.com> wrote in message
> news:XeGdnbtv2b1RdXjYnZ2dnUVZ_o6gnZ2d@comcast.com...
>> Hello all,
>>
>> I have a mono-band 20-meter vertical currently mounted only about
>> 12 feet up (less than a quarter wave). There are 4 radials and it tunes
>> very well - very low VSWR across entire band, with decent signal reports.
>>
>> Question: If I were to rent a cherry picker, I could mount the thing on
>> the end of the peak of my house, at about 40 feet up. That would put the
>> bottom of the radials at greater than 1/4 wave.
>>
>> But would I notice any difference? If so, would it be potentially
>> dramaticly
>> better, or just 'technically' better? It would be a major project to do,
>> so I'm
>> trying to decide if it would be worth it or not.
>>
>> Thanks,
>>
>> Dave WB7AWK
>>
> Download the free version of EZNEC, and run simulations at both heights. I
> would look for differences in gain and vertical radiation angle.
>
> Tam/WB2TT

Don't forget that by raising the antenna, you avoid obstructions from your
house, neighbouring houses and foliage. I suspect those can be
significant.

73 de LA4RT Jon

1964. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 14:41:58 UTC
From: Jon Kåre Hellan <dev@null.com>
Message-ID: <1mr6s9nhzd.fsf@persaunet.uninett.no>
Source record: 45277

John Smith I <assemblywizard@gmail.com> writes:

> Dan Andersson wrote:
>
>> ...
>> So if someone sits on the VB code for EZNEC, just rebuild it .Mono on Linux
>> BUT LINK IT STATICALLY! This means the code will run on almost all varietys
>> of Linux!
>> //Dan, M0DFI
>
> My gawd man. Let us hope no serious program is ever written in Visual
> Basic!
>
> Oh, I forgot, some idiots did do that, didn't they?

I don't think that was called for.

We may like Linux, but programming just for Windows doesn't make
somebody an idiot.

73 de LA4RT Jon, Trondheim, Norway

1965. Re: Effect of raising vertical antenna higher

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 15:12:40 UTC
From: Buck <none@4.now>
Message-ID: <p1rdu2lhr671gvs8d2bmfca402q60nnhf7@4ax.com>
Source record: 45279

On Wed, 28 Feb 2007 12:39:36 -0800, "Comcast newsgroups"
<newsgroups2000@hotmail.com> wrote:

>Hello all,
>
>I have a mono-band 20-meter vertical currently mounted only about
>12 feet up (less than a quarter wave). There are 4 radials and it tunes
>very well - very low VSWR across entire band, with decent signal reports.
>
>Question: If I were to rent a cherry picker, I could mount the thing on
>the end of the peak of my house, at about 40 feet up. That would put the
>bottom of the radials at greater than 1/4 wave.
>
>But would I notice any difference? If so, would it be potentially
>dramaticly
>better, or just 'technically' better? It would be a major project to do, so
>I'm
>trying to decide if it would be worth it or not.
>
>Thanks,
>
>Dave WB7AWK
>

I don't know the minimum height above ground (in wave lengths) that
make the improvement in an antenna. However, Steppir antennas says
that an antenna on the ground needs 120 radials just to match one in
the air with two radials. I would like to know where the noticable
benefit of raising an antenna above the ground actually takes place
and where is the maximum benefit.

I know that the higher the better, but rather than that kind of
benefit, I am wondering from a ground standpoint where the benefits
start and where the point of diminishing returns begins.

Good luck with your antenna.

--
73 for now
Buck
N4PGW

1966. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 15:35:56 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <hAB36cDcLv5FFACj@ifwtech.co.uk>
Source record: 45280

Owen Duffy wrote:
>"Jeff" <jeff@local.host> wrote in
>news:45e68d20$0$26701$834e42db@reader.greatnowhere.com:
>
>> If you used a TDR, for example, to look at the set-up you would see 2
>> points of discontinuity, firstly at the 100 ohm source to 50 ohm cable
>> interface, and secondly at the cable to 200 ohm load. BOTH of these
>> discontinuities add to the overall mismatch as seen by the 100 ohm
>> load.
>
>Your TDR does not work in the steady state frequency domain space, and is
>misleading you.
>
>In the steady state, the (complex) ratio of forward voltage to reflected
>voltage is determined solely by the load impedance and characteristic
>impedance of the line.
>
>In crude terms, during establishement of steady state, you can view that
>a load end reflected wave which is then partially reflected at a
>mismatched source end, will reach the load end and be reflected in the
>same ratio as the earlier passes. The subsequent round trips as steady
>state is approached do not change the (complex) ratio of forward voltage
>to reflected voltage in the steady state.
>
>I know you have support here for the assertion that source end mismatch
>affects VSWR in the steady state, but you won't find it in reputable text
>books.

Owen and Cecil are right: the source (transmitter) has no effect
whatever on the VSWR on the line.

That isn't just an assertion - it is part of the bedrock transmission
line theory. Owen referred to "reputable textbooks", one of which would
surely be 'Theory and Problems of Transmission Lines' by R A Chipman
[1]. This book gains a lot of its reputation from its very complete
mathematical development of the theory, showing all the detailed
working.

Chipman treats standing wave patterns in two different ways: first by
assuming the final steady-state conditions, and then in much more detail
by considering multiple reflections between the load and the source.
Given a sufficient number of reflections, the multiple-reflection model
converges on exactly the same results as the steady-state analysis -
just as it does in the physical world.

VSWR on the line is determined by the ratio |Vmax|/|Vmin|. The complex impedance that the source sees at the input terminals of the line is the ratio V/I at that point (where V and I are both vector quantities which include phase information). An alternative way of calculating either VSWR or Zin is through the ratio Vforward/Vreflected (again vector quantities).

All of these approaches are alternative pathways through the same body of theory. They are all consistent with one another, and there is no contradiction between any of them.

You will notice that all these standing wave relationships involve ratios. Chipman's detailed analysis confirms that these ratios are determined EXCLUSIVELY by the properties of the line and the load - never the source.

The source properties do determine the magnitudes of all of the individual voltages and currents - but when you change the source properties (output voltage and/or impedance) all the individual voltages and currents on the line and at the load are changed by the same factor. So when you take the ratio, the source properties cancel right out again.

All this confirms that, if you sweat out the math in all the different levels of detail that Chipman did, the source (transmitter) still has no effect whatever on the VSWR on the line.

[1] Out of print, but well worth searching for: ISBN 0-07-010747-5. The web bookstores currently have eight copies on offer, at a range of prices.

--

73 from Ian GM3SEK

1967. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 16:30:36 UTC
From: Jeff <jeff@local.host>
Message-ID: <45e6ffab$0$26695$834e42db@reader.greatnowhere.com>
Source record: 45281

> Owen and Cecil are right: the source (transmitter) has no effect whatever
> on the VSWR on the line.
>
> That isn't just an assertion - it is part of the bedrock transmission line
> theory. Owen referred to "reputable textbooks", one of which would surely
> be 'Theory and Problems of Transmission Lines' by R A Chipman [1]. This
> book gains a lot of its reputation from its very complete mathematical
> development of the theory, showing all the detailed working.

I am sorry but you are not correct, I have not read Chipman so I cannot comment on his analysis or your interpretation of his results, but my understanding , practical experiments and CAD analysis would lead me to disagree.

If we take the situation where the source is matched (50ohms) to the 5.35 wavelength transmission line (lossless to simplify things) with a 100ohm load, I agree that the vswr is 4:1, unchanging with frequency.

Plotted on a Smith Chart when swept against frequency this gives a circle centred on 1 (50ohms) with a radius of 4. i.e. on a constant VSWR circle.

Now if we change the source impedance to 100ohms and repeat the same sweep and re-plot, keeping the chart normalized to 50 ohms, the circle moves on the resistance axis, still with a radius of 4 and now passing though 2 (100 ohms) resistive. The centre moves to about 0.6 (30ohms). It then becomes obvious that the locus of the circle is NOT a constant VSWR against frequency.

You will come to the same conclusion if you normalize the chart to 100 ohms, the new source impedance and re-plot.

The coax is acting as an impedance transformer, causing a shift along the resistance axis.

Looking at it another way, the vswr changes sinusoidally with frequency, in our example, between 2:1 and 8:1. (The same as the Smith chart plot with a circle of radius 4 centred at about 0.6).

73
Jeff

1968. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 17:10:25 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <es71du$15n$1@news.service.uci.edu>
Source record: 45283

Cecil Moore wrote:
> Jim Kelley wrote:
> Most engineers equate the units of power to power, i.e.
> joules/sec = watts and so does the IEEE dictionary.

I can't speak for most engineers, but I think the first time I saw it was in high school physics, and of course later in engineering school. That was about 35 years ago. I think of it a fundamental concept - one that I happen to understand very well. Not unlike the relationship between Joules and electron-volts.

> But I
> am content to assert that the joules in the joules per
> second of a reflected wave is real energy. Do you disagree?

I don't agree that the terms power and energy become interchangeable by virtue of the fact that their units can both be expressed with the word Joule in them. One can find himself making unrealistic predictions if he is not precise in his application of the ideas which underlie these terms.

73, ac6xg

1969. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 17:13:05 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <JTDFh.1307$bb1.23@newssvr17.news.prodigy.net>
Source record: 45282

Jeff wrote:
> You will come to the same conclusion if you normalize the chart to 100 ohms,
> the new source impedance and re-plot.

The Z0 of the transmission line has not changed to 100
ohms so normalizing the chart to 100 ohms is not valid.
--
73, Cecil, http://www.qsl.net/w5dxp

1970. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 17:38:49 UTC
From: Jeff <jeff@local.host>
Message-ID: <45e70fa9$0$26699$834e42db@reader.greatnowhere.com>
Source record: 45284

">> You will come to the same conclusion if you normalize the chart to 100 ohms,
>> the new source impedance and re-plot.
>
> The Z0 of the transmission line has not changed to 100
> ohms so normalizing the chart to 100 ohms is not valid.
> --
> 73, Cecil, http://www.qsl.net/w5dxp

It is just as valid as using 50 ohms, and the result is the same, a changing vswr.

I see you have not commented on the main point of my post, that being that the smith chart shows a changing vswr when you change the source impedance.

Hint: transmission line transformers would not work if the vswr did not change.

73
Jeff

1971. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 17:56:44 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <7m0eu2tkmu2sb9h2elfpq777jjm2g19r19@4ax.com>
Source record: 45285

On Thu, 01 Mar 2007 09:49:52 GMT, Owen Duffy <none@no.where> wrote:

>Reminding you that your question was "What is the loss in the line?",
>check your own post.

Hi Owen,

Can you offer why I should? Well, I suppose not or you would have.

However, I am one to never turn aside a suggestion and I did review
everything (except my own quote - I've repeated it enough, haven't I?)
and I will respond to that review within the body of this text.

>Well, you posted an answer, not a solution. It wouldn't have been your
>solution anyway, because it looks like it is copied straight out of a
>book.

Does it being someone else's solution make any difference to the
outcome? Owen, your comment reveals a prejudice by implication.
Copying it right out has removed any issue of authority has it not? It
has also removed any issue of accuracy too - if you accept that
authority. Ultimately, having copied it out makes for the best
resolution. Having copied it out, and offering the citation, gives us
both access to the chain of evidence. Did I withhold or otherwise
linger with the citation? You asked for my solution and I immediately
offered both.

Ironically, does your suggestion that
>It wouldn't have been your solution anyway
mean you would suspect I would have come up with a different answer?
That is, ascribing to me the quality of being able to get it right
instead? That would be generous, thank you. However, it appears I
fell short of that mark (and may have been the intent of your
elliptical pat on the back).

>Looking at Reference Data for Engineers, Sixth Edition, p24-12, Example 3
>(which is the same as the problem you posed), they give the answer as
>3.27dB.

A simple review of example four distinctly reveals the details to the
problem I posed; example three contains only some of them. Example 3
is a subset of example 4 (as that example dwells on at great length).

However, example 4 does have one notable difference, it asks:
"What is mismatch loss between the generator and the line?"
for which the answer is:
"1.62 dB"

Ah, the devil is in the details. Continuing from example 4:
"The transducer loss is found by using the results
of 3 and 4 in (4). This is
1.27 + 2.00 + 1.62 = 4.9 decibels"

>I am happy that my answer rounded to 3.3dB is correct.

Congratulations. You may note in my earlier correspondence I allowed exactly that.

>The source resistance has no influence over the line loss at all.

Upon review of my own reference (not the recommendation you offer above) I must concur. I was trapped by what I have already described as being the classic confusion between systems of match and loss. My solution was not for the loss in the line, but for transducer loss, and specifically for the inclusion of mismatch loss within the transducer loss. All caloric, but mis-ascribed to the line loss.

>You posed this problem as difficult and one that no one has ever got
>right. No wonder, you have a different answer to the the book!

Well, in fact my answer conforms exactly to the book. The problem is not one of inexactitude, it is of poor referencing. As to the matter of no one else having ever got it right, no one even consulted the book - even partially. You can count yourself among a population of one and hashing it through served us well.

73's
Richard Clark, KB7QHC

1972. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 17:58:02 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <es7478$2qc$1@news.service.uci.edu>
Source record: 45286

Richard Clark wrote:

> On Wed, 28 Feb 2007 13:55:47 -0800, Jim Kelley <jwkelley@uci.edu>
> wrote:
>
>
>>What I meant was, in what way were you able to attribute and apportion
>>this heat to its various sources? What evidence were you able to
>>obtain to show reflected energy re-entering the source output? What
>>component in the system in fact dissipated the reflected energy? How
>>were you able to determine the exact source and amount of energy at
>>any given location within the source? Or did you just presume that
>>you understood the underlying mechanisms?
>
>
> Hi Jim,
>
> This knowledge arrived by many avenues.

But primarily, it seems, by speculation. I know how to measure heat, Richard. What I am asking, and what you have thus far been unable to answer (which is as I suspected), is how is it that you were able to ascertain that this heat energy was caused by energy that was reflected from the load rather than having come directly from the power supply within the source? How is it that this electromagnetic energy is so easily reflected from a load, but is utterly immune to reflection when it encounters the output of a source? I think it's been fairly well established that the output impedance of these things is far from 50 ohms. Why should reflected energy not be, at least in some part, re-reflected back toward the load?

Someone who alleges to be so familiar with load lines should be able to contend with an increase in dissipation against a mismatched load without having to explain it as 're-absorbed' reflected energy.

> Inductive logic leads us to this junction as the principle target of
> reflected power (the signal path is symmetric, after all).

Speculation could also lead to that juction.

> Experience
> has supported this logic.

It could be experience coupled with misattributed fact. Possible?

73, Jim AC6XG

1973. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 18:08:34 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <es74r0$35o$1@news.service.uci.edu>
Source record: 45287

Cecil Moore wrote:

> Are you willing to assert that the power being
> dissipated in the circulator resistor didn't
> make a round trip to the load and back even though
> the actual delay is easy to measure?

How does inserting a circulator load into a circuit that doesn't have one illustrate anything about energy flow other than the behavior of a circuit with a circulator load in it?

> Do the reflected waves that you see when looking
> at yourself in the mirror contain any joules/sec?

You seem to be laboring under a misconception about my point of view, Cecil. But it can't be for a lack of attempts on my part to persuade you of it.

73, Jim AC6XG

1974. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 18:12:57 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <JIEFh.3535$jx3.1161@newssvr25.news.prodigy.net>
Source record: 45288

Jim Kelley wrote:
> I don't agree that the terms power and energy become interchangeable by
> virtue of the fact that their units can both be expressed with the word
> Joule in them.

That's why I am willing to switch from the words "Reflected Power" to "Reflected Energy" and measure that energy flow past a point on a transmission line in joules/second. Thus "power" and "watts" are dropped from the discussion along with any semantic disagreements over the definitions of those words.

So the question is: With a forward RF energy flow of 200 joules/sec and a reverse RF energy flow of 100 joules/sec, would you agree that there is 300 joules of energy existing in a lossless one-second long transmission line? i.e. exactly the amount of energy required to support the forward RF energy wave and the reflected RF energy wave.

Or if the above transmission line is one microsecond long, that 300 microjoules of energy exists in the line, i.e. exactly the amount of energy required to support the forward RF energy wave and the reflected RF energy wave.
--
73, Cecil, http://www.qsl.net/w5dxp

1975. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 18:17:21 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <nv4eu2tq3m9f35s9199t0os5qmlrfjp39g@4ax.com>
Source record: 45289

On Thu, 1 Mar 2007 11:00:30 -0000, "Jeff" <jeff@local.host> wrote:

>So a very well respected CAD package agrees with Richard at least!!

Hi Jeff,

Thanx for the flowers, and sorry for having been myopic in my correspondence and restricting my comments to response to Owen.

HOWEVER, those flowers may wilt in my hands.

That congruent result you found with my writing and what you have found in your CAD work, sadly, does not conform to the question put.

This has been an object lesson in the difference between mismatch loss and line loss. Such issues are frequently polluted through the course of discussion, and by polluted I mean that two or more concepts are combined as though they were one.

This thread has revealed just such mixture, other threads often violate the separation of Conjugate Matching and Impedance Matching.

On the other hand, there is an upside, to you as an innocent bystander who has participated through your own analysis. Before they wilt, I hand that bouquet back to you for your discovery of how much impact source Z has upon the SYSTEM.

Ultimately, that was my point all along. Having arrived there after deviating from the straight and narrow and having plunged into the slough of despond, redeems me (Owen, that was copied, or rather lifted, too, from "The Pilgrim's Progress from This World to That Which Is to Come," Bunyon, John, 1678 However, I only include this citation so that Art can sneer at his heritage in association to spitting on me. Any originality that I can claim is in my sense of irony.).

I have other wallows in that slough to be revealed, as soon as Owen gets to them in his "power explanation."

73's
Richard Clark, KB7QHC

1976. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 18:24:49 UTC
From: Dave <W1MCE@comcast.net>
Message-ID: <qMGdnUGew63zh3rYnZ2dnUVZ_sCinZ2d@comcast.com>
Source record: 45290

Cecil Moore wrote:
> Jim Kelley wrote:
>
>> I don't agree that the terms power and energy become interchangeable
>> by virtue of the fact that their units can both be expressed with the
>> word Joule in them.
>
>
> That's why I am willing to switch from the words "Reflected
> Power" to "Reflected Energy" and measure that energy flow
> past a point on a transmission line in joules/second.

SNIPPED

Energy FLOW implies a unit of time. Flow indicates a flow rate. In the absence of a flow rate you are discussing static conditions.

Conclusion: all the illogical rational in the world does not change the understanding of energy flow > energy/unit time > = power = watts = joules/second pass a point or dissipated.

Cecil, as an engineer you should stick with standard vocabulary.

1977. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 18:25:40 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <OXEFh.854$iw4.371@newssvr23.news.prodigy.net>
Source record: 45291

Jeff wrote:
> w5dxp wrote:
>> The Z0 of the transmission line has not changed to 100
>> ohms so normalizing the chart to 100 ohms is not valid.
>
> It is just as valid as using 50 ohms, and the result is the same, a changing
> vswr.

No, the center of the Smith Chart is the Z0 of the transmission
line (when used on a transmission line). One cannot willy nilly
change the reference Z0. The confusion from doing such is obvious.

> I see you have not commented on the main point of my post, that being that
> the smith chart shows a changing vswr when you change the source impedance.

I think I see the problem. It is an *error* to change the
Smith Chart reference point when the source impedance
changes while the T-line Z0 and load remain the same.

> Hint: transmission line transformers would not work if the vswr did not
> change.

Hint: A lossless series-section transmission line transformer
has a *constant SWR*. It is the *constant SWR circle* that
causes the impedance transformation.

A fixed-constant SWR on 300 ohm line looks like it changes
when measured with a 50 ohm SWR meter but that is an illusion.
The SWR meter *must* be calibrated to the Z0 of the
transmission line in order to obtain a valid SWR reading.
The impedance is indeed being transformed all around the
constant SWR circle.

With your software, you are conceptually doing the same thing
as using a 50 ohm SWR meter on a 300 ohm transmission line.
The meter reading is invalid when taken at face value. The
meter reading does NOT indicate a valid SWR on the 300 ohm
feedline and neither does your software.
--
73, Cecil, http://www.qsl.net/w5dxp

1978. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 18:40:05 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <96FFh.3540$jx3.404@newssvr25.news.prodigy.net>
Source record: 45292

Jim Kelley wrote:
> How does inserting a circulator load into a circuit that doesn't have
> one illustrate anything about energy flow other than the behavior of a
> circuit with a circulator load in it?

It proves that the reflected energy made a round trip
to the load and back. If there is no such thing as
reflected energy, how is that possible? If it is
possible in a system with a circulator load, why
is it not possible when the circulator load is removed?

> You seem to be laboring under a misconception about my point of view,
> Cecil. But it can't be for a lack of attempts on my part to persuade
> you of it.

This question of yours from another posting gives insight
into what you are trying to say.

> how is it that you were able to ascertain that this heat energy
> was caused by energy that was reflected from the load rather than
> having come directly from the power supply within the source?

How is it that you are able to ascertain that your reflection
in the mirror was caused by reflections rather than having
come directly from your face?
--
73, Cecil, http://www.qsl.net/w5dxp

1979. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 18:59:41 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <es77qr$4t1$1@news.service.uci.edu>
Source record: 45293

Cecil Moore wrote:

> So the question is: With a forward RF energy flow of 200
> joules/sec and a reverse RF energy flow of 100 joules/sec,
> would you agree that there is 300 joules of energy existing
> in a lossless one-second long transmission line? i.e. exactly
> the amount of energy required to support the forward RF
> energy wave and the reflected RF energy wave.

I think it depends on how long the energy has been flowing. But in the steady state it's rather like posing this question: With a forward speed of 200 knots, and with a headwind speed 100 knots, would you agree that the apparent airspeed of the aircraft is 300 knots?

> Or if the above transmission line is one microsecond long,
> that 300 microjoules of energy exists in the line, i.e.
> exactly the amount of energy required to support the
> forward RF energy wave and the reflected RF energy wave.

Or even if the forward energy is 200 microjoules/sec, reverse of 100 microjoules/sec through a 1 second transmission line.

It's kind of a boring problem though. Personally, I think it's more interesting and enlightening to consider what goes on prior to steady state.

73, ac6xg

1980. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 19:06:12 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3e6eu29rn2pl2aacnjktclod7quv772oap@4ax.com>
Source record: 45294

On Thu, 01 Mar 2007 09:58:02 -0800, Jim Kelley <jwkelley@uci.edu>
wrote:

>, is how is it that you were able to
>ascertain that this heat energy was caused by energy that was
>reflected from the load rather than having come directly from the
>power supply within the source?

In the theological sense, this predicates that power never becomes
dissociated from "the source." That is ambiguous, isn't it?

Is that to include the batteries behind the collector supply? The
power supply charging the batteries? The power grid feeding the power
supply? The generator driving the grid? The Coal firing the steam
spinning the generator? The sun through photosynthesis growing plants
to provide the coal? The previous supernova that seeded the cosmos by
which coalescence formed the sun? ...and into an infinite regression
to that previous supernova?

The energy dissipated is computed from the Galactic Load Line.

>I think it's
>been fairly well established that the output impedance of these things
>is far from 50 ohms.

Can you offer what that complex number is? :-0

73's
Richard Clark, KB7QHC

1981. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 19:19:13 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <0KFFh.1901$P47.1254@newssvr22.news.prodigy.net>
Source record: 45297

Dave wrote:
> Cecil, as an engineer you should stick with standard vocabulary.

Just trying to appease the physicists, Dave. They are
arguing that it is not power until work is done. They
say that since reflected energy is not doing any work,
it cannot be reflected power. Therefore, reflected
power doesn't exist. It's purely semantics. The very
essence of an EM wave is its energy content.

So the real question is: Since standing waves obviously
exist and just as obviously cannot exist without two
coherent waves traveling in opposite directions, does
reflected energy exist? (That question seems to cause their
skivvies to get all bunched up.)

I will just be happy when they admit that reflected
EM waves possess a certain amount of energy that cannot
stand still and according to the theory of relativity
must necessarily travel at the speed of light.
--
73, Cecil, http://www.qsl.net/w5dxp

1982. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 19:19:14 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <es78vg$5j9$1@news.service.uci.edu>
Source record: 45295

Dave wrote:

> Cecil Moore wrote:
>
>> Jim Kelley wrote:
>>
>>> I don't agree that the terms power and energy become interchangeable
>>> by virtue of the fact that their units can both be expressed with the
>>> word Joule in them.
>>
>>
>>
>> That's why I am willing to switch from the words "Reflected
>> Power" to "Reflected Energy" and measure that energy flow
>> past a point on a transmission line in joules/second.
>
>
> SNIPPED
>
> Energy FLOW implies a unit of time. Flow indicates a flow rate. In the
> absence of a flow rate you are discussing static conditions.
>
> Conclusion: all the illogical rational in the world does not change the
> understanding of energy flow > energy/unit time > = power = watts =
> joules/second pass a point or dissipated.
>
> Cecil, as an engineer you should stick with standard vocabulary.

Dave,

I couldn't agree more. Energy flow is correct. Power flow is a bit
more controversial. In some cases the notion can lead to power being
reflected, algebraically summed, and it can ultimately interfere
constructively and destructively. It can even, by making exactly the
right misinterpretations, end up changing direction without the aid of
a reflecting surface. That's why it can sometimes be important to
make sure the hairs are properly split. :-)

73, Jim AC6XG

1983. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 19:21:43 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E740B7EDA08nonenowhere@61.9.191.5>
Source record: 45296

"Jeff" <jeff@local.host> wrote in
news:45e6ffab$0$26695$834e42db@reader.greatnowhere.com:

>> Owen and Cecil are right: the source (transmitter) has no effect
>> whatever on the VSWR on the line.
>>
>> That isn't just an assertion - it is part of the bedrock transmission
>> line theory. Owen referred to "reputable textbooks", one of which
>> would surely be 'Theory and Problems of Transmission Lines' by R A
>> Chipman [1]. This book gains a lot of its reputation from its very
>> complete mathematical development of the theory, showing all the
>> detailed working.
>
> I am sorry but you are not correct, I have not read Chipman so I
> cannot comment on his analysis or your interpretation of his results,
> but my understanding , practical experiments and CAD analysis would
> lead me to disagree.
>
> If we take the situation where the source is matched (50ohms) to the
> 5.35 wavelength transmission line (lossless to simplify things) with a
> 100ohm load, I agree that the vswr is 4:1, unchanging with frequency.
>
> Plotted on a Smith Chart when swept against frequency this gives a
> circle centred on 1 (50ohms) with a radius of 4. i.e. on a constant
> VSWR circle.
>
> Now if we change the source impedance to 100ohms and repeat the same
> sweep and re-plot, keeping the chart normalized to 50 ohms, the circle
> moves on the resistance axis, still with a radius of 4 and now passing
> though 2 (100 ohms) resistive. The centre moves to about 0.6 (30ohms).
> It then becomes obvious that the locus of the circle is NOT a constant
> VSWR against frequency.
>
> You will come to the same conclusion if you normalize the chart to 100
> ohms, the new source impedance and re-plot.
>
> The coax is acting as an impedance transformer, causing a shift along
> the resistance axis.
>
> Looking at it another way, the vswr changes sinusoidally with
> frequency, in our example, between 2:1 and 8:1. (The same as the Smith
> chart plot with a circle of radius 4 centred at about 0.6).
>

If you are asserting that VSWR on a real or even theoretical line varies sinudoidally with displacement, it is time to go back to basics. You need some time with a reputable text book.

Owen

1984. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 19:27:36 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <es79f6$5u4$1@news.service.uci.edu>
Source record: 45298

Richard Clark wrote:

> On Thu, 01 Mar 2007 09:58:02 -0800, Jim Kelley <jwkelley@uci.edu>
> wrote:
>
>
>>, is how is it that you were able to
>>ascertain that this heat energy was caused by energy that was
>>reflected from the load rather than having come directly from the
>>power supply within the source?
>
>
> In the theological sense, this predicates that power never becomes
> dissociated from "the source." That is ambiguous, isn't it?
>
> Is that to include the batteries behind the collector supply? The
> power supply charging the batteries? The power grid feeding the power
> supply? The generator driving the grid? The Coal firing the steam
> spinning the generator? The sun through photosynthesis growing plants
> to provide the coal? The previous supernova that seeded the cosmos by
> which coalescence formed the sun? ...and into an infinite regression
> to that previous supernova?
>
> The energy dissipated is computed from the Galactic Load Line.

Sarcasm clearly noted, and surprisingly uncalled for. I'll try asking
one more time. It is a simple metrology question: How were you able
to directly ascertain that the heat being dissipated in the source was
produced by energy being reflected from the load?

Thanks,

Jim, AC6XG

1985. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 19:38:46 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <aZFFh.2964$M65.116@newssvr21.news.prodigy.net>
Source record: 45299

Jim Kelley wrote:
> Cecil Moore wrote:
> I think it depends on how long the energy has been flowing. But in the
> steady state it's rather like posing this question: With a forward speed
> of 200 knots, and with a headwind speed 100 knots, would you agree that
> the apparent airspeed of the aircraft is 300 knots?

Of course, I was talking about steady-state conditions.
And I can prove that there is exactly the amount of
energy stored in the transmission line necessary to support
the forward joules/sec and reflected joules/sec readings.

Why violate the laws of physics to try to come up with some
other more esoteric explanation than forward and reflected
EM traveling wave energy moving at the speed of light?

> It's kind of a boring problem though. Personally, I think it's more
> interesting and enlightening to consider what goes on prior to steady
> state.

That's exactly what I have done. During the initial transient
build-up period, *exactly* enough energy is supplied by the
source to the transmission line to support the steady-state
forward and reflected joules/sec - no more and no less. If
the source is disconnected during steady-state, the energy
stored in a lossless transmission line is dissipated in the
load during that final transient decay period.
--
73, Cecil, http://www.qsl.net/w5dxp

1986. Re: phased array practicality was Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 19:58:50 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <i94nl6H6Bz5FFAAP@ifwtech.co.uk>
Source record: 45300

Jim wrote:
>On Feb 28, 12:29 am, Ian White GM3SEK <gm3...@ifwtech.co.uk> wrote:
>> Jim wrote:
>> > I'll bet the hardware cost of a electronically steered phased array
>> >for HF suitable for ham use is comparable to the hardware cost of a big
>> >tower, rotator, and Yagi.. the phased array just isn't available as an
>> >off the shelf product yet.
>>
>> The fully steerable phased array that can also handle 1.5kW TX power is
>> not available as a HAM product off the shelf yet... but we can already
>> see where the future is headed.
>>
>---------
>snip
>----------
>> It's all down to the magic phasing box at the centre of the array.
>> Whatever goes into that box will be hard to design, complicated to
>> control, and expensive to build... but most four-square owners would be
>> happy to have even a fraction of those extra capabilities.
>
>I think it might be a bit of time before it's an off the shelf product
>(lack of demand is part of the reason).
>It also depends a bit on just how good you want the performance to be
>(null depth, primarily.. forward gain is not very sensitive to phasing
>and amplitude accuracy), and whether you want to make it an antenna
>system that just hooks onto an existing rig and PA, essentially
>hanging off a single feedline, or whether a higher level of
>integration is desirable or feasible. (for instance, rather than power
>combining a bunch of solid state amp modules like the current kilowatt
>class SSPAs do, put a power module on each antenna)
>
>"the magic box in the center of the array" is more the former model,
>and while simple conceptually, in the long run probably isn't the best
>way to solve the problem in a system context.

That is very true. Unfortunately, the ham market is divided up into physically separate compartments of transceivers, power amplifiers and antennas. That is a severe restriction which makes all the technical challenges much more difficult.

However, we can try to pare the problem down a little.

Another important point is that the concept of 'market demand' is beginning to break down in ham radio. The big manufacturers are increasingly challenged by new products that pay no attention to the

market - they spring directly from some individual or small team deciding they're going to do it.

Then maybe the design is produced as a kit, or manufacturing is taken up by some lower-tier company that is faster on its feet. Seems good to me...

>For instance, a multi
>channel receiver, which can do all the phasing, very precisely, at low
>levels, either with analog or digital processing, can give you the
>nice deep nulls and adaptation.For TX, though, null depth isn't as
>important as maximizing the power squirted in the right direction.
>
That seems a good place to cut the problem down to size. By all means continue to use the existing phasing networks for TX, with 4 or 8 switchable directions and fixed phasing; but switch the antennas over to a totally separate network for RX.

At the lower power levels, the RX network could be much more complex and versatile, combining the signals from the four (say) antennas with amplitudes and phasing that could be varied on the fly.

Another way to scale down the problem is not to be too ambitious about automatic null steering. In ham operating it is often difficult for a computer to identify which is the wanted signal and which is the QRM, so maybe let's not try. Semi-automatic null steering definitely would be within reach, where the user has a control to steer the null direction manually for the best audible results, and the computer does the math to select the required network parameters.

>
>So.. not today, but I'd figure that in 10 years, you'll start to see
>real broadband phased arrays (not just 4-8 switched beams in a single
>band like a 4 square).

Yes, I think maybe so. We already have most of the technology for an advanced manually steerable RX array, so it's mainly a matter of integrating the separate parts of it to make a practical design. Someone just has to decide to do it... and maybe they already have.

--

73 from Ian GM3SEK

1987. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 20:06:36 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <5i9eu21tbb0e78qbopko6bkcj6shbilk4e@4ax.com>
Source record: 45301

On Wed, 28 Feb 2007 17:51:30 -0800, Richard Clark <kb7qhc@comcast.net>
wrote:

>The load voltage is 84 volts (to sufficient accuracy). The voltage at
>the source port is 84 volts (to sufficient accuracy). The line has
>been defined to be lossless. The same potential at the same angle is
>returned to the source through 360 degrees of travel and no loss
>(analysis allows us to treat the load as a generator). That signal
>applied to the transmitter finds there is no potential difference, and
>thus there is no current flow. This variously describes either a
>short or an open; and either way it represents an infinite mismatch -
>ALL the reflected power is re-reflected to the load.
>

Hi All,

Well, in lieu of Owen providing his own solution, much less
fulminating against the BS provided by yours truly in the quote above
(how seductive is it to the rest of you?). The problem here arises
out of a mixture of models, but this topology is not my choice and it
is inclined to invite such problems.

We can look at the details provided to find a 600 Ohm line terminated
at both ends by 70 Ohm resistors (again, I am forced to the
presumption of the source resistance, but given the constraints it is
the only value available). The energy within the resonant line is
ringing (one reason why a mismatched line it is called resonant is
because of circulating energy - the allusion to ringing).

If we deposit ourselves in the line, within the fields of energy, it
would be like inhabiting a hall with two partial mirrors, one at each
end. To other descriptions, these partial mirrors are leaky
interfaces. Some of the energy is passed through, some is reflected.
The "some" can be rendered into an absolute through knowledge of the
degree of mismatch - it is already provided within the original post
as being 8.6:1 (to a sufficient accuracy). In this regard, the
resonant line has a poor Q, however "poor" is in the eye of the
beholder because a flat line has the poorest of Qs at 1 (or worse).

The topology, and the question, invited me to respond with both the
lumped equivalent (this topology is in the classic expectation of
repetition of the load, cast back identically through a lossless line
to its input) and a Thevenin analysis (200W of power applied to a
source that could only supply 100W). The topology here has the
classic expectation of 50% efficiency that only a 70 Ohm source can
provide. Given that there is special constraint of a very strongly

specified line length, that too invites an analysis (which then corrupts the lumped equivalent analysis if they are not separated).

So, we have three avenues commingled here in pursuit of an answer as to explaining the power. Let us return to that hall of mirrors and traverse its length (and unfortunately it must violate another expectation of steady state, but this topology, much less expectations galore, was not my choice - but I wander into any discussion with so many invitations).

The first pass of energy sees the partial mirror of the load interface. Some energy passes, some reflects. That which passes cannot supply the expected potential of 84 volts (to a sufficient accuracy); that remains to be justified by further analysis. The reflected energy approaches an IDENTICAL mirror at the source end. The reflected energy is coherent to the source (this is enforced by the topology) behind that mirror. However, and revealing my deception above, the reflected energy is not the same amplitude. There are two sources of energy now embracing the source resistance of 70 Ohms. There is a potential difference across that source resistance that is different from that of what would be a presumed steady state 84 volts (to a sufficient accuracy). Others can provide that computation if they wish as the magnitude is one of degree (pun intended).

We have COOLED the source resistance! But we have not provided the full load (anyone want to bet we cooled it by an equal degree? - pun intended again). And the 200W application must be accounted for somewhere (this inclusion is, of course, a sham of moving between topologies and expectations that are so inviting).

And so on, and so on, ad infinitum through the successive waves of reflection and dissipation for this statistical curiosity for me to once again conclude:
>ALL the reflected power is re-reflected to the load.
which is to say, energy (through the corruption of terms that has been generally allowed).

73's
Richard Clark, KB7QHC

1988. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 20:13:32 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <BeNf9PJsPz5FFAH2@ifwtech.co.uk>
Source record: 45302

Owen Duffy wrote:
>"Jeff" <jeff@local.host> wrote in
>news:45e6ffab$0$26695$834e42db@reader.greatnowhere.com:
>
>>> Owen and Cecil are right: the source (transmitter) has no effect
>>> whatever on the VSWR on the line.
>>>
>>> That isn't just an assertion - it is part of the bedrock transmission
>>> line theory. Owen referred to "reputable textbooks", one of which
>>> would surely be 'Theory and Problems of Transmission Lines' by R A
>>> Chipman [1]. This book gains a lot of its reputation from its very
>>> complete mathematical development of the theory, showing all the
>>> detailed working.
>>
>> I am sorry but you are not correct, I have not read Chipman so I
>> cannot comment on his analysis or your interpretation of his results,
>> but my understanding , practical experiments and CAD analysis would
>> lead me to disagree.
>>

[...]

>> Looking at it another way, the vswr changes sinusoidally with
>> frequency, in our example, between 2:1 and 8:1. (The same as the Smith
>> chart plot with a circle of radius 4 centred at about 0.6).
>>
>
>If you are asserting that VSWR on a real or even theoretical line varies
>sinudoidally with displacement, it is time to go back to basics. You need
>some time with a reputable text book.

Agreed, but make that a textbook that specifically deals with the
subject in enough detail. Chipman was highly recommended by contributors
to earlier rounds of this debate. It isn't an easy read, but it's
certainly thorough.

I ordered the book from the other side of the world because I wanted to
be very sure of my answers next time around. We don't know where you
are, Jeff, but it would probably be easier and cheaper for you to do the
same.

--

73 from Ian GM3SEK

1989. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 20:22:33 UTC
From: Jeff <jeff@local.host>
Message-ID: <45e73608$0$26701$834e42db@reader.greatnowhere.com>
Source record: 45303

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:OXEFh.854$iw4.371@newssvr23.news.prodigy.net...
> Jeff wrote:
>> w5dxp wrote:
>>> The Z0 of the transmission line has not changed to 100
>>> ohms so normalizing the chart to 100 ohms is not valid.
>>
>> It is just as valid as using 50 ohms, and the result is the same, a
>> changing vswr.
>
> No, the center of the Smith Chart is the Z0 of the transmission
> line (when used on a transmission line). One cannot willy nilly
> change the reference Z0. The confusion from doing such is obvious.

You are mis-representing what I said; which was that you can plot the problem using with the chart normalized to EITHER 50 or 100 ohms (the impedance of the generator or that of the line) and the net result will be the same answer.

The chart does not necessarily be normalized to the impedance of a transmission line that you are trying add, otherwise you would never be able to include a series line of an impedance other than that of the chart in a matching network.

Jeff

1990. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 20:29:11 UTC
From: Jeff <jeff@local.host>
Message-ID: <45e73794$0$26695$834e42db@reader.greatnowhere.com>
Source record: 45304

"> If you are asserting that VSWR on a real or even theoretical line varies
> sinudoidally with displacement, it is time to go back to basics. You need
> some time with a reputable text book.
>
> Owen

No, I am saying that a fixed length line, mismatched at the far end, and of a different impedance to that of the generator, will not present a constant vswr to the generator with varying frequency. That variation being sinusoidal between a max and min value.

Jeff

1991. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 20:34:31 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <esceu295jqa8heefn95psjfrl4mptg0dit@4ax.com>
Source record: 45305

On Thu, 01 Mar 2007 11:27:36 -0800, Jim Kelley <jwkelley@uci.edu>
wrote:

>Sarcasm clearly noted, and surprisingly uncalled for.

Hi Jim,

I responded in kind is all, you revealed a trap and I jumped into it
with both feet. If that broke it, return it to the vendor for a
refund.

Is power/energy separable from its source? If this question is
obnoxious, why did you raise the prospect?

When it is generally accepted that our sources do not exhibit 50 Ohms
source resistance/impedance, what resistance/impedance do they
exhibit? If you don't have an answer, what was the purpose of this
uninforming assertion?

If these two questions have the trappings of sacrasm, I did not
originate their discussion. And putting your mock-shock aside, they
are part of the chain of denial you are adding links to, aren't they?

73's
Richard Clark, KB7QHC

1992. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 20:40:31 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <l8eeu2piurko28lpog5sk591b9cic9n7gc@4ax.com>
Source record: 45306

On Thu, 01 Mar 2007 19:21:43 GMT, Owen Duffy <none@no.where> wrote:

>If you are asserting that VSWR on a real or even theoretical line varies
>sinudoidally with displacement, it is time to go back to basics. You need
>some time with a reputable text book.

Hi Owen,

Under the right circumstances (and they have been presumed in some
discussion here), then the power terms (as expressed by a power meter
inserted into the line) will vary sinusoidally with displacement, even
if the SWR does not.

73's
Richard Clark, KB7QHC

1993. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 20:45:44 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E74EF69A0A2nonenowhere@61.9.191.5>
Source record: 45307

I did not intend this to be difficult, or incomplete. I think it is solveable without recourse to knowledge or speculation about source impedance, or changing the problem by inserting additional lines, or injecting photons, or whatever.

My answers are inline:

Owen Duffy <none@no.where> wrote in news:Xns98E64D38131A0nonenowhere@61.9.191.5:

> Breaking out of the previous thread to explore the "power explanation"
> in a steady state situation:
>
> The scenario for discussion is a transmitter connected to a half wave
> of 600 ohm lossless transmission line connected to an antenna with a
> feedpoint impedance of 70+j0.
>
> The transmitter is rated for 100W output, 100W is developed in the 70
> ohm load, the VSWR on the transmission line is 8.6, the "forward
> power" (meaning Vf^2/Zo) on the transmission line is 267W, the
> "reflected power" (meaning Vr^2/Zo) on the transmission line is 167W,
> the DC input power to the transmitter is 200W.
>
> The questions are:
>
> Is there any internal inconsistency in the scenario characterisation,
> if so, identify / explain?

No, I cannot see any.

>
> What is the heat dissipated in the transmitter (and why)?

Approximately 100W. It is reasonable to assume that all DC power into the transmitter is converted to RF power output and heat. The heat then is approximately DC power input minus the RF output power. Since the power in the load is stated to be 100W, and the line is stated to be lossless, the power out of the transmitter must be 100W, and given the stated DC input power of 200W, the transmitter heat dissipation is approximately 100W.

>
> What part of the "reflected power" of 167W is dissipated in the
> transmitter (and why)?

None. The notion of the "reflected power" is part of describing the field setup / energy storage / energy flow on the transmission line. It follows

from trying to reconcile the restriction the Vf/If=Zo, and Vr/Ir=Zo with the V/I ratio of the circuit attached to the transmission line.

The problem defined the standing wave effects on the line. The transmitter sees a load of 70+j0 due to the antenna and half wave lossless line, and must be delivering 100W to that apparent load so as to achieve the stated antenna load power.

Any notion that reflected power *must* flow back to the source and is dissipated as heat will not lead to the correct solution of this problem.

As an exercise, think of a generator that has a Thevenin equivalent of some voltage V and a series impedance of R+j0, connected to a half wave of lossless transmission line where Zo=R. To give a numerical example, lets make V=100 and R=50, so Vr=50 and "reflected power"=50. How much of the "reflected power" is dissipated in the generator. In this case, the generator dissipates less heat than were it terminated in 50 ohms.

When I said that the reflected power explanation is not a good explanation, I did not say it was necessarily invalid, but it is my opinion that it provides an incomplete explanation that folk with limited knowledge and supported by ham radio folklore like to use to explain things that are not necessarily explained by that explanation (if you are still with me), for example why a transmitter (sometimes or necessarily) gets hotter when the antenna VSWR is high.

Owen

1994. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 20:54:01 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <J3HFh.3424$BE2.537@newssvr27.news.prodigy.net>
Source record: 45308

Jeff wrote:
> The chart does not necessarily be normalized to the impedance of a
> transmission line that you are trying add, otherwise you would never be able
> to include a series line of an impedance other than that of the chart in a
> matching network.

The point is that it is best to use one Smith Chart
for each Z0. Trying to plot multiple Z0's on the
same chart leads to the present confusion. The
fact that a piece of transmission line with an
SWR<>1 transforms impedances is NOT proof that
the SWR is changing. It is *only* proof the
the impedance is changing and that happens
with constant SWR.
--
73, Cecil, http://www.qsl.net/w5dxp

1995. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 20:56:32 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <46HFh.3425$BE2.637@newssvr27.news.prodigy.net>
Source record: 45309

Jeff wrote:
> No, I am saying that a fixed length line, mismatched at the far end, and of
> a different impedance to that of the generator, will not present a constant
> vswr to the generator with varying frequency. That variation being
> sinusoidal between a max and min value.

Changing the length of the ladder-line changes the
50 ohm SWR seen by the source. That is a well known
fact. But that doesn't mean the SWR on the ladder-
line is changing. It simply means that the impedance
is being transformed by the constant SWR circle.
--
73, Cecil, http://www.qsl.net/w5dxp

1996. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 21:04:36 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E75228F3C52nonenowhere@61.9.191.5>
Source record: 45310

Richard Clark <kb7qhc@comcast.net> wrote in
news:l8eeu2piurko28lpog5sk591b9cic9n7gc@4ax.com:

> On Thu, 01 Mar 2007 19:21:43 GMT, Owen Duffy <none@no.where> wrote:
>
>>If you are asserting that VSWR on a real or even theoretical line
>>varies sinudoidally with displacement, it is time to go back to
>>basics. You need some time with a reputable text book.
>
> Hi Owen,
>
> Under the right circumstances (and they have been presumed in some
> discussion here), then the power terms (as expressed by a power meter
> inserted into the line) will vary sinusoidally with displacement, even
> if the SWR does not.

Richard,

I am not sure of what you mean by the "right circumstances".

Firstly, except in the very special case of an almost purely inductive load on a lossy cable at low frequencies, the VSWR calculated from Vf and Vr at a point on a line, decreases smoothly from the load end to the source end. (Vf and Vr each decay exponentially in magnitude from source to load, and the forward and reflected power values calculated from those samples will vary as the square of the exponentially decaying Vf, Vr from load to source.)

If you use an instrument that is calibrated for an impedance other than the line under test, your measurement does not indicate VSWR on the line under test, and the instrument readings will be different than I outlined in the previous paragraph. Fig 3 in my article at http://www.vk1od.net/VSWR/VSWRMeter.htm shows a line labelled "VSWR(50)" that indicates the values that would be indicated / calculated using a 50 ohm instrument in a 75 ohm cable with a 1.5:1 VSWR.

Owen

1997. Re: Effect of raising vertical antenna higher

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 21:10:38 UTC
From: Tam/WB2TT <t-tammaru@c0mca$t.net>
Message-ID: <S-GdnTgM5Iql3HrYnZ2dnUVZ_vupnZ2d@comcast.com>
Source record: 45311

"Buck" <none@4.now> wrote in message
news:p1rdu2lhr671gvs8d2bmfca402q60nnhf7@4ax.com...
> On Wed, 28 Feb 2007 12:39:36 -0800, "Comcast newsgroups"
> <newsgroups2000@hotmail.com> wrote:
>
>>Hello all,
>>
>>I have a mono-band 20-meter vertical currently mounted only about
>>12 feet up (less than a quarter wave). There are 4 radials and it tunes
>>very well - very low VSWR across entire band, with decent signal reports.
>>
>>Question: If I were to rent a cherry picker, I could mount the thing on
>>the end of the peak of my house, at about 40 feet up. That would put the
>>bottom of the radials at greater than 1/4 wave.
>>
>>But would I notice any difference? If so, would it be potentially
>>dramaticly
>>better, or just 'technically' better? It would be a major project to do,
>>so
>>I'm
>>trying to decide if it would be worth it or not.
>>
>>Thanks,
>>
>>Dave WB7AWK
>>
>
>
> I don't know the minimum height above ground (in wave lengths) that
> make the improvement in an antenna. However, Steppir antennas says
> that an antenna on the ground needs 120 radials just to match one in
> the air with two radials. I would like to know where the noticable
> benefit of raising an antenna above the ground actually takes place
> and where is the maximum benefit.
>
> I know that the higher the better, but rather than that kind of
> benefit, I am wondering from a ground standpoint where the benefits
> start and where the point of diminishing returns begins.
>
> Good luck with your antenna.
>
>
> --
> 73 for now

> Buck
> N4PGW

I decided to run EZNEC on a 20 m vertical with 4 radials sloping 45 degrees.
Here is what I got:

HEIGHT GAIN V-ANGLE

15 ft 0.1dbi 19 deg
32 0.54 14 deg
40 1.25 47
0.51 12
100 3.31 8

The 40 foot height has a double lobe, but the gain at 12 degrees is more
than the 15 foot gain at 19 degrees. Now I know why the DL I worked on 20,
with a vertical on the roof of a 24 story apartment building sounded so
good.

Tam/WB2TT

1998. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 21:17:01 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <qqeeu2hisrle1hk3nbc71r6ao6rinrh430@4ax.com>
Source record: 45312

On Thu, 1 Mar 2007 20:13:32 +0000, Ian White GM3SEK
<gm3sek@ifwtech.co.uk> wrote:

>I ordered the book from the other side of the world because I wanted to
>be very sure of my answers next time around.

Hi Ian,

It will contain much of interest. For instance, it relates to Owen's
moribund thread "the power explanation." Page 205, third paragraph
from the bottom conforms to one of my recent posts there:
"Although the power delivered by the source to the line is thus
shown to be reduced by the amount of the reflected power returning
to the input terminals ... the implication of the latter reasoning
that the reflected wave power is entirely absorbed in the source
impedance without affecting the total output of the signal source
generator, is incorrect."

Contrary to that teaching, is discussion on page 203, last paragraph.
It relates to figure 9-26, clearly illustrating a mismatched line fed
by a source with a source resistance. This may be upsetting to many:
"At the signal source end of the line ... none of the power
reflected by the terminal load impedance is re-reflected on
returning to the input end of the line."
The ellipsis reveals that the source Z matches the line Z.

To begin at the beginning of multiple reflection coverage, go to the
same named section (8.8) on page 174. It is not his complete say on
the topic, but it starts here formally. To add insult to someone's
injury, his math includes source Z. However, by the same token
Chipman explicitly states:
"... the shape of the standing wave pattern ... is in no way
affected by the quantities Vs, Zs and Rho-s at the source."

I would also note the irony in that Chipman expresses reflections in
lines in terms of power. To subdue that irony, I would also admit he
is quick to shift to energy when the usage of power is to lead to
problematic solutions (so, using power as an expression in this
context is allowable by precedent as being informal).

Of course, Chipman must be accepted as an authority for any of these
issues to be considered valid.

73's
Richard Clark, KB7QHC

1999. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 21:49:47 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4pgeu2t9c7dmq7hr6g3qjpfuqbgk5m5sq1@4ax.com>
Source record: 45313

On Thu, 01 Mar 2007 21:04:36 GMT, Owen Duffy <none@no.where> wrote:

>I am not sure of what you mean by the "right circumstances".

Hi Owen,

It should be under "all circumstances." However, to reveal it
requires the "right circumstances." This again returns us to the
discussion of source resistance/impedance. A matching source driving
a mismatched load through a line of indeterminate length can exhibit
this variation, but it will require considerable skill to see it. If
you force the problem by mismatching the source as well (this then
means that the line is mismatched at both ends, much like your
halfwave model); then you can observe a variation in power readings
along its length that vary sinusoidally.

>If you use an instrument that is calibrated for an impedance other than
>the line under test,

That is not the case, although there are occasions where power has to
be determined in a heavily mismatched situation - this is done with
considerable error if the line lengths are unknown. If they are, then
corrections can be made.

>your measurement does not indicate VSWR on the line

I have restricted myself to the cyclic display of powers.

>under test, and the instrument readings will be different than I outlined
>in the previous paragraph. Fig 3 in my article at
>http://www.vk1od.net/VSWR/VSWRMeter.htm shows a line labelled "VSWR(50)"
>that indicates the values that would be indicated / calculated using a 50
>ohm instrument in a 75 ohm cable with a 1.5:1 VSWR.

Well, at a quick glance and noting no tabular form of data, what is
presented wouldn't reveal cyclic variation anyway for two reasons:
1. It lacks resolution (not enough places);
2. It lacks sufficient mismatch.
This is not a complaint, merely an observation because the evidence
for your example is hidden deep in the decimal places.

The solution is simple conceptually and mathematically. Reference any
discussion of Two Beam Interference as treated in Optics. For the
special case the math devolves to:
I = 2 ï¿½ I1 ï¿½ (1 + cos(theta2 - theta1 - delta))

Conceptually, it is only the combination of phase and amplitude from
two sources (each reflecting interface on the ends of the line).

73's
Richard Clark, KB7QHC

2000. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 22:28:58 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <es7k38$c39$1@news.service.uci.edu>
Source record: 45314

Richard Clark wrote:

> Is power/energy separable from its source?

What other point is there to attaching an antenna to a transmitter?

73, Jim AC6XG

2001. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 23:00:24 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <tkkeu2tme529a1rll79q1iqisof0hvf3ev@4ax.com>
Source record: 45315

On Thu, 01 Mar 2007 20:45:44 GMT, Owen Duffy <none@no.where> wrote:

>Any notion that reflected power *must* flow back to the source and is
>dissipated as heat will not lead to the correct solution of this problem.

Hi Owen,

Why must it flow back, when the generator itself presents a huge mismatch to the line? The laws of reflection work at both ends of the line and to force the presumption that initial reflected power would flow through this discontinuity without reflection is a strained expectation. However, I see by the alteration that follows, that we now have a fully matching source:

>As an exercise, think of a generator that has a Thevenin equivalent of
>some voltage V and a series impedance of R+j0, connected to a half wave
>of lossless transmission line where Zo=R. To give a numerical example,
>lets make V=100 and R=50, so Vr=50 and "reflected power"=50. How much of
>the "reflected power" is dissipated in the generator. In this case, the
>generator dissipates less heat than were it terminated in 50 ohms.

"reflected power"= 50 what? Watts? So be it. Your intent may not to be incomplete nor difficult, but what is wrong with specifying the load? Do we get a line length?

Let's see, I start with your termination of 50 Ohms to find 1 Amp flowing through both source and load resistances. 50 Watts each. Now I move to a load that will reflect 50 Watts - the former load's complete contribution. I presume by this you mean either an open or a short at the load end. As you left it unspecified, and it being my choice, I can show that the source resistor will get hotter than a $5 pistol. I will, however, be complete and discuss how the source resistance dissipates the reverse power for both short and open.

To cut to the chase, and not knowing the length of the line, we have a spectrum of choices, but we may as well force the situation with another resonant line any number of lossless halfwaves.

It is obvious that the two powers combine constructively or destructively. One is with the energy reflecting a zero voltage component and all the current (or now twice the current through the source resistance), the other is with the energy reflecting an identical voltage component, and none of the current flows. As I've offered, the spectrum of possible answers yields to the same analysis, this was simpler.

Both times the reflected power had to be absorbed by the source
resistance. It does not mean that contribution has to always resolve
to more heat (haven't I already demonstrated this in this thread?).

I will at this point re quote Chipman to roughly this scenario (being
more general, he didn't specify the reflection).

"At the signal source end of the line ... none of the power
reflected by the terminal load impedance is re-reflected on
returning to the input end of the line."
The ellipsis reveals that the source Z matches the line Z.

73's
Richard Clark, KB7QHC

2002. Re: RoomCap Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 23:03:10 UTC
From: Felix <Felix.2mss7i@news.radiobanter.com>
Message-ID: <Felix.2mss7i@news.radiobanter.com>
Source record: 45178

RoomCap antenna and NEC

There is a large family of antanna simulation programs of NEC
like EZNEC, MMANA, 4NEC2, NEC-2, NEC-4 etc.
These programs can produce excellent results in designing and
optimizing of beams and similar antennas.

Personally, I made very good experience by optimizing the well
known Spiderbeam. The results of the simulation proved to be
fully correct in the practical field tests.

However, there are many cases where the simulation with NEC
programs is failing.
You may obain results indicating efficency of over 100% !
This is not the discovery of a "perpetual motion machine", it is
an error of computer simulation ..., or the results may become
very inaccurate if there are varying diameters, different
dielectricas etc.

The NEC programs are designed primarilly for wire
constructions and can be used for other constructions only
under specific conditions.

Regarding my RoomCap antenna the question was rised many
times, how the NEC simulation would look like.
Here I can say very simply: This construction can not be defined
by the existing NEC programs.
Especially the central element, the Varylink, can not be defined
by NEC. Discussions with the well known NEC expert L. B. Cebik,
W4RNL have revealed, that a way will be searched to include
such elements in later editions of the programs.

This example shows once more, that the usual way of antenna
development with simulation, as is done mostly today, is a
bad way, as finding of new constructions is prevented by
the many limitations of the simulation programs.
The programs are good at schools to show the students
the behaving of changing parameters, but are not the way
of the inventing engineer.

To find new ways and concepts, one depends on the
profound knowledge, the experience, and the mental force
of the engineer, together with experimenting in the field.
The computer is a very helpful tool in many aspects, but
one may not expect much novelties by "experimenting"
with simulation. At least not, until big improvements are

made to these programs.

Felix Meyer HB9ABX

--
Felix

2003. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 23:03:37 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <fsmeu2117r7q9i0qtku8o1rhtd56ilf6c5@4ax.com>
Source record: 45316

On Thu, 01 Mar 2007 14:28:58 -0800, Jim Kelley <jwkelley@uci.edu>
wrote:

>Richard Clark wrote:
>
>> Is power/energy separable from its source?
>
>What other point is there to attaching an antenna to a transmitter?

Hi Jim,

I will take that as an affirmative.

When it is generally accepted that our sources do not exhibit 50 Ohms
source resistance/impedance, what resistance/impedance do they
exhibit?

73's
Richard Clark, KB7QHC

2004. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-01 23:36:12 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <NrJFh.3054$P47.2543@newssvr22.news.prodigy.net>
Source record: 45317

Richard Clark wrote:
> When it is generally accepted that our sources do not exhibit 50 Ohms
> source resistance/impedance, what resistance/impedance do they
> exhibit?

It doesn't matter. The net power supplied by the source
is *always* the difference between the forward power
and the incident reflected power *by definition*.

The definition seems to assume that 100% of the
incident reflected power is re-reflected *as if*
a 100% re-reflection condition exists.
--
73, Cecil http://www.w5dxp.com

2005. Re: Effect of raising vertical antenna higher

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 00:12:15 UTC
From: nm5k@wt.net
Message-ID: <1172794335.616945.165990@n33g2000cwc.googlegroups.com>
Source record: 45318

On Mar 1, 9:12 am, Buck <n...@4.now> wrote:
> However, Steppir antennas says
> that an antenna on the ground needs 120 radials just to match one in
> the air with two radials.

That would only apply to an elevated antenna 1/2 wave or higher up
though..

I would like to know where the noticable
> benefit of raising an antenna above the ground actually takes place
> and where is the maximum benefit.
>
> I know that the higher the better, but rather than that kind of
> benefit, I am wondering from a ground standpoint where the benefits
> start and where the point of diminishing returns begins.

Just depends on the band, the path/angle used most of the time, the
ground quality, etc, etc.. Raising it to 40 ft from 12 feet would make
a
noticable difference if you compare all the various types of paths.
IE:
Just the local ground/space wave will be improved a good bit.
As far as the ionosphere, would effect farther off stations more,
than closer in. It's possible for the low antenna to be nearly as
good on a short/medium hops, but DX will be better on the higher
antenna and possibly open/close the band a bit earlier/later.
Ground loss will be lower, but I'm not sure it's worth the cost of
the
cherry picker.. I'd tend to say not, being a cherry picker is usually
not cheap.. Being the current antenna is just a bit less than a 1/4
wave up, it's not in near a bad a shape as say a 80 or 40 antenna
at that height in feet.
MK

2006. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 00:18:02 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E772F4D7861nonenowhere@61.9.191.5>
Source record: 45319

Richard Clark <kb7qhc@comcast.net> wrote in
news:4pgeu2t9c7dmq7hr6g3qjpfuqbgk5m5sq1@4ax.com:

> I have restricted myself to the cyclic display of powers.
...
> Well, at a quick glance and noting no tabular form of data, what is
> presented wouldn't reveal cyclic variation anyway for two reasons:
> 1. It lacks resolution (not enough places);
> 2. It lacks sufficient mismatch.
> This is not a complaint, merely an observation because the evidence
> for your example is hidden deep in the decimal places.

The graph at http://www.vk1od.net/lost/RG58sol.gif has not been labelled for presentation, so you will need to make some allowance in reading it.

The case that is plotted is an extreme mismatch, ou you might argue impractical, but it is extreme enought to show the effects clearly on a graph. The x axis is displacement from the load (-ve towards the generator).

The red line is the so called "forward power" (Real(Vf^2/Zo)) that would be indicated by a correctly calibrated sampler like a Bird 43, but correctly calibrated means for the actual Zo, not the nominal 50+j0.

The dashed purple line is the so called "reflected power" (Real(Vr^2/Zo)) under the same conditions.

The power at a point is shown by the cyan line.

The dashed olive line is Real(Vf^2/Zo))-Real(Vf^2/Zo) (so called forward power - reflected power). It is not the same as as the power because it ignores two terms of the power expansion. A Bird 43 callibrated for the actual Zo would lead you to this line.

This is a very detailed RLGC model, and it reveals from the P(x) line that attenuation per unit length is not constant, a result of the loss being higher in the region of a current maximum. Nevertheless, a sampler that responds to Vf or Vr will not expose the true power curve (due to the two missing terms).

I have thought at times of writing an article that explains the effects on a true practical transmission line, and what practical instruments calibrated for 50+j0 would indicate. I doubt that it would have appeal, people like the "reflected power is dissipated in the transmitter and may overheat it" explanation... it is easier to swallow.

Owen

2007. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 00:21:09 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E7737C1A1E0nonenowhere@61.9.191.5>
Source record: 45320

Owen Duffy <none@no.where> wrote in
news:Xns98E772F4D7861nonenowhere@61.9.191.5:

Hmmm, replying to my own postings again!

> This is a very detailed RLGC model, and it reveals from the P(x) line
> that attenuation per unit length is not constant, a result of the loss
> being higher in the region of a current maximum. Nevertheless, a
> sampler that responds to Vf or Vr will not expose the true power curve
> (due to the two missing terms).

The two "missing" terms are the second and third lines in the legend, the
crossproducts in the power equation expansion. In the case where Zo is
purely real, these terms are equal and opposite in phase and cancel out.

Owen

2008. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 00:31:55 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E7754F75A60nonenowhere@61.9.191.5>
Source record: 45321

Richard Clark <kb7qhc@comcast.net> wrote in
news:tkkeu2tme529a1rll79q1iqisof0hvf3ev@4ax.com:

> On Thu, 01 Mar 2007 20:45:44 GMT, Owen Duffy <none@no.where> wrote:
>
>>Any notion that reflected power *must* flow back to the source and is
>>dissipated as heat will not lead to the correct solution of this
problem.
>
> Hi Owen,
>
> Why must it flow back, when the generator itself presents a huge
> mismatch to the line? The laws of reflection work at both ends of the
> line and to force the presumption that initial reflected power would
> flow through this discontinuity without reflection is a strained
> expectation. However, I see by the alteration that follows, that we
> now have a fully matching source:
>
>>As an exercise, think of a generator that has a Thevenin equivalent of
>>some voltage V and a series impedance of R+j0, connected to a half wave
>>of lossless transmission line where Zo=R. To give a numerical example,
>>lets make V=100 and R=50, so Vr=50 and "reflected power"=50. How much
of
>>the "reflected power" is dissipated in the generator. In this case, the
>>generator dissipates less heat than were it terminated in 50 ohms.
>
> "reflected power"= 50 what? Watts? So be it. Your intent may not to
> be incomplete nor difficult, but what is wrong with specifying the
> load? Do we get a line length?

The line is stated as a half wave of lossless line, why do you need to
know more about its length?

The load you are looking for isn't there, the line ends in an open
circuit. Sorry for the confusion, I should have been explicit that there
was no load, just o/c.

The misunderstandings will frustrate your analysis, so try again.

Owen

2009. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 01:22:36 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <w%KFh.84401$5j1.18019@bgtnsc04-news.ops.worldnet.att.net>
Source record: 45322

Cecil Moore wrote:
> Dave wrote:
>> Cecil, as an engineer you should stick with standard vocabulary.
>
> Just trying to appease the physicists, Dave. They are
> arguing that it is not power until work is done. They
> say that since reflected energy is not doing any work,
> it cannot be reflected power. Therefore, reflected
> power doesn't exist. It's purely semantics. The very
> essence of an EM wave is its energy content.
>
> So the real question is: Since standing waves obviously
> exist and just as obviously cannot exist without two
> coherent waves traveling in opposite directions, does
> reflected energy exist? (That question seems to cause their
> skivvies to get all bunched up.)
>
> I will just be happy when they admit that reflected
> EM waves possess a certain amount of energy that cannot
> stand still and according to the theory of relativity
> must necessarily travel at the speed of light.

Cecil,

Physicists know when power is equal to work and when it represents undissipated flow of energy. No need to keep beating that dead horse.

I must have missed class the day they talked about obviousness. Why is it "obvious" that standing waves cannot exist without coherent traveling waves? Do you believe that traveling waves are somehow more pure or more fundamental than standing waves?

Have you ever tried working out the mathematical details of the wave equation when loaded with a standing wave trial solution? Did it explode or otherwise fail? (Hint, the answer should be "no".)

The question of standing waves or traveling waves is purely one of mathematical convenience. The physical phenomena are identical regardless of your choice. Indeed, this is the point that seems to always trip you. There is no added information from manipulating the form of the equations. That is the sort of thing, if done carelessly, that leads to adding power waves and other nonsense.

73,
Gene
W4SZ

2010. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 01:25:54 UTC
From: Jim - NN7K <NN7K@NOWAY.NET>
Message-ID: <C2LFh.5953$re4.1319@newssvr12.news.prodigy.net>
Source record: 45323

```
And, in fact, the "Reflected power" is
"Re-reflected" from the Source, Back to
the Load, if memory serves (minus loss's
accumulated from the first "Reflection"
of power, if memory serves! Jim NN7K

Owen Duffy wrote:
> Richard Clark <kb7qhc@comcast.net> wrote in
> news:tkkeu2tme529a1rll79q1iqisof0hvf3ev@4ax.com:
>
>> On Thu, 01 Mar 2007 20:45:44 GMT, Owen Duffy <none@no.where> wrote:
>>
>>> Any notion that reflected power *must* flow back to the source and is
>>> dissipated as heat will not lead to the correct solution of this
> problem.
```

2011. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 02:18:17 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <JPLFh.3046$M65.1939@newssvr21.news.prodigy.net>
Source record: 45324

Owen Duffy wrote:
> people like the "reflected power is dissipated in the transmitter and may
> overheat it" explanation... it is easier to swallow.

If the forward current and reflected current are in phase
at the source, it may indeed become overheated due to an
over-current condition.

But just as likely (with random feedline lengths) is that
the forward voltage and reflected voltage may be in phase
at the source and blow out the finals due to over-voltage
conditions.

The two above events never occur at the same time. Over-
current conditions occur at low voltages. Over-voltage
conditions occur at low currents.
--
73, Cecil http://www.w5dxp.com

2012. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 02:42:22 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <iaMFh.3057$M65.1746@newssvr21.news.prodigy.net>
Source record: 45325

Gene Fuller wrote:
> Physicists know when power is equal to work and when it represents
> undissipated flow of energy. No need to keep beating that dead horse.

Not all physicists, including one physics professor who
frequents this newsgroup, knows that, Gene. Maybe if you
sent him a private email, you could convince him that what
you say above is true ...

> Why is it "obvious" that standing waves cannot exist without
> coherent traveling waves?

Please draw us a picture of an example where standing
waves exist without a foundation of coherent traveling
waves. Here's a little help from Hecht of "Optics" fame.

(quote)
E(x,t)=2E0t*sin(kx)*cos(wt)

This is the equation for a *standing wave*, as opposed
to a traveling wave. Its profile does not move through
space; it is clearly not of the (traveling wave) form
f(x +/- vt) ...

Let the phasor E1 represent a (traveling) wave to the
left, and E2 a (traveling) wave to the right. ... (The
sum) doesn't rotate at all, and the resultant wave it
represents doesn't progress through space - it's a
standing wave.
(end quote)

Sure is hard to sweep the facts under the transmission
line rug when the EM waves are in empty space, huh?

> Have you ever tried working out the mathematical details of the wave
> equation when loaded with a standing wave trial solution? Did it explode
> or otherwise fail? (Hint, the answer should be "no".)

Of course the answer is "no". Have you ever tried generating
a standing wave in the complete absence of traveling waves
in opposite directions? Exactly how did you do it?

> The question of standing waves or traveling waves is purely one of
> mathematical convenience.

Of course, that is a copout unrelated to reality. I concede
that you can perform miracles within your own mind.

> The physical phenomena are identical regardless of your choice.

This from the man who asserted that standing wave phase is
meaningless (with which I agree). Point is that traveling
wave phase is NOT meaningless. So which is it?
--
73, Cecil http://www.w5dxp.com

2013. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 02:52:40 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1172803960.159502.226190@s48g2000cws.googlegroups.com>
Source record: 45176

On 1 Mar, 17:22, Gene Fuller <W4SZzzz...@att.net> wrote:
> Cecil Moore wrote:
> > Dave wrote:
> >> Cecil, as an engineer you should stick with standard vocabulary.
>
> > Just trying to appease the physicists, Dave. They are
> > arguing that it is not power until work is done. They
> > say that since reflected energy is not doing any work,
> > it cannot be reflected power. Therefore, reflected
> > power doesn't exist. It's purely semantics. The very
> > essence of an EM wave is its energy content.
>
> > So the real question is: Since standing waves obviously
> > exist and just as obviously cannot exist without two
> > coherent waves traveling in opposite directions, does
> > reflected energy exist? (That question seems to cause their
> > skivvies to get all bunched up.)
>
> > I will just be happy when they admit that reflected
> > EM waves possess a certain amount of energy that cannot
> > stand still and according to the theory of relativity
> > must necessarily travel at the speed of light.
>
> Cecil,
>
> Physicists know when power is equal to work and when it represents
> undissipated flow of energy. No need to keep beating that dead horse.
>
> I must have missed class the day they talked about obviousness. Why is
> it "obvious" that standing waves cannot exist without coherent traveling
> waves? Do you believe that traveling waves are somehow more pure or more
> fundamental than standing waves?
>
> Have you ever tried working out the mathematical details of the wave
> equation when loaded with a standing wave trial solution? Did it explode
> or otherwise fail? (Hint, the answer should be "no".)
>
> The question of standing waves or traveling waves is purely one of
> mathematical convenience. The physical phenomena are identical
> regardless of your choice. Indeed, this is the point that seems to
> always trip you. There is no added information from manipulating the
> form of the equations. That is the sort of thing, if done carelessly,
> that leads to adding power waves and other nonsense.
>

> 73,
> Gene
> W4SZ- Hide quoted text -
>
> - Show quoted text -

Gene,
there are 12 authors on this thread dealing with a very, very complicated question. All are self perceived experts and after 130 posts they are still in deadlocked positions. The clock is ticking and there has been no white smoke pour out of the chimney
as yet. The fighting is rough since only one can be right so he can rise above the others and where the the others descend into the rable. This question is one of the most serious questions to have faced mankind for eons and it correct determination is so imperitive to the universe and to ham radio. For that reason the debate is being recorded for prosterity so that all who follow can judge what manner of men they are indeed what manner of self perceived experts they are. The winner will be the one that is more elequent more overbearing and more obnoxious than any other in the group such that it may well be not the best scientist to rise to the top but one who is most deviled where others no longer can stay in their presence. This has happened before where we have lost many an experienced antenna person to venture off into other fields to the loss of all antenna enthusiasts. This is a fight to maintain a position or to attain a position as an expert in amateur radio So it is not to be taken lightly as past winners have brought this newsgroup down to the level which we now hold. There is not room for a lot of experts on this group so descisions about who is most obnoxious have to be decided. So stand clear of the garbage that is now flying in all directions and keep your powder dry.Sooner or later one will be bragging that they invented the WWW and then another will claim something else and it is then that real savagery will enter the fray.
The clock is still ticking and still no white smoke comming out of the chimney!
Art

2014. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 02:58:46 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <GpMFh.3061$M65.419@newssvr21.news.prodigy.net>
Source record: 45177

art wrote:
> This question is one of the most serious questions to have faced
> mankind for eons and it correct determination is so imperitive to the
> universe and to ham radio. For that reason the debate is being
> recorded for prosterity so that all who follow can judge what manner
> of men they are indeed what manner of self perceived experts they are.

An example comes to mind. Two obscure Australian doctors
advanced the theory that most stomach ulcers were caused
by a bacterial infection. They were mercilessly ridiculed
for many years. Then they won the Nobel Prize.
--
73, Cecil http://www.w5dxp.com

2015. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 03:17:40 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1172805459.989228.234270@n33g2000cwc.googlegroups.com>
Source record: 45179

On 1 Mar, 18:58, Cecil Moore <myc...@hotmail.com> wrote:
> art wrote:
> > This question is one of the most serious questions to have faced
> > mankind for eons and it correct determination is so imperitive to the
> > universe and to ham radio. For that reason the debate is being
> > recorded for prosterity so that all who follow can judge what manner
> > of men they are indeed what manner of self perceived experts they are.
>
> An example comes to mind. Two obscure Australian doctors
> advanced the theory that most stomach ulcers were caused
> by a bacterial infection. They were mercilessly ridiculed
> for many years. Then they won the Nobel Prize.
> --
> 73, Cecil http://www.w5dxp.com

Cecil, this question that is posed is not to be ridiculed. Putting an
antenna in a attic is one of the most exciting thing to have faced
antenna experts for a few years. Its importance to the advance in
antenna is unrivalled and more than one believes he is worthy of the
nobel prize. Who will it be? I look for the smoke for guidance.
Art

2016. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 03:42:46 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E795AAD8A8Dnonenowhere@61.9.191.5>
Source record: 45180

Jim - NN7K <NN7K@NOWAY.NET> wrote in news:C2LFh.5953$re4.1319
@newssvr12.news.prodigy.net:

> And, in fact, the "Reflected power" is
> "Re-reflected" from the Source, Back to
> the Load, if memory serves (minus loss's
> accumulated from the first "Reflection"
> of power, if memory serves! Jim NN7K

All this consideration of re-reflected, re-re-reflected, re-re-re-re-reflected energy is something that is appropriate to analysing how the steady state is established, and yes I know it takes an infinite time, but it establishes subtantially quite quickly. The transient converges to the steady state.

To find the steady state solution, take a short cut, bypass the transient analysis and jump straight to the converged situation. In the steady state... The complex ratio of Vf to Vr at the load end is entirely determined by the constraints of a transmission line of Zo and the passive load. The complex ratio of Vf to Vr at the line input can be determined from the load end conditions by applying the line transmission formulas with the complex propagation constant. Knowing Vf and Vr at the input of the line and Zo, the complex V/I ratio (the equivalent load) that the loaded line input will enforce can be calculated. The power delivered by the source can be then found by finding the voltage or current it will supply into the equivalent load.

This might seem long winded, but it is a sight easier than solving some thousands of iterations of reflection, re-reflection and so on.

Owen

2017. Four square antenna and Roy

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 04:28:02 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1172809681.985954.262190@v33g2000cwv.googlegroups.com>
Source record: 45181

Looked up an article on google called Four square antenna experiences
and to my amazement I found that one of Roy's close friends had
claimed
on his behalf that the four square antenna can be attributed to him.
I waited a while for what Roy had to say because certainly was an
achievement,
if true. Roy did not deny or enlargen on the achievement so I started
to dig for myself.
The above article was the first I came across and it precedes Roys
article in the antenna compendium by some thirty years. As expected
Roy still remains silent taking things on the chin in his normal shy
way.How many other things did he invent before the government released
antenna computor programs to the public and yet still stayed quiet? Is
there still a chance for a Nobel prize for other achievements not
declared?.
Art

2018. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 04:33:32 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E79E45CD29Anonenowhere@61.9.191.5>
Source record: 45182

Owen Duffy <none@no.where> wrote in
news:Xns98E74EF69A0A2nonenowhere@61.9.191.5:

> As an exercise, think of a generator that has a Thevenin equivalent of
> some voltage V and a series impedance of R+j0, connected to a half
> wave of lossless transmission line where Zo=R. To give a numerical
> example, lets make V=100 and R=50, so Vr=50 and "reflected power"=50.
> How much of the "reflected power" is dissipated in the generator. In
> this case, the generator dissipates less heat than were it terminated
> in 50 ohms.

Ok, the solution:

Lets examine the matched load scenario for a start, the 100V generator with 50 ohms internal resistance and a matched 50 ohm load. The current is 100/(50+50) or 1A, the power in the load is 1^2*50 or 50W, the power dissipated in the source is 1^2*50 or 50W.

No lets look at the scenario with the o/c half wave lossless line attached to the generator. In the steady state, current from the generator is zero, dissipation in the generator is 0^2*50 or 0, voltage at the generator terminals and at the o/c (load end) of the line is 100V. At the o/c load end, the complex reflection coefficient is 1, so Vf=50V, Vr=50V and "reflected power"=50^2/50 or 50W.

But, wait a minute, there is 50W of "reflected power" on the line, the line is matched to the source, and there is zero dissipation in the source, less than when it has a matched load.

Don't take anything above to mean that I represent that a simple linear model is a good representation of a transmitter PA.

This simple example that shows that existence of "reflected power" on a transmission line does not necessarily result in some or all of the "reflected power" being dissipated in the generator.

I will leave it to Cecil to take to confuse this simple example with some photon based complication.

Owen

2019. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 04:40:32 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <4VNFh.25945$as2.6259@bgtnsc05-news.ops.worldnet.att.net>
Source record: 45183

Cecil Moore wrote:
> Gene Fuller wrote:
>
>> Why is it "obvious" that standing waves cannot exist without coherent
>> traveling waves?
>
> Please draw us a picture of an example where standing
> waves exist without a foundation of coherent traveling
> waves. Here's a little help from Hecht of "Optics" fame.
>

[It's all math, not physical truth. You still cling to the mistaken notion that there is something more fundamental about traveling waves than standing waves. That is simply nonsense.]

> (quote)
> E(x,t)=2E0t*sin(kx)*cos(wt)
>
> This is the equation for a *standing wave*, as opposed
> to a traveling wave. Its profile does not move through
> space; it is clearly not of the (traveling wave) form
> f(x +/- vt) ...
>
> Let the phasor E1 represent a (traveling) wave to the
> left, and E2 a (traveling) wave to the right. ... (The
> sum) doesn't rotate at all, and the resultant wave it
> represents doesn't progress through space - it's a
> standing wave.
> (end quote)
>
> Sure is hard to sweep the facts under the transmission
> line rug when the EM waves are in empty space, huh?
>
>> Have you ever tried working out the mathematical details of the wave
>> equation when loaded with a standing wave trial solution? Did it
>> explode or otherwise fail? (Hint, the answer should be "no".)
>
> Of course the answer is "no". Have you ever tried generating
> a standing wave in the complete absence of traveling waves
> in opposite directions? Exactly how did you do it?
>
>> The question of standing waves or traveling waves is purely one of
>> mathematical convenience.
>
> Of course, that is a copout unrelated to reality. I concede

> that you can perform miracles within your own mind.
>
>> The physical phenomena are identical regardless of your choice.
>
> This from the man who asserted that standing wave phase is
> meaningless (with which I agree). Point is that traveling
> wave phase is NOT meaningless.

[Oh, yes it IS meaningless, when the traveling waves are exactly the components of a standing wave.]

So which is it?

Cecil,

You still choose not to "get it", and I don't plan to engage in a marathon thread. Nothing has changed for a long time. I will hold to my previous post 100%. I don't know Prof. Hecht, but I am confident he would agree with me completely.

73,
Gene
W4SZ

2020. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 04:47:30 UTC
From: nm5k@wt.net
Message-ID: <1172810850.299025.48410@t69g2000cwt.googlegroups.com>
Source record: 45184

On Feb 22, 7:27 am, Bob Miller <NOS...@neosoft.com> wrote:
> On Tue, 20 Feb 2007 20:16:27 -0800, David Ryeburn <ryeb...@sfu.caz>
> wrote:
>
> ...
>
>
>
> >Ironically if I were to get an Intel Mac, one of the programs I could no
> >longer use is the lean, mean 1992 Mac version of MS Word 5.1a, still
> >working nicely after 15 years on my year 2001 computer. This program
> >runs faster and better under Classic (i.e. Mac OS 9) within Mac OS X
> >than it ever did in the old days. Two layers of emulation are going on
> >here -- OS X is emulating OS 9, and the PowerPC version of OS 9 is
> >emulating a 680x0 CPU on a PPC chip (G5, G4, G3, or earlier) -- Word 5
> >was written before the days of the PPC chips. Classic is not readily
> >available for Intel Macs (there are semi-satisfactory hacks which make
> >it sort of work).
>
> >David, ex-W8EZE
>
> I remember Word v. 5; now, if you could get Wordstar 3.3 to run on a
> Mac, that'd be something :-)
>
> bob
> k5qwg

I'm still using netscape 3.01 to read my e-mail... I like the lesser
amount of
clutter vs the bloated new versions of readers. Also, fairly immune to
the
security problems that can plaque MS exploder.
But I'm pretty much a windows user...XP at the moment.. No plans to
get Vista anytime soon.. The main reason I'm stuck to windows is the
flight simulator requires it.
But.. I also like it because all my sound card programs, etc run off
the
same sound config. No swapping around junk like the old DOS days.
My puter is also my TV/Video recorder, etc too these days.. All
windows
based.. I've never once run Linux yet.. They never had any app's that
were interesting to me.. Or at least nothing that wouldn't run on
windows.
Neither it, or Mac runs a decent flight sim.. And like I say, my puter

is
79% airplane... In fact, the flight sim is why I first bought a
computer in
the first place. I never really had much use for one before that.
I'm running a P4 at 3.15 ghz, and to me, it's a dated system... :/
I'm nearing upgrade time again. Course now, it's a duo core, etc,
vs the usual ramp up in clock speed you used to do.. I'm waiting
as long as I can.. Maybe end up with a quad core or whatever..
The longer I wait, the more I get for my $$$..
I also need a lot of drive space since I started recording loads of
video. I have 240 gig's, and it's always full.. I need about 500 gigs
more just to get a little breathing room. My problem is, I'm lazy,
and
I record more movies than I edit and burn to disk.. So they stack up
on me.. Editing and burning gets to be a time consuming chore I don't
really like too much.. Or at least, I can think of better things to
do.
MK

2021. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 04:49:27 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1172810967.081233.285810@8g2000cwh.googlegroups.com>
Source record: 45185

On 1 Mar, 20:40, Gene Fuller <W4SZzzz...@att.net> wrote:
> Cecil Moore wrote:
> > Gene Fuller wrote:
>
> >> Why is it "obvious" that standing waves cannot exist without coherent
> >> traveling waves?
>
> > Please draw us a picture of an example where standing
> > waves exist without a foundation of coherent traveling
> > waves. Here's a little help from Hecht of "Optics" fame.
>
> [It's all math, not physical truth. You still cling to the mistaken
> notion that there is something more fundamental about traveling waves
> than standing waves. That is simply nonsense.]
>
>
>
>
>
> > (quote)
> > E(x,t)=2E0t*sin(kx)*cos(wt)
>
> > This is the equation for a *standing wave*, as opposed
> > to a traveling wave. Its profile does not move through
> > space; it is clearly not of the (traveling wave) form
> > f(x +/- vt) ...
>
> > Let the phasor E1 represent a (traveling) wave to the
> > left, and E2 a (traveling) wave to the right. ... (The
> > sum) doesn't rotate at all, and the resultant wave it
> > represents doesn't progress through space - it's a
> > standing wave.
> > (end quote)
>
> > Sure is hard to sweep the facts under the transmission
> > line rug when the EM waves are in empty space, huh?
>
> >> Have you ever tried working out the mathematical details of the wave
> >> equation when loaded with a standing wave trial solution? Did it
> >> explode or otherwise fail? (Hint, the answer should be "no".)
>
> > Of course the answer is "no". Have you ever tried generating
> > a standing wave in the complete absence of traveling waves
> > in opposite directions? Exactly how did you do it?

>
> >> The question of standing waves or traveling waves is purely one of
> >> mathematical convenience.
>
> > Of course, that is a copout unrelated to reality. I concede
> > that you can perform miracles within your own mind.
>
> >> The physical phenomena are identical regardless of your choice.
>
> > This from the man who asserted that standing wave phase is
> > meaningless (with which I agree). Point is that traveling
> > wave phase is NOT meaningless.
>
> [Oh, yes it IS meaningless, when the traveling waves are exactly the
> components of a standing wave.]
>
> So which is it?
>
> Cecil,
>
> You still choose not to "get it", and I don't plan to engage in a
> marathon thread. Nothing has changed for a long time. I will hold to my
> previous post 100%. I don't know Prof. Hecht, but I am confident he
> would agree with me completely.
>
> 73,
> Gene
> W4SZ- Hide quoted text -
>
> - Show quoted text -

Darn it !
All those degrees in his possesion and all we get is a belching black
smoke column. It's going to be another long night Cecil!

Art

2022. Re: phased array practicality was Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 05:16:22 UTC
From: jimlux@earthlink.net
Message-ID: <1172812582.422869.259480@31g2000cwt.googlegroups.com>
Source record: 45186

On Mar 1, 11:58 am, Ian White GM3SEK <gm3...@ifwtech.co.uk> wrote:

>

>
> >"the magic box in the center of the array" is more the former model,
> >and while simple conceptually, in the long run probably isn't the best
> >way to solve the problem in a system context.
>
> That is very true. Unfortunately, the ham market is divided up into
> physically separate compartments of transceivers, power amplifiers and
> antennas. That is a severe restriction which makes all the technical
> challenges much more difficult.

Dare I say that what is needed is that much overworked phrase
"paradigm shift"? It used to be that a "transceiver" was a radical
new thing, because everyone knew that you needed a separate Tx and
Rx. Oddly, with phased arrays, perhaps the transceiver becomes passe.
>
> However, we can try to pare the problem down a little.
>
> Another important point is that the concept of 'market demand' is
> beginning to break down in ham radio. The big manufacturers are
> increasingly challenged by new products that pay no attention to the
> market - they spring directly from some individual or small team
> deciding they're going to do it.

I think this has actually been the case for decades. I doubt, for
instance, that the KWM-1 was motivated by some massive pentup demand
for an integrated SSB transceiver.
>
> Then maybe the design is produced as a kit, or manufacturing is taken up
> by some lower-tier company that is faster on its feet. Seems good to
> me...

This would be true of many things.. the SDR1000 might be an example. A
variety of TAPR kits might be another.

>
> >For instance, a multi
> >channel receiver, which can do all the phasing, very precisely, at low
> >levels, either with analog or digital processing, can give you the
> >nice deep nulls and adaptation.For TX, though, null depth isn't as
> >important as maximizing the power squirted in the right direction.
>
> That seems a good place to cut the problem down to size. By all means

> continue to use the existing phasing networks for TX, with 4 or 8
> switchable directions and fixed phasing; but switch the antennas over to
> a totally separate network for RX.

In fact, for HF, you can probably get away with smaller active
antennas for receive. There's no particular reason why the Tx
antennas and the Rx antennas have to be the same, since you're not
typically receiver noise figure limited. There IS a strong signal IM
problem..so maybe active receive antennas aren't the right solution.
But, there's a lot of convenience possible if your receive antennas
are all something like 6 foot whips.
>
> At the lower power levels, the RX network could be much more complex and
> versatile, combining the signals from the four (say) antennas with
> amplitudes and phasing that could be varied on the fly.

You can use nifty things like the 4 quadrant vector multipliers from
Maxim, for instance.

>
> Another way to scale down the problem is not to be too ambitious about
> automatic null steering. In ham operating it is often difficult for a
> computer to identify which is the wanted signal and which is the QRM, so
> maybe let's not try. Semi-automatic null steering definitely would be
> within reach, where the user has a control to steer the null direction
> manually for the best audible results, and the computer does the math to
> select the required network parameters.

That would be where I would start. Adaptive nulling is a bit weird to
work with as a user, especially if you expect to control it. And, for
hams, they want a bit more control. What would be cool is to have a
3D panoramic display that somehow indicates not only the frequency
spectrum, but the angle of arrival.
> >So.. not today, but I'd figure that in 10 years, you'll start to see
> >real broadband phased arrays (not just 4-8 switched beams in a single
> >band like a 4 square).
>
> Yes, I think maybe so. We already have most of the technology for an
> advanced manually steerable RX array, so it's mainly a matter of
> integrating the separate parts of it to make a practical design. Someone
> just has to decide to do it... and maybe they already have.

I've got most of both halves (steerable Tx array and steerable Rx
array) in pieces, but there's a lot of practical usability and
integration issues. Sure would be nice to have a wealthy patron and
have lots of free time and a big budget to work on it<grin>. I
developed the in-situ calibration algorithms as part of a R&D effort
at JPL, but the resources eventually ran out. Too many projects and
too little time.

Jim, W6RMK

2023. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 05:29:16 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4ncfu2t4ugqjose8uiohii2rpungil36a8@4ax.com>
Source record: 45187

On Fri, 02 Mar 2007 00:18:02 GMT, Owen Duffy <none@no.where> wrote:

>The case that is plotted is an extreme mismatch, ou you might argue
>impractical, but it is extreme enought to show the effects clearly on a
>graph. The x axis is displacement from the load (-ve towards the
>generator).

Hi Owen,

Chipman shows much the same work in Chapter 8. If you got a copy you
might find it an useful resource as his math and discussion goes well
beyond the usual coverage.

73's
Richard Clark, KB7QHC

2024. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 05:52:04 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <2udfu2t712cgojrg52jhh2k2tgeqodmpqj@4ax.com>
Source record: 45188

On Fri, 02 Mar 2007 00:31:55 GMT, Owen Duffy <none@no.where> wrote:

>The misunderstandings will frustrate your analysis, so try again.

Hi Owen,

Is it noteworthy that I found a blistering hot resistor for exactly the conditions you set forth? Was I balanced in my reply to note the alternative did the opposite? Even with my gaff of missing the halfwave description, was the discussion incomplete in noting there being a spectrum of responses?

Given I come to exactly the same analysis, same solution, same conclusion (with more explanation, perhaps in that I do demonstrate the reflected energy is absorbed/dissipated/what-have-you in the source resistor) as your posting timestamped 2033 hours my time - what exactly do I need to try again? Did the intervening 4 hours between this post and the second one of yours find some catharsis?

Could you give me a dope slap instead of a hint about this frustration I seem to be suffering? Like, should I take an aspirin or a syringe of morphine?

73's
Richard Clark, KB7QHC

2025. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 06:15:24 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E7AF8B644CFnonenowhere@61.9.191.5>
Source record: 45189

Richard Clark <kb7qhc@comcast.net> wrote in
news:4ncfu2t4ugqjose8uiohii2rpungil36a8@4ax.com:

> On Fri, 02 Mar 2007 00:18:02 GMT, Owen Duffy <none@no.where> wrote:
>
>>The case that is plotted is an extreme mismatch, ou you might argue
>>impractical, but it is extreme enought to show the effects clearly on a
>>graph. The x axis is displacement from the load (-ve towards the
>>generator).
>
> Hi Owen,
>
> Chipman shows much the same work in Chapter 8. If you got a copy you
> might find it an useful resource as his math and discussion goes well
> beyond the usual coverage.

Re Chipman, no I don't have Chipman on the shelf. It sounds like I am poorer for that, but there you go. Allmost all of what I have stated here is based on just two things:
- that V/I=Zo for a travelling wave in a transmission line, and that (Vf+Vr)/(If-Ir) at the load end of the line must equal Zload;
- that the voltage or current decays as e^(gamma*x).
Both are explained in probably any transmission line text, but the graphs I created show a picture that, IMHO, is worth the proverbial thousand words. Exploring the shape of the lines is revealing.

For example, you will remember Dr Ace (IIRC) asserting that rho cannot be greater than 1, and supporting that with the challenge to demonstrate rho>1 with a Bird 43. Of course the Bird 43 cannot demonstrate rho>1, it is calibrated for Zo=50+j0 and rho>1 is only possible if Zo has sufficient -ve reactance to create an observable rho>1 on a suitably inductive load. So, at the risk of exciting another debate, rho can be greater than one, but the maths that supports that proposition also explains why you wont observe it on a Bird 43.

Owen

2026. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 06:16:15 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E7AFB079FDBnonenowhere@61.9.191.5>
Source record: 45190

Richard Clark <kb7qhc@comcast.net> wrote in
news:2udfu2t712cgojrg52jhh2k2tgeqodmpqj@4ax.com:

> On Fri, 02 Mar 2007 00:31:55 GMT, Owen Duffy <none@no.where> wrote:
>
>>The misunderstandings will frustrate your analysis, so try again.
>
> Hi Owen,
>
> Is it noteworthy that I found a blistering hot resistor for exactly
> the conditions you set forth? Was I balanced in my reply to note the
> alternative did the opposite? Even with my gaff of missing the
> halfwave description, was the discussion incomplete in noting there
> being a spectrum of responses?

Richard, I must admit I didn't read the rest of your post when you stated that you didn't know the line length and requested that info.

I have now read it.

I make the comment that just because the situation exists where the Volts and Current from the source are the same as the Volts and Current into the line (they have to be don't they), that does not imply matching in the Jacobi Maximum Power Transfer Theoram sense.

Owen

2027. Re: phased array practicality was Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 06:32:45 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <8bffu2plkv7usd1c6ojatt1m8bre874p8i@4ax.com>
Source record: 45191

On 1 Mar 2007 21:16:22 -0800, jimlux@earthlink.net wrote:

>Dare I say that what is needed is that much overworked phrase
>"paradigm shift"? It used to be that a "transceiver" was a radical
>new thing, because everyone knew that you needed a separate Tx and
>Rx. Oddly, with phased arrays, perhaps the transceiver becomes passe.

Hi Jim,

There may be life left in the transceiver to perform what you want
anyway. Just think more power.

I can sense that this discussion is leading back to a separation of
driver from amplifier. You could still use a power divider to feed
the remote amps at the various array locations. Say 10W at 10 active
antennas, each with a 100W rating.

This would preserve investment, and create and alternative to the
Henry market. Hams would have two purchase paths instead of
discarding their introductory base station and opting in for N number
of active arrays driven by a specialty item that looks like their old
rig gathering dust in the corner.

Of course, if you are talking about two or three elements, this shifts
the investment plan (but it still presumes you are willing to abandon
a prior investment). The cost-benefit of this is usually a steep
slope populated only by a few early adopters.

>In fact, for HF, you can probably get away with smaller active
>antennas for receive. There's no particular reason why the Tx
>antennas and the Rx antennas have to be the same, since you're not
>typically receiver noise figure limited.

There's no reason to expect you need a large transmit antenna for
solid state amps either. The native source resistance of a transistor
is quite low, and has to be transformed UP to match 50 Ohms. If you
had a radiation resistance of only several ohms (a very short
radiator) all you have to pay attention to is cutting Ohmic loss and
providing flexible inductance. Unfortunately, this may be a
performance killer - but if you are demanding multiband performance,
you will have to answer for this for any size array element.

>There IS a strong signal IM
>problem..so maybe active receive antennas aren't the right solution.

The same transceiver that survives IM would still handle it from
several phase active array elements. As you can see, redesigning a

new driver eventually leads you back to the gear you have. If you now demand a separate receiver, separate driver, and separate active array antennas, costs rise faster by the number of connections.

>Adaptive nulling is a bit weird to
>work with as a user, especially if you expect to control it. And, for
>hams, they want a bit more control.

Programmable oscillators that shift immediately and start at any point in the cycle (absolute phase AND frequency control) would be miles further down the road.

These devices are NOT synthesizers NOR linear multipliers. They are variable frequency look-up tables driving a DAC. You send the chip a command of the frequency you want, and the phase angle; send the "go" command, and the oscillator shifts from its existing frequency and phase immediately to the new one (immediately being within one table cell lookup).

When I looked into these 10 years ago, they (driver/DAC combination) operated from the KHz up to about 16MHz and cost less than one XTAL ordered to a single frequency. You still have the elemental clock osc XTAL for processor and driver, but those litter the world for pennies.

Using this kind of technology is about the only reason I would trash my current rigs and go for a custom driver (but it would have to inhabit each array antenna's amp and thus render it a complete transmitter. This would in turn cast all the features (like SSB generation) into each of those elements. The unit cost of this would climb because of feature creep, not component pricing.

>What would be cool is to have a
>3D panoramic display that somehow indicates not only the frequency
>spectrum, but the angle of arrival.

This again, argues for small adaptive antennas. Now you need them in layers.

73's
Richard Clark, KB7QHC

2028. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 06:50:51 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <khhfu2ldld05qvdk3ak68d8d6k2m4bqqi8@4ax.com>
Source record: 45192

On Fri, 02 Mar 2007 06:16:15 GMT, Owen Duffy <none@no.where> wrote:

>that does not imply matching in
>the Jacobi Maximum Power Transfer Theoram sense.

-um, OK-

I find negative propositions a bit oblique, what DOES it imply?

73's
Richard Clark, KB7QHC

2029. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 07:04:32 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E7B7E02EEC2nonenowhere@61.9.191.5>
Source record: 45193

Richard Clark <kb7qhc@comcast.net> wrote in
news:khhfu2ldld05qvdk3ak68d8d6k2m4bqqi8@4ax.com:

> On Fri, 02 Mar 2007 06:16:15 GMT, Owen Duffy <none@no.where> wrote:
>
>>that does not imply matching in
>>the Jacobi Maximum Power Transfer Theoram sense.
>
> -um, OK-
>
> I find negative propositions a bit oblique, what DOES it imply?

I was responding to your words:

"I will at this point re quote Chipman to roughly this scenario (being
more general, he didn't specify the reflection).

"At the signal source end of the line ... none of the power
reflected by the terminal load impedance is re-reflected on
returning to the input end of the line."
The ellipsis reveals that the source Z matches the line Z."

I disagree that the conditions that exist in the steady state at the
source end of the line imply in the general case, matching in the Jacobi
Maximum Power Transfer Theoram sense.

Owen

2030. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 07:31:22 UTC
From: gsm@mendelson.com
Message-ID: <slrneufk8b.ap8.gsm@cable.mendelson.com>
Source record: 45194

art wrote:
> The bottom line should be is EZNEC accurate? Has the programming been
> held within the confines provided by the original provider'
> the U.S. government. Who overseas the content of this so called
> program. If it has a patent then all would or should be revealed
> in the patent disclosure.

No. A patent must disclose enough of the method so that someone
"versed in the art" of programing could reproduce it. That's pretty
vague. I might be able to look at the patent and reproduce or better
the process easily, while you look at it and scratch your head. Or vice
versa.

Obviously the more complete a patent application is and the simpler it
is to understand, the more likely it is to be granted and the easier it
will be to explain to a jury in an infringment case. It does not
need to be simple or easy to understand and most are not.

Then as you alluded to later in your comments, there is the whole problem
of implementation. Without a lot of effort, a home computer version of
most scientific programs will produce meaningless results due to
lack of precision.

Experienced scientific and engineering programers know this and compensate.
"Teach yourself Visual whatever in a week" programmers don't.

The biggest problem with visual whatever programmers is they tend to
be seduced by the flashy interface and ignore the substance under it.

Caveat Emptor.

Geoff.
--
Geoffrey S. Mendelson, Jerusalem, Israel gsm@mendelson.com N3OWJ/4X1GM
IL Voice: (07)-7424-1667 Fax ONLY: 972-2-648-1443 U.S. Voice: 1-215-821-1838
Visit my 'blog at http://geoffstechno.livejournal.com/

2031. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 07:47:15 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E7BF1DEE56Dnonenowhere@61.9.191.5>
Source record: 45195

gsm@mendelson.com (Geoffrey S. Mendelson) wrote in
news:slrneufk8b.ap8.gsm@cable.mendelson.com:

...
> Experienced scientific and engineering programers know this and
> compensate. "Teach yourself Visual whatever in a week" programmers
> don't.
>
> The biggest problem with visual whatever programmers is they tend to
> be seduced by the flashy interface and ignore the substance under it.

As an experienced scientific / engineering software developer, I suggest that much the same issues exist in a conventional 3GL language as in the "Visual xxx" environment. Good software doesn't just happen, it takes (aside of the relatively trivial task of writing the functional elements), huge effort in dealing with exceptions, and testing, testing, testing.

If you dig deep into the source of Fortran programs, you will often find the heritage of small memory and slow processors in days gone by, where implementers used COMMON for variables to reduce memory use, and used COMMON for passing parameters to avoid the overhead of parameter passing function calls. This practice was, IMHO, the greatest risk to accuracy in such programs, and the area that demanded the greatest attention to design and documentation. The public NEC2 code uses COMMON, and the last bug that I demonstrated in a C port of the code was related to messed up parameter passing in COMMON.

So, the old 3GL world wasn't that good anyway!

Owen

2032. Re: Antenna recommendations for160-10 Meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 11:06:26 UTC
From: KC1DI <davekc1di@gmail.com>
Message-ID: <45E80532.4060309@gmail.com>
Source record: 45196

Joaquin Tall wrote:
> Hello All,
>
> As a young SWL, I loved reading all the posts & antenna discussions
> posted here. I lived in a small, 8'X8' bedroom and dreamed of the time
> that I would have some room to really have one, very efficient and
> effective antenna/transceiver combination. That time has arrived, I
> passed my General exam last Saturday.
>
> I currently live on a 3+ acres at the 2,000+ elevation. It faces North
> on a rather precipitous slope.
>
> I have read ON4UN's book, but I am very interested in your thoughts.
> First, let me tell you where my interests lay.
>
> I am close to making the purchase of a IC-755DSP; I would very much like
> to feed this wonderful transceiver with an equally wonderful, efficient
> and durable antenna. I am very interested in working 160 meters, at first.
>
> There are several equally efficient dipoles on the market; Alpha-Delta
> DX-EE, WA2Nan's Tru-Talk, Par Electronics End-Fed half wave, Cobra
> UltraLite Senior or the G5RV's that are manufactured by both Antennas
> & More, as well as HF Antennas.
>
> I've just noticed that Antennas & More produces what they call their
> "OmniLoop", which is 560' long.
>
> Each antenna will easily fit on the property, but I was hoping that your
> personal experience with one of these could help me finally decide.
>
> Many thanks for taking the time to respond!
>
> Alain

Good Morning Alain,

You did not say if your interests lie in DX Or Local on 160M? But for
general 160-10m uses it will be hard to beat the big loop. I had one up
for many years 540 feet around , but feed it with open wire and a good
balanced tuner. On 160m it's not that good for DX but I worked some
anyway. put it up horizontal and on all bands from 80 to 10 meters
you'll have a pretty good Dx antenna. Not as good as a beam but for
general overall use. If Dx is you main interest on 160m Put up a 170'
Inverted L , use an auto tuner at the base , make the vertical section
as high as possible and but alot of radials on on just under the ground.

Those would be my two choices. and Antennas that have worked for me very well over the years. You may want to check out Cebik's wonder sight on the web also. These antennas are easily home brewed. So why pay big buck for the commercial one when you can build them your self.

Cebik's web sights:

http://www.cebik.com/fdim/atl1.html
http://www.cebik.com/wire/ltv.html

73 Dave kc1di

2033. Re: Antenna recommendations for160-10 Meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 11:06:44 UTC
From: KC1DI <davekc1di@gmail.com>
Message-ID: <45e8051f$0$4844$4c368faf@roadrunner.com>
Source record: 45197

Joaquin Tall wrote:
> Hello All,
>
> As a young SWL, I loved reading all the posts & antenna discussions
> posted here. I lived in a small, 8'X8' bedroom and dreamed of the time
> that I would have some room to really have one, very efficient and
> effective antenna/transceiver combination. That time has arrived, I
> passed my General exam last Saturday.
>
> I currently live on a 3+ acres at the 2,000+ elevation. It faces North
> on a rather precipitous slope.
>
> I have read ON4UN's book, but I am very interested in your thoughts.
> First, let me tell you where my interests lay.
>
> I am close to making the purchase of a IC-755DSP; I would very much like
> to feed this wonderful transceiver with an equally wonderful, efficient
> and durable antenna. I am very interested in working 160 meters, at first.
>
> There are several equally efficient dipoles on the market; Alpha-Delta
> DX-EE, WA2Nan's Tru-Talk, Par Electronics End-Fed half wave, Cobra
> UltraLite Senior or the G5RV's that are manufactured by both Antennas
> & More, as well as HF Antennas.
>
> I've just noticed that Antennas & More produces what they call their
> "OmniLoop", which is 560' long.
>
> Each antenna will easily fit on the property, but I was hoping that your
> personal experience with one of these could help me finally decide.
>
> Many thanks for taking the time to respond!
>
> Alain

Good Morning Alain,

You did not say if your interests lie in DX Or Local on 160M? But for
general 160-10m uses it will be hard to beat the big loop. I had one up
for many years 540 feet around , but feed it with open wire and a good
balanced tuner. On 160m it's not that good for DX but I worked some
anyway. put it up horizontal and on all bands from 80 to 10 meters
you'll have a pretty good Dx antenna. Not as good as a beam but for
general overall use. If Dx is you main interest on 160m Put up a 170'
Inverted L , use an auto tuner at the base , make the vertical section
as high as possible and but alot of radials on on just under the ground.

Those would be my two choices. and Antennas that have worked for me very well over the years. You may want to check out Cebik's wonder sight on the web also. These antennas are easily home brewed. So why pay big buck for the commercial one when you can build them your self.

Cebik's web sights:

http://www.cebik.com/fdim/atl1.html
http://www.cebik.com/wire/ltv.html

73 Dave kc1di

2034. What Type of 2M mobile antenna is this?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 12:20:38 UTC
From: Kevin Hastings <myfamilydotcom@hotmail.com>
Message-ID: <qEUFh.3463$PV3.42848@ursa-nb00s0.nbnet.nb.ca>
Source record: 45198

I just bought a trunk-mount 2M antenna from a SK's widow, and am not sure what type it is, though it seems to work really well. It is a 17" whip on an NMO base, with a quarter-inch stainless steel "'tube" around the whip starting about 4" from the top, and extending downwards 6" or so. At the base of the stainless tube, there's a plastic insert to keep the bottom edge of the tube from touching the whip. A set-screw on the tube's top edge allows it to slide up and down the whip for adjustment.

Works great at 2M but I have no 440 rig to test it so I don't know if it's a dual band antenna or not.

Doesn't look very old, but don't see anything like it on the web's antenna dealers.

Anybody know what model and what the theory of operation is for this one?

Thanks,

Kevin VE9XYZ

2035. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 13:13:58 UTC
From: Dave <W1MCE@comcast.net>
Message-ID: <VoWdnfDkK-iOvnXYnZ2dnUVZ_t2tnZ2d@comcast.com>
Source record: 45199

Cecil Moore wrote:

> Dave wrote:
>
>> Cecil, as an engineer you should stick with standard vocabulary.
>
>
> Just trying to appease the physicists, Dave. They are
> arguing that it is not power until work is done.

A Poynting vector is watts/square angle [watts/degree^2]. It is not being dissipated in free space. It is Diverging [vector relationship]. How do the physics type adjust their definition to include the Poynting Vector?

I'll sit back and read the follow up posts for the next few weeks :-)

2036. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 13:21:12 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <cxVFh.3123$M65.635@newssvr21.news.prodigy.net>
Source record: 45200

Owen Duffy wrote:
> To find the steady state solution, take a short cut, bypass the transient
> analysis and jump straight to the converged situation.

That certainly works but in the process, many people
have ignored and/or forgotten the total energy content
of a transmission line with reflections is greater
than the net energy being transferred to the load.

A one microsecond long transmission line transferring
100 watts to a matched load (Pfor=100w, Pref=0w)
contains 100 microjoules of energy during steady-state.

A one microsecond long transmission line transferring
100 watts to a mismatched load (Pfor=200w, Pref=100w)
contains 300 microjoules of energy during steady-state.

The transmission line always contains exactly the right
amount of energy to support the forward and reflected
waves. The most logical conclusion is that forward and
reflected waves continue to exist during steady-state
and those EM waves cannot stand still.

Forward and reflected waves during steady-state are
the building blocks of the standing wave which couldn't
exist without them. Forward and reflected waves contain
energy levels which can be easily calculated. The extra
energy, more than the matched flat case, is what causes
the extra losses due to SWR.
--
73, Cecil http://www.w5dxp.com

2037. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 13:27:13 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1172842033.569050.141000@z35g2000cwz.googlegroups.com>
Source record: 45201

Ya know, all the bits sent on to the great bit bucket in the sky
during this 'discussion' could have been avoided by simply reading
Walt Maxwell's "Reflections" until you understand it...
denny / k8do

2038. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 13:47:10 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <yVVFh.3124$M65.2142@newssvr21.news.prodigy.net>
Source record: 45202

Owen Duffy wrote:
> This simple example that shows that existence of "reflected power" on a
> transmission line does not necessarily result in some or all of the
> "reflected power" being dissipated in the generator.
>
> I will leave it to Cecil to take to confuse this simple example with some
> photon based complication.

No photons necessary, Owen. You are using a Thevenin
equivalent source. Paraphrasing Ramo et.al of "Fields
and Waves ..." fame: No valid conclusions can be
automatically drawn from the calculation of power
dissipation inside a Thevenin equivalent source.
(Sorry, I don't have the book with me for the exact
quote.)

For a lot of real-world sources, double the voltage
with zero current output would be very bad news.
--
73, Cecil http://www.w5dxp.com

2039. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 13:59:14 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <S4WFh.3126$M65.376@newssvr21.news.prodigy.net>
Source record: 45203

Gene Fuller wrote:
> [It's all math, not physical truth. You still cling to the mistaken
> notion that there is something more fundamental about traveling waves
> than standing waves. That is simply nonsense.]

You apparently still cling to the mistaken notion that
standing waves can exist without their forward and
reflected wave building blocks. It is the standing
wave equation that is the math construct that only
exists in the human mind. EM waves cannot stand still.
They must necessarily move at the speed of light.
Anything else violates the principles of relativity.

> I don't know Prof. Hecht, but I am confident he
> would agree with me completely.

If I see Prof. Hecht, I will be sure to tell him that
you are engaging in mind-fornication with him. :-)

All you have to do to prove that you are right and I
am wrong is to provide an example of an independent
standing wave existing without the underlying forward
and reverse traveling wave components. If you can do
that, as you imply, you will also prove Einstein's
relativity to be wrong. That might be worth a Nobel
Prize.
--
73, Cecil http://www.w5dxp.com

2040. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 14:01:06 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <C6WFh.3127$M65.1221@newssvr21.news.prodigy.net>
Source record: 45204

nm5k@wt.net wrote:
> I'm still using netscape 3.01 to read my e-mail...

I switched from Netscape when they dropped the
newsreader function. I now use Thunderbird and
I like it.
--
73, Cecil http://www.w5dxp.com

2041. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 14:03:51 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <b9WFh.3128$M65.1148@newssvr21.news.prodigy.net>
Source record: 45205

art wrote:
> All those degrees in his possesion and all we get is a belching black
> smoke column. It's going to be another long night Cecil!

Art, I'm still waiting for someone to prove that
an EM wave can stand still and continue to exist
in violation of Einstein's theory that light (and
RF waves) always travel at the speed of light.
--
73, Cecil http://www.w5dxp.com

2042. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 14:18:07 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <AmWFh.2314$tv6.372@newssvr19.news.prodigy.net>
Source record: 45206

Owen Duffy wrote:
> - that V/I=Zo for a travelling wave in a transmission line, and that
> (Vf+Vr)/(If-Ir) at the load end of the line must equal Zload;

It seems that we can draw some conclusions from these
assumptions.

Vf*If*cos(0) = forward joules/sec

Vr*Ir*cos(0) = reflected joules/sec

The forward and reflected energy waves actually exist
and are the building blocks of the standing wave.

Vf and Vr are phasors and therefore subject to
superposition and interference.
--
73, Cecil http://www.w5dxp.com

2043. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 14:24:59 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <%sWFh.3129$M65.947@newssvr21.news.prodigy.net>
Source record: 45207

Dave wrote:
> How do the physics type adjust their definition to include the Poynting
> Vector?

The same way they handle the Power Flow Vector and
the "IEEE Dictionary", like a hot potato. :-)
--
73, Cecil http://www.w5dxp.com

2044. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 14:26:19 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <fuWFh.3131$M65.1761@newssvr21.news.prodigy.net>
Source record: 45208

Cecil Moore wrote:
> Owen Duffy wrote:
>> This simple example that shows that existence of "reflected power" on
>> a transmission line does not necessarily result in some or all of the
>> "reflected power" being dissipated in the generator.
>>
>> I will leave it to Cecil to take to confuse this simple example with
>> some photon based complication.
>
> No photons necessary, Owen. You are using a Thevenin
> equivalent source.

What is the dissipation in the generator using a Norton
source?
--
73, Cecil http://www.w5dxp.com

2045. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 14:32:45 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <mAWFh.11$it6.4@newsfe12.lga>
Source record: 45209

"art" <aunwin@insightbb.com> wrote in message
news:1172804899.302340.213290@b35g2000cwb.googlegroups.com...
On 1 Mar, 06:41, Jon K�re Hellan <d...@null.com> wrote:
> John Smith I <assemblywiz...@gmail.com> writes:
>
> > Dan Andersson wrote:
>
> >> ...
> >> So if someone sits on the VB code for EZNEC, just rebuild it .Mono on
> >> Linux
> >> BUT LINK IT STATICALLY! This means the code will run on almost all
> >> varietys
> >> of Linux!
> >> //Dan, M0DFI
>
> > My gawd man. Let us hope no serious program is ever written in Visual
> > Basic!
>
> > Oh, I forgot, some idiots did do that, didn't they?
>
> I don't think that was called for.
>
> We may like Linux, but programming just for Windows doesn't make
> somebody an idiot.
>
> 73 de LA4RT Jon, Trondheim, Norway

The bottom line should be is EZNEC accurate? Has the programming been
held within the confines provided by the original provider'
the U.S. government. Who overseas the content of this so called
program. If it has a patent then all would or should be revealed
in the patent disclosure. Has anybody taken this for his own use for
the advancement of science which is the reason for patents?
Has anybody upgraded the assigned patent for the sake of science
or has something not been disclosed to prevent true examination
and as such invalidates the patent? Does the government have the
option of review of all algorithms or are they in the same position
the country is with voting machines? Basically the purchaser is really
in the position of caveat emptor especially since all programs provide
different results!
Art

Art,
wouldn't it be better if you picked knitting or bird watching?

You would not have to deal with all of us morons and overseas governments
that don't get your brilliance.

bada BUm

2046. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 14:49:17 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <rDwLFvOtlD6FFAaA@ifwtech.co.uk>
Source record: 45211

Cecil Moore wrote:
>art wrote:
>> All those degrees in his possesion and all we get is a belching black
>> smoke column. It's going to be another long night Cecil!
>
>Art, I'm still waiting for someone to prove that
>an EM wave can stand still and continue to exist
>in violation of Einstein's theory that light (and
>RF waves) always travel at the speed of light.

Not everything about light (or EM waves) travels at the speed of light.

Standing waves are simply the RF equivalent of stationary optical
interference fringes.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

2047. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 14:53:04 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <es9do7$r2r$1@news.albasani.net>
Source record: 45210

Cecil Moore wrote:
> nm5k@wt.net wrote:
>> I'm still using netscape 3.01 to read my e-mail...
>
> I switched from Netscape when they dropped the
> newsreader function. I now use Thunderbird and
> I like it.

T-bird is the bomb! The mail/news/rss reader--NOT the drink!

JS
--
http://assemblywizard.tekcities.com

2048. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 15:04:08 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <I1XFh.27182$as2.1951@bgtnsc05-news.ops.worldnet.att.net>
Source record: 45212

Cecil Moore wrote:

>
> You apparently still cling to the mistaken notion that
> standing waves can exist without their forward and
> reflected wave building blocks. It is the standing
> wave equation that is the math construct that only
> exists in the human mind. EM waves cannot stand still.
> They must necessarily move at the speed of light.
> Anything else violates the principles of relativity.

Cecil,

You have fallen into the same trap as those who don't understand the difference between phase velocity and group velocity. Relativity is a physical concept, not a mere result of mathematical manipulation.

73,
Gene
W4SZ

2049. SWR and common grounds

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 15:06:40 UTC
From: Teri Buck <k4ia@verizon.net>
Message-ID: <44XFh.4$ml6.3@trndny08>
Source record: 45213

I am using a multi-switch to change radios and antennas. One of those MFJ 1700Bs. I get different SWR readings depending upon where I place the bridge in the tangle of wires that go into and out of the switch. If I take the switch out of the equation I get very low SWR. With it in I get 2.5:1.

All of the coax has a common ground so the OCF windom also shares a common ground with the coax going up to the beam and all the radios. All grounds are starred at the back of the antenna tuner and run to earth.
I am wondering - does the common connection mean the coax shield to the beam is becoming a part of the OCF windom antenna and vice-versa?

Would it therefore be adviseable to put current chokes on all the ins and outs of the switch? Other comments?

k4ia
Buck
Fredericksburg, VA

2050. Re: SWR and common grounds

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 15:25:39 UTC
From: Danny Richardson <n_group@k6mhe.com>
Message-ID: <arfgu2dot1ltojguqkoofp3riv23sr1oqg@4ax.com>
Source record: 45214

On Fri, 02 Mar 2007 15:06:40 GMT, "Teri Buck" <k4ia@verizon.net>
wrote:

>I am using a multi-switch to change radios and antennas. One of those MFJ
>1700Bs. I get different SWR readings depending upon where I place the
>bridge in the tangle of wires that go into and out of the switch. If I
>take the switch out of the equation I get very low SWR. With it in I get
>2.5:1.
>
>All of the coax has a common ground so the OCF windom also shares a common
>ground with the coax going up to the beam and all the radios. All grounds
>are starred at the back of the antenna tuner and run to earth.
>I am wondering - does the common connection mean the coax shield to the beam
>is becoming a part of the OCF windom antenna and vice-versa?
>
>Would it therefore be adviseable to put current chokes on all the ins and
>outs of the switch? Other comments?
>
>k4ia
>Buck

Based upon your description you can bet the farm you've got common
mode problems. Off center fed dipoles (that's what you have - its not
a windom) are notorious for that problem.

You'll need to install some good common mode chokes (high choking
impedance). For an OFCD you'll need two or more on the coax feed
line. I would start with one at the antenna feed point and another
where the coax enters the shack.

Danny, K6MHE

2051. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 15:31:41 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <xrXFh.769$uo3.42@newssvr14.news.prodigy.net>
Source record: 45215

Ian White GM3SEK wrote:
> Not everything about light (or EM waves) travels at the speed of light.

All EM waves (photons) travel at the speed of light.
Anything else would violate the principles of relativity.
Any detection of light results in the dissipation
(absorption) of the associated photons.

> Standing waves are simply the RF equivalent of stationary optical
> interference fringes.

That they appear to stand still is just an illusion.
Photons are continuously traveling at the speed of
light to get to your eyes where they are dissipated.
When you see an interference ring that appears to
stand still, you are actually receiving speed-of-
light photons into your eyes. (If the interference rings
were truly stationary, you wouldn't be able to see them.)

If the interference fringes are being absorbed, photons
are being dissipated. If the interference fringes are
being scattered, the photons are moving at the speed
of light. The photons either disappear or they travel
at the speed of light.

The photons in a transmission line cannot stand still.
Standing waves are caused by superposition and
interference between separate and distinct forward
and reflected energy waves. And the photons in the
standing wave are NOT standing still.

Consider two coherent nearly co-linear beams of light.
There are bright points of constructive interference
and dark points of destructive interference but the
interference has no effect on the two waves which
emerge from the superposition unaffected and continue
on their merry way. Those waves never slow down from
their speed-of-light velocity. The "stationary" bright
and dark points are an illusion.

At every point, photons are either being dissipated
or are traveling at the speed of light (including VF
of course). Nothing else is possible.
--
73, Cecil, http://www.qsl.net/w5dxp

2052. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 15:32:49 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <BsXFh.770$uo3.688@newssvr14.news.prodigy.net>
Source record: 45216

John Smith I wrote:
> T-bird is the bomb!

Is a bomb good or bad? :-)
--
73, Cecil, http://www.qsl.net/w5dxp

2053. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 15:32:55 UTC
From: chuck <nospam@nospam.org>
Message-ID: <1172849695_3965@sp6iad.superfeed.net>
Source record: 45217

Dave wrote:
> Cecil Moore wrote:
>
>> Dave wrote:
>>
>>> Cecil, as an engineer you should stick with standard vocabulary.
>>
>>
>> Just trying to appease the physicists, Dave. They are
>> arguing that it is not power until work is done.
>
> A Poynting vector is watts/square angle [watts/degree^2]. It is not
> being dissipated in free space. It is Diverging [vector relationship].
> How do the physics type adjust their definition to include the Poynting
> Vector?
>
> I'll sit back and read the follow up posts for the next few weeks :-)
>
>

Dave,

Physicists are basically reasonable, but clever, folks. ;-) They define power as the time rate at which work is done, OR, the time rate at which energy is transferred. With some imagination applied to the context, the definitions converge. In the case of the Poynting vector, convergence (of the definitions) would require dealing with the ultimate destination of the flowing energy. Might be troublesome in infinite space, but on earth, all of the energy ultimately produces power.

The problem seems to be the careless use of "power flow" which, if not meaningless, I find impossible to conceptualize. The flow of the flow of energy? Sort of like common usage of "current flow", which is also the flow of a flow.

73,

Chuck

-----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

2054. Is it possible to estimate any losses due to an unmatched antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 15:40:48 UTC
From: MRW <mr.whatever@gmail.com>
Message-ID: <1172850043.053869.294430@30g2000cwc.googlegroups.com>
Source record: 45218

Good morning!

I would like to request some additional info regarding the following matter.

Is there a way to approximate the antenna factor loss (in dB/m) for an x-length (in inches ... maybe 26 inches) regular telescoping, monopole antenna that will be subjected to frequencies between 88-108MHz (FM band) at a height between 2ft to 15ft from the ground?

Here's the scenario. A 50-ohm receiver will be used. A cable with an insertion loss of 1.5dB will also be used. The receiver has sensitivity levels as low as -5 dBuV. The lowest received signal that we want to measure is 100uV/m.

I am concerned that if an unmatched monopole antenna is used in this system, then it is possible that very low level signals will not be measured. I'm trying to estimate the lowest amount of signal the receiver will be able to pickup using this setup.

I have the following relationship:

dB(uV/m) = dBuV + Antenna Factor (dB/m) + cable loss (dB)

So, I get:

dBuV = 40 dB(uV/m) - Antenna Factor (dB/m) - 1.5 dB(cable loss)

Now, if only I can estimate the antenna factor, then it would give me an idea whether or not the resulting dBuV level is still higher than -5 dBuV.

I was told that there may be a way to estimate the antenna impedance assuming certain conditions. I was hoping to find some reference for this subject, and just assume how much of the signal is lost due to the antenna impedance and 50-ohm receiver impedance mismatch. I have seen some nomograph for VSWR, so I figured if I can find the estimated antenna impedance at the given conditions, then I can calculate reflection coefficient and relate that to VSWR and then to the nomograph to get my antenna factor value.

What do you experienced ones think? Thanks!

2055. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 16:08:49 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <es9i6h$1jm4$1@f04n12.cac.psu.edu>
Source record: 45219

Owen Duffy wrote:
> gsm@mendelson.com (Geoffrey S. Mendelson) wrote in
> news:slrneufk8b.ap8.gsm@cable.mendelson.com:
>
> ...
>> Experienced scientific and engineering programers know this and
>> compensate. "Teach yourself Visual whatever in a week" programmers
>> don't.
>>
>> The biggest problem with visual whatever programmers is they tend to
>> be seduced by the flashy interface and ignore the substance under it.
>
> As an experienced scientific / engineering software developer, I suggest
> that much the same issues exist in a conventional 3GL language as in the
> "Visual xxx" environment. Good software doesn't just happen, it takes
> (aside of the relatively trivial task of writing the functional
> elements), huge effort in dealing with exceptions, and testing, testing,
> testing.
>
> If you dig deep into the source of Fortran programs, you will often find
> the heritage of small memory and slow processors in days gone by, where
> implementers used COMMON for variables to reduce memory use, and used
> COMMON for passing parameters to avoid the overhead of parameter passing
> function calls. This practice was, IMHO, the greatest risk to accuracy in
> such programs, and the area that demanded the greatest attention to
> design and documentation. The public NEC2 code uses COMMON, and the last
> bug that I demonstrated in a C port of the code was related to messed up
> parameter passing in COMMON.
>
> So, the old 3GL world wasn't that good anyway!

Agreed Owen. Perhaps the detractors who don't believe that good
software can be written in VB could give us some concrete examples of
the languages fatal flaws? I've seen nasty stuff in the "good" languages
programs

Programmers may deny it, but they are as vulnerable to "Ford versus
Chevy" type arguments as the best beer swillin', baccy chewin', good ol
boys down at the corner gas station.

- 73 de Mike KB3EIA -

2056. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 16:10:12 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <es9i94$1jm4$2@f04n12.cac.psu.edu>
Source record: 45220

Cecil Moore wrote:
> John Smith I wrote:
>> T-bird is the bomb!
>
> Is a bomb good or bad? :-)

Is bad good or bad? ;^)

- 73 de Mike KB3EIA -

2057. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 16:25:45 UTC
From: richardharrison@webtv.net
Message-ID: <27666-45E85009-44@storefull-3256.bay.webtv.net>
Source record: 45221

Cecil, W5DXP wroote:
"What is the dissipation in the generator using a Norton source?"

According to page 76 of Terman`s 1955 opus:
"Alternatively, a load impedance may be matched to a source of power in such a way as to make the power delivered to the load a maximum (the available power of the power source). This is accomplished by making the load impedance the conjugate of the generator impedance as defined by Thevenin`s theorem."

On page 75 Terman labels a Norton diagram: "Equivalent Arrangement".

Equivalence means the open-circuit voltage and short-circuit current are the same whichever diagram represents the power source.

The power dissipated in the source under matched conditions depends not on the diagramatic representation, but upon how much of the internal resistance of the source behaves as a resistor does, and how much is "dissipationless resistance". It`s real, but makes no heat. If it were fictional, final amplifiers would be limited to 50% efficiency. We all know many R-F amplifiers have discontinuous input power which allows efficiencies much in excess of 50%.

Best regards, Richard Harrison. KB5WZI

2058. Congratulations Art

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 16:30:39 UTC
From: ricknj10@hotmail.com
Message-ID: <45e8509b.50989671@news.optonline.net>
Source record: 45224

Congratulations Art, you are now in my killfile.
Don't bother responding - I won't see your posts anymore.

There's enough negativity in the world, I don't need it in an antenna newsgroup. Man oh Man, anyone who slams Roy.......

73 forever,

Rick K2XT

2059. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 16:39:23 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <8uYFh.2330$tv6.778@newssvr19.news.prodigy.net>
Source record: 45222

Gene Fuller wrote:
> Relativity is a
> physical concept, not a mere result of mathematical manipulation.

My point exactly! All your mathematical manipulation
is not going to get a photon to stand still.
--
73, Cecil, http://www.qsl.net/w5dxp

2060. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 16:45:22 UTC
From: chuck <nospam@nospam.org>
Message-ID: <1172854039_4407@sp6iad.superfeed.net>
Source record: 45223

Dave wrote:
> Cecil Moore wrote:
>
>> Dave wrote:
>>
>>> Cecil, as an engineer you should stick with standard vocabulary.
>>
>>
>> Just trying to appease the physicists, Dave. They are
>> arguing that it is not power until work is done.
>
> A Poynting vector is watts/square angle [watts/degree^2]. It is not
> being dissipated in free space. It is Diverging [vector relationship].
> How do the physics type adjust their definition to include the Poynting
> Vector?
>
> I'll sit back and read the follow up posts for the next few weeks :-)
>
>

And now one for the engineers!

How do you interpret a non-zero Poynting vector determined by static E-
and H- fields?

73,

Chuck

-----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

2061. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 17:33:58 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1172856838.182509.149160@31g2000cwt.googlegroups.com>
Source record: 45225

On 2 Mar, 08:45, chuck <nos...@nospam.org> wrote:
> Dave wrote:
> > Cecil Moore wrote:
>
> >> Dave wrote:
>
> >>> Cecil, as an engineer you should stick with standard vocabulary.
>
> >> Just trying to appease the physicists, Dave. They are
> >> arguing that it is not power until work is done.
>
> > A Poynting vector is watts/square angle [watts/degree^2]. It is not
> > being dissipated in free space. It is Diverging [vector relationship].
> > How do the physics type adjust their definition to include the Poynting
> > Vector?
>
> > I'll sit back and read the follow up posts for the next few weeks :-)
>
> And now one for the engineers!
>
> How do you interpret a non-zero Poynting vector determined by static E-
> and H- fields?
>
> 73,
>
> Chuck
>
> ----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet
News==----http://www.newsfeeds.comThe #1 Newsgroup Service in the World! 120,000+
Newsgroups
> ----= East and West-Coast Server Farms - Total Privacy via Encryption =----- Hide quoted
text -
>
> - Show quoted text -

That is a simple question for an engineer! You invest in a antenna
computor program that gives you the answer that you expect
and move on to the next problem. How would you solve it Chuck?
Art

2062. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 17:51:47 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <tbogu29ja6fnp1ndprl67rr921qs7ad1o0@4ax.com>
Source record: 45226

On Fri, 02 Mar 2007 07:04:32 GMT, Owen Duffy <none@no.where> wrote:

>> I find negative propositions a bit oblique, what DOES it imply?
>
>I was responding to your words:
>
>"I will at this point re quote Chipman to roughly this scenario (being
>more general, he didn't specify the reflection).
>
> "At the signal source end of the line ... none of the power
> reflected by the terminal load impedance is re-reflected on
> returning to the input end of the line."
>The ellipsis reveals that the source Z matches the line Z."
>
>I disagree that the conditions that exist in the steady state at the
>source end of the line imply in the general case, matching in the Jacobi
>Maximum Power Transfer Theoram sense.

Hi Owen,

This is still oblique. Are you speaking of the conditions you created
(for either instance in this thread)? Or that Chipman created to
illustrate his figure? Or through a loose reference to me? Or
perhaps it is compounded in the missing preceding comma for a
parenthetical "in the general case?"

If the last serves, and to the point of obliquity, when did the JMPTT
show up and who are you disagreeing with?

73's
Richard Clark, KB7QHC

2063. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 17:54:27 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <42pgu2lt84mgkf3f3ipepon3gck8bmhs2o@4ax.com>
Source record: 45227

On 2 Mar 2007 05:27:13 -0800, "Denny" <k8do@mailblocks.com> wrote:

>
>
>Ya know, all the bits sent on to the great bit bucket in the sky
>during this 'discussion' could have been avoided by simply reading
>Walt Maxwell's "Reflections" until you understand it...
>denny / k8do

Hi Denny,

I am to presume you are adding bits to the bit bucket then? Your own answer to any of Owen's examples would have trumped hoary advice.

73's
Richard Clark, KB7QHC

2064. Re: SWR and common grounds

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 18:06:47 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <7tpgu2p4lf2db40bc7674cvrovjhkvq49c@4ax.com>
Source record: 45228

On Fri, 02 Mar 2007 07:25:39 -0800, Danny Richardson
<n_group@k6mhe.com> wrote:

>Based upon your description you can bet the farm you've got common
>mode problems.

Amen

2065. Re: Is it possible to estimate any losses due to an unmatched antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 18:12:11 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <cvpgu2pjd1eidot5eikcn8eqcm3ljf8l68@4ax.com>
Source record: 45229

On 2 Mar 2007 07:40:48 -0800, "MRW" <mr.whatever@gmail.com> wrote:

>I am concerned that if an unmatched monopole antenna is used in this
>system, then it is possible that very low level signals will not be
>measured.

It is distinctly possible high level signals won't be measured either.

>What do you experienced ones think? Thanks!

Skip the math and simply build a matched antenna. If you can do the
whip part, do it again below it and choke the line leading to the two
elements. (Google "vertical dipole." If your signal is horizontally
polarized, substitute "horizontal dipole.")

***** end of problem *****

73's
Richard Clark, KB7QHC

2066. Re: phased array practicality was Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 18:41:18 UTC
From: Jan Simons PA0SIM <PA0SIMandnospam@amsat.org>
Message-ID: <1172860879.273430@SLIPstream>
Source record: 45230

>>In fact, for HF, you can probably get away with smaller active
>>antennas for receive. There's no particular reason why the Tx
>>antennas and the Rx antennas have to be the same, since you're not
>>typically receiver noise figure limited.
>
>>Adaptive nulling is a bit weird to
>>work with as a user, especially if you expect to control it. And, for
>>hams, they want a bit more control.
>
> Using this kind of technology is about the only reason I would trash
> my current rigs and go for a custom driver (but it would have to
> inhabit each array antenna's amp and thus render it a complete
> transmitter. This would in turn cast all the features (like SSB
> generation) into each of those elements. The unit cost of this would
> climb because of feature creep, not component pricing.
>
>>What would be cool is to have a
>>3D panoramic display that somehow indicates not only the frequency
>>spectrum, but the angle of arrival.
>

When living in a residential area, as I do, canceling or reducing local qrm
and man made noise is your first interest!
Using an array is may be the only way to go. Either by using analog means
(phasers) or using digital signal processing. In DSP a lot more is possible.

I use an array of 2 small active loop antennas.
The two phase coherent receivers are made using the front-ends of two
Elecraft K2's and a Delta 44 soundcard in the PC. The software makes
the rest of the dual (SDR) receiver. No expensive hardware needed.
See: http://www.pa0sim.nl/Software.htm
(one of the windows shows the phase difference (TDOA), which helps
eg. selecting the correct phase for the phaser)

Even two antennas can be very effective against local qrm and even non
local qrm. I sure would like to try four antennas HI. It is easy to scale it
to four antennas/receivers, but I still have my qrl .....

73 de Jan PA0SIM

2067. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 18:59:39 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E83CFA25AD5nonenowhere@61.9.191.5>
Source record: 45231

Cecil Moore <mycall@hotmail.com> wrote in news:AmWFh.2314$tv6.372
@newssvr19.news.prodigy.net:

> Owen Duffy wrote:
>> - that V/I=Zo for a travelling wave in a transmission line, and that
>> (Vf+Vr)/(If-Ir) at the load end of the line must equal Zload;
>
> It seems that we can draw some conclusions from these
> assumptions.
>
> Vf*If*cos(0) = forward joules/sec

What is this "we" business? That is your conclusion

What is the cos(0) term for Cecil? Are you implying that the phase angle of Zo is 0? That isn't true in the general case, it is true ONLY for lossless or distortionless lines.

Owen

2068. Re: Is it possible to estimate any losses due to an unmatched antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 19:20:05 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E8407147C4nonenowhere@61.9.191.5>
Source record: 45232

"MRW" <mr.whatever@gmail.com> wrote in news:1172850043.053869.294430@
30g2000cwc.googlegroups.com:

> Good morning!
>
> I would like to request some additional info regarding the following
> matter.
>
> Is there a way to approximate the antenna factor loss (in dB/m) for an

The word loss does not belong in there.

> x-length (in inches ... maybe 26 inches) regular telescoping, monopole
> antenna that will be subjected to frequencies between 88-108MHz (FM
> band) at a height between 2ft to 15ft from the ground?

Simple formulas to determine AF depend on the monopole being short (and
yours isn't) and on a perfect ground plane (you haven't stated).

>
> Here's the scenario. A 50-ohm receiver will be used. A cable with an
> insertion loss of 1.5dB will also be used. The receiver has
> sensitivity levels as low as -5 dBuV. The lowest received signal that
> we want to measure is 100uV/m.

You would be best served by converting your minimum Field Strength to
received power for a nominal antenna system, then determining the minimum
antenna system gain that will achieve your target S/N ratio (not stated
in your data, sort of implied in your sensitivity spec, but check /
adjust it).

With a antenna *system* gain of 0dBi, at 108MHz with FS 100uV/m
(40dBuV/m), the 50 ohm receiver voltage is 29.1 dBuV. The receiver
voltage will 30.9 dBuV for the same situation at 88MHz.

From the above, the Antenna Factor for a 0dBi gain at 108MHz is 40-29.1=
10.9dB/m, and yes, it is frequency dependent.

Antennas aren't often specified by Antenna Factor, gain is more common.

Antenna system means all components upstream of the receiver.

Owen

2069. Re: Is it possible to estimate any losses due to an unmatched antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 19:30:36 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E84239BB4C4nonenowhere@61.9.191.5>
Source record: 45266

"MRW" <mr.whatever@gmail.com> wrote in news:1172850043.053869.294430@
30g2000cwc.googlegroups.com:

> Good morning!
>
> I would like to request some additional info regarding the following
> matter.
>
> Is there a way to approximate the antenna factor loss (in dB/m) for an
> x-length (in inches ... maybe 26 inches) regular telescoping, monopole
> antenna that will be subjected to frequencies between 88-108MHz (FM
> band) at a height between 2ft to 15ft from the ground?
...
> I was told that there may be a way to estimate the antenna impedance
> assuming certain conditions. I was hoping to find some reference for
> this subject, and just assume how much of the signal is lost due to
> the antenna impedance and 50-ohm receiver impedance mismatch. I have
> seen some nomograph for VSWR, so I figured if I can find the estimated
> antenna impedance at the given conditions, then I can calculate
> reflection coefficient and relate that to VSWR and then to the
> nomograph to get my antenna factor value.
...

Here is an example of the workup of Antenna Factor for a small square
untuned loop for field strength measurement:
http://www.vk1od.net/SmallUntunedSquareLoop/index.htm .

Is this really what you wanted to do, but for a short monopole (which of
course needs a different approach)?

Owen

2070. Re: phased array practicality was Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 19:33:57 UTC
From: jimlux@earthlink.net
Message-ID: <1172864036.866389.162590@31g2000cwt.googlegroups.com>
Source record: 45233

On Mar 1, 10:32 pm, Richard Clark <kb7...@comcast.net> wrote:

> I can sense that this discussion is leading back to a separation of
> driver from amplifier. You could still use a power divider to feed
> the remote amps at the various array locations. Say 10W at 10 active
> antennas, each with a 100W rating.

This probably the most practical thing.. and in fact what I'm working on prototyping. The challenge is in the amplifiers (although the recent FCC ruling doing away with the anti-CB amplifier rules will help)

Most inexpensive amplifiers do not have "well behaved" properties at RF (i.e. they change all their parameters as they heat up).. this makes dealing with phasing and mutual coupling a bit challenging If the output Z changes, then the network matching it to the element needs to change..if the gain and phase through the amp changes, then the drive needs to be adjusted.

Fortunately, the problems are solvable, at least in a theoretical sense.

>
> This would preserve investment, and create and alternative to the
> Henry market. Hams would have two purchase paths instead of
> discarding their introductory base station and opting in for N number
> of active arrays driven by a specialty item that looks like their old
> rig gathering dust in the corner.

Yes.. this is exactly the growth path I would envision.

>
> There's no reason to expect you need a large transmit antenna for
> solid state amps either. The native source resistance of a transistor
> is quite low, and has to be transformed UP to match 50 Ohms. If you
> had a radiation resistance of only several ohms (a very short
> radiator) all you have to pay attention to is cutting Ohmic loss and
> providing flexible inductance. Unfortunately, this may be a
> performance killer - but if you are demanding multiband performance,
> you will have to answer for this for any size array element.

Indeed, yes.. fortunately, you already need to have an adjustable impedance transformer (because the feed point Zs change with frequency/ steering), and even more fortunately, you don't need a broadband match.. All you need is a few kHz, so a single L and C might do it, "good enough".
>

> >There IS a strong signal IM
> >problem..so maybe active receive antennas aren't the right solution.
>
> The same transceiver that survives IM would still handle it from
> several phase active array elements. As you can see, redesigning a
> new driver eventually leads you back to the gear you have. If you now
> demand a separate receiver, separate driver, and separate active array
> antennas, costs rise faster by the number of connections.

But it turns out that you want a different kind of phasing for receive
than for transmit (not only a different pattern, but it turns out
you'd like to do it a different way... null formation being one
reason).. that pushes you away from a simple adjustable LC phasing
network for the receive array. For receive, you'd also like it fast
(and, potentially, multiple beams at once).

>
> >Adaptive nulling is a bit weird to
> >work with as a user, especially if you expect to control it. And, for
> >hams, they want a bit more control.
>
> Programmable oscillators that shift immediately and start at any point
> in the cycle (absolute phase AND frequency control) would be miles
> further down the road.

That's available now.. it's a DDS. And you can buy a radio off the
shelf that has these capabilities (the FlexRadio SDR1000), although,
there are a couple difficulties with the flex (for one, they didn't
bring the sync input to the DDS out to the connector). You can buy a
eval board from Analog Devices for <$200.
>
> ordered to a single frequency. You still have the elemental clock osc
> XTAL for processor and driver, but those litter the world for pennies.

Interestingly, in a very much higher budget arena (deep space comms
and ranging), they're also doing this. Until recently, you had to
special order the crystal for your spacecraft radio (with 18+ month
lead time!!), so if you had a channel reassignment, it was a real
problem. (One of the Mars Rovers and the Mars Reconnaissance Orbiter
are on the same channel.. wasn't supposed to be a problem because the
rover was not planned to survive long enough)

>
> Using this kind of technology is about the only reason I would trash
> my current rigs and go for a custom driver (but it would have to
> inhabit each array antenna's amp and thus render it a complete
> transmitter. This would in turn cast all the features (like SSB
> generation) into each of those elements. The unit cost of this would
> climb because of feature creep, not component pricing.

Kind of depends where you divide up the building blocks. The raw
exciter cost (DDS plus mod plus D/A converter for modulation) is quite

low.

Jim

2071. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 19:35:09 UTC
From: Dave <W1MCE@comcast.net>
Message-ID: <b92dnceMaKPw4XXYnZ2dnUVZ_sDinZ2d@comcast.com>
Source record: 45234

chuck wrote:
> Dave wrote:
>
>> Cecil Moore wrote:
>>
>>> Dave wrote:
>>>
>>>> Cecil, as an engineer you should stick with standard vocabulary.
>>>
>>>
>>>
>>> Just trying to appease the physicists, Dave. They are
>>> arguing that it is not power until work is done.
>>
>>
>> A Poynting vector is watts/square angle [watts/degree^2]. It is not
>> being dissipated in free space. It is Diverging [vector relationship].
>> How do the physics type adjust their definition to include the
>> Poynting Vector?
>>
>> I'll sit back and read the follow up posts for the next few weeks :-)
>>
>>
>
> And now one for the engineers!
>
> How do you interpret a non-zero Poynting vector determined by static E-
> and H- fields?
>
> 73,
>
> Chuck
>

Static fields, by definition, do not have a time varying divergence. No time
variation, no Poynting Vector. Nes Pas?

2072. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 19:41:14 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1172864474.469217.91170@s48g2000cws.googlegroups.com>
Source record: 45235

On 2 Mar, 11:35, Dave <W...@comcast.net> wrote:
> chuck wrote:
> > Dave wrote:
>
> >> Cecil Moore wrote:
>
> >>> Dave wrote:
>
> >>>> Cecil, as an engineer you should stick with standard vocabulary.
>
> >>> Just trying to appease the physicists, Dave. They are
> >>> arguing that it is not power until work is done.
>
> >> A Poynting vector is watts/square angle [watts/degree^2]. It is not
> >> being dissipated in free space. It is Diverging [vector relationship].
> >> How do the physics type adjust their definition to include the
> >> Poynting Vector?
>
> >> I'll sit back and read the follow up posts for the next few weeks :-)
>
> > And now one for the engineers!
>
> > How do you interpret a non-zero Poynting vector determined by static E-
> > and H- fields?
>
> > 73,
>
> > Chuck
>
> Static fields, by definition, do not have a time varying divergence. No time
> variation, no Poynting Vector. Nes Pas?- Hide quoted text -
>
> - Show quoted text -

Then what you do is add a time varying field to a static field and add
something like " during a period of time " to Gausses law.
What on earth is your problem? Show a bit of inititive !
Art

2073. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 19:46:14 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <es9utvssp1@news.albasani.net>
Source record: 45236

Michael Coslo wrote:

> ...

Visual Basic being a sucky language, give example?

Krist, VB makes call into all the windows api's, it support com, windows scripting, and all the other silly stuff windows does.

In other words, IT IS SLOW! And HEAVY on dependence on windows and all windows flaws ...

It cannot be cross compiled for linux or most other os's without MAJOR programming efforts.

C/C++ is where it is at ... VB is for babies and web site designers ...
--
http://assemblywizard.tekcities.com

2074. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 19:49:46 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <es9v4hssp2@news.albasani.net>
Source record: 45237

Cecil Moore wrote:
> John Smith I wrote:
>> T-bird is the bomb!
>
> Is a bomb good or bad? :-)

"The Bomb!" = "BAD" (as in, that '57 chevy is BAD!)

--and, in turn--

BAD = GOOD!

Regards,
JS
--
http://assemblywizard.tekcities.com

2075. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 19:56:27 UTC
From: Jeff <jeff@local.host>
Message-ID: <45e8826e$0$26700$834e42db@reader.greatnowhere.com>
Source record: 45238

> And now one for the engineers!
>
> How do you interpret a non-zero Poynting vector determined by static E-
> and H- fields?

What the Poynting vector actually tells us is that the flux into any closed volume is equal to the rate of storage of energy within the volume. Since a static field has no flux into any closed volume the poynting vector tells us that no storage or dissipation of energy is taking place, ie it tells us nothing and is therefore of no use in this situation.

In non-static fields it does mean something, but even here it may not completely describe the energy flow. The Poynting Vector is just one of an infinite number of way of describing energy flow. It is a convenient and mathematically simple one, but not a complete solution. For instance an alternative one is the Slepian Vector which is mathematically more cumbersome but does include the static case.

73
Jeff

2076. Re: phased array practicality was Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 20:15:16 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <q50hu2tknchpr937u2fpe53bo528amlenb@4ax.com>
Source record: 45239

On 2 Mar 2007 11:33:57 -0800, jimlux@earthlink.net wrote:

Hi Jim

>Most inexpensive amplifiers do not have "well behaved" properties at
>RF (i.e. they change all their parameters as they heat up).. this
>makes dealing with phasing and mutual coupling a bit challenging If
>the output Z changes, then the network matching it to the element
>needs to change..if the gain and phase through the amp changes, then
>the drive needs to be adjusted.

If you are interested in a design for yourself, and maybe a production
run of a few hundred, then look to the HF/10M/6M/2M surplus repeater
market from Motorola and RCA designs of the 70s and 80s. Dirt cheap
decks with enough elbow room to make mods.

>Fortunately, the problems are solvable, at least in a theoretical
>sense.

One doesn't usually see fortunately paired with theoretical.
<ironically this is how this thread started - was with a pig in the
poke explanation passing for science>

>All you need is a few kHz, so a single L and C might do it,
>"good enough".

So, this daydream is on one band only?

>But it turns out that you want a different kind of phasing for receive
>than for transmit (not only a different pattern, but it turns out
>you'd like to do it a different way... null formation being one
>reason).. that pushes you away from a simple adjustable LC phasing
>network for the receive array. For receive, you'd also like it fast
>(and, potentially, multiple beams at once).

Ah, there's always a big but (as PeeWee Herman would say).

>> Programmable oscillators that shift immediately and start at any point
>> in the cycle (absolute phase AND frequency control) would be miles
>> further down the road.
>
>That's available now.. it's a DDS. And you can buy a radio off the
>shelf that has these capabilities (the FlexRadio SDR1000), although,
>there are a couple difficulties with the flex (for one, they didn't
>bring the sync input to the DDS out to the connector). You can buy a
>eval board from Analog Devices for <$200.

OK, Analog Devices is a star performer. I built a tube version of this DDS back in '68 when it was called a coherent detector (could have been called many names depending on where you developed the audio output).

However, this is NOT what I was referring to, as that is distinctly different. This is a software controlled oscillator whose frequency and phase is immediately settable (within on clock, this is in the nanosecondS range). If you need to phase each array element independently to phase steer the combined system (also to take care of phase matching through mutual coupling), the software solution spring immediately to the front for a solution.

However, as I pointed out, it means N individual drivers following those oscillators so that each can be phase controlled for the system combination. The downside finds our current investment sitting in the corner again, and our investing more design effort into SSB generation, and hence, feature creep.
>>
>> ordered to a single frequency. You still have the elemental clock osc
>> XTAL for processor and driver, but those litter the world for pennies.
>
>Interestingly, in a very much higher budget arena (deep space comms
>and ranging), they're also doing this. Until recently, you had to
>special order the crystal for your spacecraft radio (with 18+ month
>lead time!!), so if you had a channel reassignment, it was a real
>problem. (One of the Mars Rovers and the Mars Reconnaissance Orbiter
>are on the same channel.. wasn't supposed to be a problem because the
>rover was not planned to survive long enough)

The software oscillator I described in the previous post would solve that for the same cost as the custom XTAL.

If you are looking for a design and a market, I cannot think for the life of me why that hasn't happened yet.

73's
Richard Clark, KB7QHC

2077. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 20:20:17 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <9i1hu2l08e0dlc469ajlcvl00ri8mpat1u@4ax.com>
Source record: 45240

On Fri, 2 Mar 2007 19:56:27 -0000, "Jeff" <jeff@local.host> wrote:

>Slepian Vector which is mathematically more
>cumbersome but does include the static case.

Sorry Jeff, but I can just hear hope re-awakening beneath the frost of
disappointment, and the birth of a new theory emerging. I look
forward to a new thread
"Why haven't I received my Nobel Award from Ed McMahon yet?"

73's
Richard Clark, KB7QHC

2078. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 20:40:18 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <mv1hu25r67hlujgj6d48knl34np53qrjem@4ax.com>
Source record: 45241

On Thu, 01 Mar 2007 17:36:12 -0600, Cecil Moore <mycall@hotmail.com>
wrote:

Basically nothing.

>Richard Clark wrote:
>> When it is generally accepted that our sources do not exhibit 50 Ohms
>> source resistance/impedance, what resistance/impedance do they
>> exhibit?

To which I got no answers in stereo.

Some may sense frustration to which I once asked how much relief I
would need. Having already long anticipated a non-response (score
100% for accuracy in modeling); others may want to fumble rhetorically
with equally uninformed responses. In anticipation of that I provide
a multiple choice. Richard needs to take:
1. An aspirin;
2. A syringe of morphine;
3. Both of the above;
4. 50 Ohms of dissipation.
5. All of the above, except 3.
6. ____________

Now take that number, and divide it by the Sarcasm co-efficient.

Plot this on a graph and draw an asymptote. You now have a diagram
for a Gaussian Bundle. Find the Pointing Vector for this (it points
to the same answer you picked in the multiple choice) to verify the
authenticity of your newsreader's software design. ;-)

73's
Richard Clark, KB7QHC

2079. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 21:04:31 UTC
From: chuck <nospam@nospam.org>
Message-ID: <1172869593_5375@sp6iad.superfeed.net>
Source record: 45242

Dave wrote:
> chuck wrote:
>> Dave wrote:
>>
>>> Cecil Moore wrote:
>>>
>>>> Dave wrote:
>>>>
>>>>> Cecil, as an engineer you should stick with standard vocabulary.
>>>>
>>>>
>>>>
>>>> Just trying to appease the physicists, Dave. They are
>>>> arguing that it is not power until work is done.
>>>
>>>
>>> A Poynting vector is watts/square angle [watts/degree^2]. It is not
>>> being dissipated in free space. It is Diverging [vector
>>> relationship]. How do the physics type adjust their definition to
>>> include the Poynting Vector?
>>>
>>> I'll sit back and read the follow up posts for the next few weeks :-)
>>>
>>>
>>
>> And now one for the engineers!
>>
>> How do you interpret a non-zero Poynting vector determined by static
>> E- and H- fields?
>>
>> 73,
>>
>> Chuck
>>
>
> Static fields, by definition, do not have a time varying divergence. No
> time variation, no Poynting Vector. Nes Pas?
>

I think the Poynting vector can be calculated even when the E and H
fields are static. Of course, doing so would violate Poynting's
assumptions and thus be meaningless. But if one didn't know in advance
that an arbitrary closed surface contained static sources, and he found
the Poynting vector, S, for some small area, he could well get a

non-zero answer. Of course, the integral of S over the entire surface
would always be zero in the case of static sources.

To be applicable, the Poynting theorem requires that the E and H fields
arise from a single source, satisfying Maxwell's first two equations.
But that information may not be known in advance.

73,

Chuck

-----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

2080. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 21:04:44 UTC
From: chuck <nospam@nospam.org>
Message-ID: <1172869601_5377@sp6iad.superfeed.net>
Source record: 45243

Jeff wrote:
>> And now one for the engineers!
>>
>> How do you interpret a non-zero Poynting vector determined by static E-
>> and H- fields?
>
> What the Poynting vector actually tells us is that the flux into any closed
> volume is equal to the rate of storage of energy within the volume. Since a
> static field has no flux into any closed volume the poynting vector tells us
> that no storage or dissipation of energy is taking place, ie it tells us
> nothing and is therefore of no use in this situation.

My understanding is somewhat different (and quite possibly in error).
You can calculate a non-zero Poynting vector and it will not always tell
you that no storage or dissipation of energy is taking place. Assuming
you do not already know the source of fields inside a closed surface,
you can be misled by the Poynting vector. You need an additional step in
that case: i.e., integrating S over the entire surface. That will
produce a value of zero in the case of static fields.

>
> In non-static fields it does mean something, but even here it may not
> completely describe the energy flow. The Poynting Vector is just one of an
> infinite number of way of describing energy flow. It is a convenient and
> mathematically simple one, but not a complete solution. For instance an
> alternative one is the Slepian Vector which is mathematically more
> cumbersome but does include the static case.
>

There seems to be a divergence of views on the Slepian vector, but I am
not familiar with it.

73,

Chuck

> 73
> Jeff
>
>

-----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

2081. Re: Four square antenna and Roy

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 21:18:16 UTC
From: nm5k@wt.net
Message-ID: <1172870296.340921.287930@30g2000cwc.googlegroups.com>
Source record: 45244

On Mar 1, 10:28 pm, "art" <aun...@insightbb.com> wrote:
> Looked up an article on google called Four square antenna experiences
> and to my amazement I found that one of Roy's close friends had
> claimed
> on his behalf that the four square antenna can be attributed to him.
> I waited a while for what Roy had to say because certainly was an
> achievement,
> if true. Roy did not deny or enlargen on the achievement so I started
> to dig for myself.
> The above article was the first I came across and it precedes Roys
> article in the antenna compendium by some thirty years. As expected
> Roy still remains silent taking things on the chin in his normal shy
> way.How many other things did he invent before the government released
> antenna computor programs to the public and yet still stayed quiet? Is
> there still a chance for a Nobel prize for other achievements not
> declared?.
> Art

Are you writing a book? I'm sure glad I don't feel it nessesary to
worry
about what other people do, did, or will do.
That's no way to live. Will land you in the rubber room after a while.
I don't think Roy has ever claimed to invent the antenna. If I'm not
mistaken, his work was more in the proper phasing of the elements.
Would this bother you in some way?
MK

2082. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 21:21:50 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1172870510.228084.31120@n33g2000cwc.googlegroups.com>
Source record: 45245

On 2 Mar, 13:04, chuck <nos...@nospam.org> wrote:
> Dave wrote:
> > chuck wrote:
> >> Dave wrote:
>
> >>> Cecil Moore wrote:
>
> >>>> Dave wrote:
>
> >>>>> Cecil, as an engineer you should stick with standard vocabulary.
>
> >>>> Just trying to appease the physicists, Dave. They are
> >>>> arguing that it is not power until work is done.
>
> >>> A Poynting vector is watts/square angle [watts/degree^2]. It is not
> >>> being dissipated in free space. It is Diverging [vector
> >>> relationship]. How do the physics type adjust their definition to
> >>> include the Poynting Vector?
>
> >>> I'll sit back and read the follow up posts for the next few weeks :-)
>
> >> And now one for the engineers!
>
> >> How do you interpret a non-zero Poynting vector determined by static
> >> E- and H- fields?
>
> >> 73,
>
> >> Chuck
>
> > Static fields, by definition, do not have a time varying divergence. No
> > time variation, no Poynting Vector. Nes Pas?
>
> I think the Poynting vector can be calculated even when the E and H
> fields are static. Of course, doing so would violate Poynting's
> assumptions and thus be meaningless. But if one didn't know in advance
> that an arbitrary closed surface contained static sources, and he found
> the Poynting vector, S, for some small area, he could well get a
> non-zero answer. Of course, the integral of S over the entire surface
> would always be zero in the case of static sources.
>
> To be applicable, the Poynting theorem requires that the E and H fields
> arise from a single source, satisfying Maxwell's first two equations.
> But that information may not be known in advance.

>
> 73,
>
> Chuck
>
> -----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet
News==----http://www.newsfeeds.comThe #1 Newsgroup Service in the World! 120,000+
Newsgroups
> ----= East and West-Coast Server Farms - Total Privacy via Encryption =----- Hide quoted
text -
>
> - Show quoted text -

Chuck,
I believe you would be much better off choosing Gausses law for
statics and adding a time element to the written law itself thus
providing all three cartesian coodinates reguired for the law.
I suppose one could say it is not Gaussian law anymore but
mathematically it fits quite well. This is the basis for Gaussian
antenna arrays for which I have submitted for consideration from the
patent office. As yet I have not heard any comment that invalidates
this concept other than it can't be done from psuedo experts and
frankly I feel that the addition speaks for itself.
Regards
Art

2083. Re: Four square antenna and Roy

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 21:27:15 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1172870835.679405.309380@30g2000cwc.googlegroups.com>
Source record: 45246

On 2 Mar, 13:18, n...@wt.net wrote:
> On Mar 1, 10:28 pm, "art" <aun...@insightbb.com> wrote:
>
>
>
>
>
> > Looked up an article on google called Four square antenna experiences
> > and to my amazement I found that one of Roy's close friends had
> > claimed
> > on his behalf that the four square antenna can be attributed to him.
> > I waited a while for what Roy had to say because certainly was an
> > achievement,
> > if true. Roy did not deny or enlargen on the achievement so I started
> > to dig for myself.
> > The above article was the first I came across and it precedes Roys
> > article in the antenna compendium by some thirty years. As expected
> > Roy still remains silent taking things on the chin in his normal shy
> > way.How many other things did he invent before the government released
> > antenna computor programs to the public and yet still stayed quiet? Is
> > there still a chance for a Nobel prize for other achievements not
> > declared?.
> > Art
>
> Are you writing a book? I'm sure glad I don't feel it nessesary to
> worry
> about what other people do, did, or will do.
> That's no way to live. Will land you in the rubber room after a while.
> I don't think Roy has ever claimed to invent the antenna. If I'm not
> mistaken, his work was more in the proper phasing of the elements.
> Would this bother you in some way?
> MK- Hide quoted text -
>
> - Show quoted text -

I am just responding to a claim maid on his behalf on another thread.
Actually I learned by looking things up, basically the truth.
And how are you today?
Art

2084. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 22:12:10 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E85D9E0CF54nonenowhere@61.9.191.5>
Source record: 45247

Cecil Moore <mycall@hotmail.com> wrote in news:fuWFh.3131$M65.1761
@newssvr21.news.prodigy.net:

> Cecil Moore wrote:
>> Owen Duffy wrote:
>>> This simple example that shows that existence of "reflected power" on
>>> a transmission line does not necessarily result in some or all of the
>>> "reflected power" being dissipated in the generator.
>>>
>>> I will leave it to Cecil to take to confuse this simple example with
>>> some photon based complication.
>>
>> No photons necessary, Owen. You are using a Thevenin
>> equivalent source.
>
> What is the dissipation in the generator using a Norton
> source?

The existence of cases that show that dissipation in the source does not necessarily increase due to VSWR on the transmission line does not support the assertion that "VSWR causes reflected power that is dissipated in the source". One sound case is enough to disprove the generality.

Sure, transforming the source to a Norton equivalent would produce an answer, and in this case a different answer for what happens inside the generator. That Norton equivalent source with half wave s/c line will also produce zero dissipation in the source.

Cecil, it appears your motive is to create confusion to divert attention from the cases that are inconsistent with the assertion that "VSWR causes reflected power that is dissipated in the source".

I have no difficulty with the statement "a transmitter is usually specified to work over a limited range of load impedances (often specified as a maximum VSWR at the transmitter terminals), the user should expect it works properly over that range and should understand that operation outside of that range may expose it to voltages or currents (consequent heat), that may cause permanent damage". This advice can be given to a six hour ham without telling them any lies, but imparting the knowledge that they need to operate safely.

The explanation expressed / supported by some here that "we use ATUs to cause total re-reflection of power "reflected" from the antenna so protecting the PA" is a nonsense explanation of how the ATU protects the PA from the effects of a poor load.

Owen

2085. Re: Congratulations Art

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 22:45:51 UTC
From: richardharrison@webtv.net
Message-ID: <16143-45E8A91F-389@storefull-3253.bay.webtv.net>
Source record: 45248

Art Unwin wrote:
"I refer you to the thread I initiated on gaussian antennas where Roy was the first to respond."

My dictionary says:
"Gauss`s theorem----The summation of the normal component of the electric displacement over any closed surface is equal to the electric charge within the surface."

James Clerk Maxwell studied the work of others such as Ampere and Gauss to develop his equations defining the relationships between fields, charges, and currents. Maxwell found that dislacement current should produce radiation the same as conduction current. So he made a correction to Ampere`s Circuital Law.

Art is right. Discovery is a continuous process. Maxwell`s equations have now been adjusted for curved space and time.

But, I`ve searched in vain for "gaussian antennas". If Art has an invention, maybe he will explain.

Best regards, Richard Harrison, KB5WZI

2086. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 23:47:58 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <OI2Gh.3779$jx3.1340@newssvr25.news.prodigy.net>
Source record: 45249

Owen Duffy wrote:
> What is this "we" business? That is your conclusion

Hams have a habit of saying "we", Owen. Are you a ham?
We have an IC-756PRO. We are a Texas Aggie. We drive a
GMC pickup. We are not married.

> What is the cos(0) term for Cecil? Are you implying that the phase angle of
> Zo is 0? That isn't true in the general case, it is true ONLY for lossless
> or distortionless lines.

We sometimes assume lossless lines for the sake of discussion
which is often a close enough approximation to real-world
lines. We don't have our books with us but seems we remember
that the Z0 phase angle for common Z0 lines is about 1-2
degrees.
--
73, Cecil http://www.w5dxp.com

2087. Re: Four square antenna and Roy

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-02 23:54:22 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <OO2Gh.3913$jx3.177@newssvr25.news.prodigy.net>
Source record: 45250

art wrote:
> I am just responding to a claim maid on his behalf ...

Is that maid related to the wench I saw for sale
over on rec.radio.swap? :-)
--
73, Cecil http://www.w5dxp.com

2088. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-03 00:08:50 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <m03Gh.4070$jx3.729@newssvr25.news.prodigy.net>
Source record: 45251

Owen Duffy wrote:
> Cecil, it appears your motive is to create confusion to divert attention
> from the cases that are inconsistent with the assertion that "VSWR causes
> reflected power that is dissipated in the source".

Appearances can be deceiving. My motive is to uncover facts
and I agree with virtually everything you have said.

My personal opinion is that from 0% to 100% of reflected
power can be dissipated in the source depending upon the
relative phase of the incident reflected wave and the
configuration of the source. It can be argued that if the
source sees an infinite or zero impedance, then all of the
source power is reflected at the source output. This, of
course, would be a same-cycle reflection, something that
also occurs at the mismatched load.

By convention, any power same-cycle reflected at the source
output was never generated to start with - one of the original
copouts.

Since the great majority of amateur transmitters are
looking into a Z0-match resulting in total destructive
interference in the direction of the source, IMO, this
subject is pretty much moot. That's why I poke fun at it.

All one has to do to calculate the reflected power
dissipated in the source is to understand the constructive
and destructive interference occurring at the source
output terminal. This is easier said than done.
--
73, Cecil http://www.w5dxp.com

2089. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-03 00:10:21 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <6OgfGzatzL6FFAYJ@ifwtech.co.uk>
Source record: 45252

Owen Duffy wrote:
>Richard Clark <kb7qhc@comcast.net> wrote in
>news:khhfu2ldld05qvdk3ak68d8d6k2m4bqqi8@4ax.com:
>
>> On Fri, 02 Mar 2007 06:16:15 GMT, Owen Duffy <none@no.where> wrote:
>>
>>>that does not imply matching in
>>>the Jacobi Maximum Power Transfer Theoram sense.
>>
>> -um, OK-
>>
>> I find negative propositions a bit oblique, what DOES it imply?
>
>I was responding to your words:
>
>"I will at this point re quote Chipman to roughly this scenario (being
>more general, he didn't specify the reflection).
>
> "At the signal source end of the line ... none of the power
> reflected by the terminal load impedance is re-reflected on
> returning to the input end of the line."
>The ellipsis reveals that the source Z matches the line Z."
>

The confusion arises out of Richard's misleading quotation, which is out of context and includes an inaccurate final sentence ("The ellipsis reveals...") added by Richard himself.

The context in Chipman's book is specifically about the scale of "reflection loss" as found alongside a Smith chart. Reflection loss is the power delivered into a mismatched (reflecting) load impedance, relative to the power that would have been delivered into a matched (non-reflecting) load.

Chipman points out that "The concept is directly applicable only to transmission-line circuits of the form shown in Fig 9-26, in which the source impedance is equal to the characteristic impedance of the line."

In more detailed analysis, he explains why the definition of reflection loss only holds good if there is no further re-reflection at the source, so the "reflection loss" scale on the Smith chart can only be used in cases where the source impedance Zs is equal to Zo of the line.

Richard's comment that "The ellipsis reveals that the source Z matches the line Z" is misleading, for that isn't at all what Chipman was saying. Chipman makes it perfectly clear that this section is dealing

with a special case, which only applies if Zs has deliberately been made equal to Zo. Most of the rest of the book deals with the more general case where Zs is NOT necessarily equal to Zo.

However, that special case often does apply to signal generators and similar test equipment. If the RF output comes through an attenuator that has a design impedance of Zo, and if the attenuation is large enough, this creates a good approximation to a source of impedance Zo. Then the reflection loss concept becomes valid.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

2090. How odd thinking came about

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-03 01:23:50 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1172885030.035797.146090@64g2000cwx.googlegroups.com>
Source record: 45253

When I retired fro G.E. as an engineer it was because I had a heart attack,the culmination of which was that I had lost my memory skills among other things. I turned to antennas because it allowed me to fool araound without achieving anything.. I found that I has also lost my reading skills in that I could read one line and by the time I got to the next line I had forgotten everything. So when I was not out in the yard I purchased loads of fields and waves and physics books not because I understood what I was reading but at least they were different books Physical troubles still followed me included a ruptered gall bladder that was taken out the hard way. Later my heart went again and I had open heart surgury
during which I got an infection which took nearly a year to get over. Later after having an implant for my heart that to got infectious but I went out of town first on the antenna
examination and went into hospital as soon as I got back as the pocket had completely
opened up and puss was dripping so I was lucky that I got back in time tho the antenna was so important to me because of the years that had passed.
One of the reasons I came across all this was I was unfettered by my previous teachings
and basically was back to childhood in learning to keep myself alive which ment a lot of daydreaming which I am still doing because I busted my knee on ice after clearing 60 foot of driveway of two lotsw of dumped snow. This dreaming and reading of the same material and different books over and over again took me down paths that were not the beaten paths that one follows in colledge and thus I ventured way off track on lots of things and questioined what I read consistently to be sure I had got it right plus I could remember it.
How I got to the Gauss point I do not know or why except I know I did a lot of drawing.
I have not stated all that I found about what I call Gaussian antennas except to say there is so much more to be learned and surprises to savor. Fortunately I have a good family that helped me with the depression and the pits that often came plus I have a son who isw a computor consultant for San Diego University who has a lot of successes of his own including helping the red cross at New orleans as well as the author of the Biology Workbench which brought in more than a million dollars and where he was always on call to fix things on the computor when my memory took various different turns.
So with the above it may help you to unde4rstand how I sorted out the fishingpole store and the present antenna story but frankly I know I can never represent myself as an engineer anymore but my interest now is purely to stay alive without any more set backs

Art KB9MZ

2091. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-03 04:37:22 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <nduhu294cd34b019ad3s874mvgqvqlmid3@4ax.com>
Source record: 45254

On Sat, 3 Mar 2007 00:10:21 +0000, Ian White GM3SEK
<gm3sek@ifwtech.co.uk> wrote:

>The confusion arises out of Richard's misleading quotation,

blah blah blah blah blah

Hi Ian,

I have restrained the afterburners until 1200 GMT (seeing as you are undoubtedly in bed) so that you can fully read the entire side thread and discover the complete botch you've made in an attempt to weakly persuade the group that a transmitter could never absorb the energy of a reflected wave.

That was your point for this chain of accusation, wasn't it, or were the accusations a solitary pleasure? (I hope you opt for the first, or other explanation.) I don't expect any apologies so that I can enjoy a dish that is best eaten cold (re-heated actually). ;-)

73's
Richard Clark, KB7QHC

2092. Re: Congratulations Art

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-03 05:40:13 UTC
From: Frank <ve6cbdeletethis@andthis.telus.net>
Message-ID: <1T7Gh.401$cE3.157@edtnps89>
Source record: 45255

"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:16143-45E8A91F-389@storefull-3253.bay.webtv.net...
> Art Unwin wrote:
> "I refer you to the thread I initiated on gaussian antennas where Roy
> was the first to respond."
>
> My dictionary says:
> "Gauss`s theorem----The summation of the normal component of the
> electric displacement over any closed surface is equal to the electric
> charge within the surface."
>
> James Clerk Maxwell studied the work of others such as Ampere and Gauss
> to develop his equations defining the relationships between fields,
> charges, and currents. Maxwell found that dislacement current should
> produce radiation the same as conduction current. So he made a
> correction to Ampere`s Circuital Law.
>
> Art is right. Discovery is a continuous process. Maxwell`s equations
> have now been adjusted for curved space and time.
>
> But, I`ve searched in vain for "gaussian antennas". If Art has an
> invention, maybe he will explain.
>
> Best regards, Richard Harrison, KB5WZI

Richard, I did find a number of references to Gaussian antennas on the
web. i.e.
http://www.flann.com/Products_Home/Antennas/Gaussian/gaussian.html
The only conclusion I can make is that the radiation pattern appears
to be a Gaussian curve. This does not seem to be related to Art's
postings.

It appears that Art must be on my blocked senders list, since I found
responses to one of my earlier posts on Google's archives.
I could not entirely follow his rational, but
one of his complaints was "I did not provide the polarity
of the patterns". If he is interested I can provide all these data
from the NEC output file; also the NEC code. I would first
need to know his e-mail address in order to remove it from my blocked
senders list.

Regards.

Frank (VE6CB)

2093. Re: tuner - feedline - antenna question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-03 08:56:03 UTC
From: Jeff <jeff@local.host>
Message-ID: <45e93822$0$26699$834e42db@reader.greatnowhere.com>
Source record: 45256

> Sorry Jeff, but I can just hear hope re-awakening beneath the frost of
> disappointment, and the birth of a new theory emerging. I look
> forward to a new thread
> "Why haven't I received my Nobel Award from Ed McMahon yet?"
>
> 73's
> Richard Clark, KB7QHC

Maybe I am missing something, but I did not understand a word of you post.
Obviously you are making reference to something and someone I have no
knowledge of. Who is Ed McMahon for example?

73
Jeff

2094. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-03 09:04:00 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <n5diu2hvog1j5ui4bme07lngev323b4n2o@4ax.com>
Source record: 45257

On Fri, 02 Mar 2007 20:37:22 -0800, Richard Clark <kb7qhc@comcast.net>
wrote:

>until 1200 GMT

"Don't talk to me about a man's being able to talk sense;
everyone can talk sense. Can he talk nonsense?"

2095. Re: Effect of raising vertical antenna higher

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-03 12:03:36 UTC
From: "R.A Abrahams" <r.aabrahams@wanadoo.nl>
Message-ID: <45e9641d$0$25763$dbd41001@news.wanadoo.nl>
Source record: 45258

question what is the effect of raising a vertical
practical or theoretical ?
Nice answers to think it all over
Practical the higher the better why
from own experiments a long time ago on 26 security , 145 ham 151 privat
and 156 nautical
the following to think
higher is better in my case optical horizon and the reach of the tx
an other effect to mention is human noise the higher the antenna the less
noise that is a practical profit
one of the group mentioned mechanical aspect notice
radials said an other 120 is that practical only 1 practical is enough
use your radials as quide ropes and you may solve a supportproblem
mind that the angel of the rial(s) and erected radiator effetcts the
radiationresistor 90 degrees . 35 ohm 180 degrees 75
120 degrees about 50 ohms and al between
Mind that a higher vertical is more sensitive for statics solve that effect
by resitor or neonbulb(lightning protection
I like your dicussions however some things are not know at the other side
of the swimmingpool
73 and 55 fde ruud PA0rab

<nm5k@wt.net> schreef in bericht
news:1172794335.616945.165990@n33g2000cwc.googlegroups.com...
> On Mar 1, 9:12 am, Buck <n...@4.now> wrote:
>> However, Steppir antennas says
>> that an antenna on the ground needs 120 radials just to match one in
>> the air with two radials.
>
> That would only apply to an elevated antenna 1/2 wave or higher up
> though..
>
> I would like to know where the noticable
>> benefit of raising an antenna above the ground actually takes place
>> and where is the maximum benefit.
>>
>> I know that the higher the better, but rather than that kind of
>> benefit, I am wondering from a ground standpoint where the benefits
>> start and where the point of diminishing returns begins.
>
> Just depends on the band, the path/angle used most of the time, the
> ground quality, etc, etc.. Raising it to 40 ft from 12 feet would make
> a
> noticable difference if you compare all the various types of paths.

> IE:
> Just the local ground/space wave will be improved a good bit.
> As far as the ionosphere, would effect farther off stations more,
> than closer in. It's possible for the low antenna to be nearly as
> good on a short/medium hops, but DX will be better on the higher
> antenna and possibly open/close the band a bit earlier/later.
> Ground loss will be lower, but I'm not sure it's worth the cost of
> the
> cherry picker.. I'd tend to say not, being a cherry picker is usually
> not cheap.. Being the current antenna is just a bit less than a 1/4
> wave up, it's not in near a bad a shape as say a 80 or 40 antenna
> at that height in feet.
> MK
>

2096. Technique to bond (rf ground) Van sliding doors

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-03 12:50:35 UTC
From: k1drw <k1drw@comcast.net>
Message-ID: <1172926235.885873.154340@z35g2000cwz.googlegroups.com>
Source record: 45259

An area of my Van (2006 Dodge Grand Caravan) that I have not applied
RF ground straps to, is both side sliding doors. I am looking for
suggestions. Of course, a solution with picture(s) would be ideal.
Sincere thanks for any ideas to solve this issue. 73.

2097. Mobile Antenna Installation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-03 13:23:25 UTC
From: Gary Smith <vk3@aapt.net.au>
Message-ID: <esbssd$1nq$1@news-01.bur.connect.com.au>
Source record: 45260

Hi, i am a new ham and i just purchased an old VP commodore station wagon. I was wondering what the best method would be mounting antennas on this vehicle. It has a non metallic roof rack so i was thinking of getting a metal plate across the roof rack and mounting the antennas on that. So i was thinking:

1. How to electrically connect the plate to the vehicle
2. What order/sizes to have the antennas in. (Largest at back, smallest at front? It shouldn't really matter, depending on directionality requirements.)
3. The best method of routing the coax from inside car to roof plate, i don't want to cut holes in the roof if not needed but probably will have to.

Please feel free to suggest any methods used or ideas. I will probably have antennas for the following but not sure what the "best" antennas are for each radio, once again, feel free to suggest antennas to use...

UHF CB
2 Metres
70cms
Scanner

I could use a dual band for the 2/70 antenna but i want a good one. I am in VK land so anything not sold in VK i won't buy.

Thanks for looking...

Gary
VK3LCD

2098. Re: Mobile Antenna Installation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-03 15:25:26 UTC
From: AndyS <andysharpe@juno.com>
Message-ID: <1172935526.520610.135370@64g2000cwx.googlegroups.com>
Source record: 45261

Gary Smith wrote:>
Please feel free to suggest any methods used or ideas. I will
probably have
> antennas for the following but not sure what the "best" antennas are for
> each radio, once again, feel free to suggest antennas to use...
>
> UHF CB
> 2 Metres
> 70cms
> Scanner
> Gary
> VK3LCD

Andy writes:
If you get a large set of longhorns and mount them on the
front hood as a hood ornament. and wrap them in tin foil, you can
make a fine 2 Meter dipole...

Oops.... two Metre !!!!

Andy W4OAH in Eureka, Texas

:>)))))))))))

2099. Re: Four square antenna and Roy

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-03 17:00:54 UTC
From: RST Engineering <jim@rstengineering.com>
Message-ID: <tRhGh.23$C%5.115826@news.sisna.com>
Source record: 45262

Would that be an end wench, a box wench, or a crescent wench?

Jim

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:OO2Gh.3913$jx3.177@newssvr25.news.prodigy.net...
> art wrote:
>> I am just responding to a claim maid on his behalf ...
>
> Is that maid related to the wench I saw for sale
> over on rec.radio.swap? :-)
> --
> 73, Cecil http://www.w5dxp.com

2100. Re: Mobile Antenna Installation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-03 17:09:15 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <psaju2po3tot44um1gaevrl49vm1baqtbe@4ax.com>
Source record: 45263

On Sun, 4 Mar 2007 00:23:25 +1100, "Gary Smith" <vk3@aapt.net.au>
wrote:

>I
>was wondering what the best method would be mounting antennas on this
>vehicle.

Hi Gary,

Consult vendors such as:
http://www.cometantenna.com/index.php
for mounting components.

73's
Richard Clark, KB7QHC

2101. Re: Four square antenna and Roy

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-03 17:40:57 UTC
From: nm5k@wt.net
Message-ID: <1172943655.332717.181180@z35g2000cwz.googlegroups.com>
Source record: 45264

On Mar 2, 3:27 pm, "art" <aun...@insightbb.com> wrote:

>
> I am just responding to a claim maid on his behalf on another thread.
> Actually I learned by looking things up, basically the truth.
> And how are you today?
> Art

I'm running around like a three peckered lizard.. I've been
constantly
dealing with medical people, as my mother has had two strokes,
and has been in a nursing facility. Just this week I had to
fire her HMO, and get her back on regular medicare.. What a farce...
This was in order to get her back in the hospital for a needed
checkout. Finally got her in yesterday. I've got to run to her
nursing home to pick up clothes, and then take them over to
the hospital. Then I've got to see if the people that just sold me
a car have my license plates yet. I bet they flake out, and make
me wait til monday.. They expire 12 am monday morning.
I have to drive to Oklahoma tonight to look at two properties. I'll
be leaving about 10 pm tonight, drive to Eufaula OK, which
I'll get there about 6 am. Look at that property which is near
the lake. Then I've got to leave there, and drive to just south
of Paris TX, and look at another property there. Then drive
back home.. I won't be sleeping again until tomorrow night..
Then I gotta decide which of the two properties I want..
I'm trading 10 acres I just bought for one of those two most
likely.. They are both 5 acres, but better roads, quality, etc..
I'm kinda leaning to the one on the lake, but will see...
It would be nice to be able to walk to the lake from the
property.. I'll have an easement to the lake too..
Needless to say, antenna chitter chatter is kinda
low on my priorities right now.. Well, gotta go water
myself down in the de-smell chamber, and hit the trail..
No radio chatter in that car...It's a fairly new corolla,
and it's so purty I'm having trouble bringing myself to
drill holes in it. That thing sips the gas.. Just what I
need for these quicky 900 mile road trips..
MK

2102. Re: Mobile Antenna Installation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-03 18:14:56 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns98E8684ABB093spectrumhogstarbandn@198.186.192.196>
Source record: 45265

> Hi, i am a new ham and i just purchased an old VP commodore station
> wagon. I was wondering what the best method would be mounting antennas
> on this vehicle. It has a non metallic roof rack so i was thinking of
> getting a metal plate across the roof rack and mounting the antennas
> on that. So i was thinking:
>
> 1. How to electrically connect the plate to the vehicle
> 2. What order/sizes to have the antennas in. (Largest at back,
> smallest at front? It shouldn't really matter, depending on
> directionality requirements.)

Gary,

Since the large metal plate you are thinking of putting on your roof is only acting as a ground-plane for VHF/UHF antennas, I see no need to have it electrically connected to the roof... though you may end up doing so simply from whatever mounting techniques you decide to use.

Also, one consideration might be to use half-wave type base loaded antennas, which technically do not require a ground plane.

Thirdly, there are vendors, such as Antenna Specialists, who make a metal foil tape for installing on the underside of non-metallic roofs at antenna mounting holes so as to provide a ground plane for the antenna. They're used a lot in ambulances here that have fiber-glass tops.

Food for thought.

Ed K7AAT

2103. Re: Mobile Antenna Installation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-03 19:45:24 UTC
From: jimlux@earthlink.net
Message-ID: <1172951120.507520.227000@30g2000cwc.googlegroups.com>
Source record: 45267

On Mar 3, 5:23 am, "Gary Smith" <v...@aapt.net.au> wrote:
> Hi, i am a new ham and i just purchased an old VP commodore station wagon. I
> was wondering what the best method would be mounting antennas on this
> vehicle. It has a non metallic roof rack so i was thinking of getting a
> metal plate across the roof rack and mounting the antennas on that. So i was
> thinking:
>
> 1. How to electrically connect the plate to the vehicle
> 2. What order/sizes to have the antennas in. (Largest at back, smallest at
> front? It shouldn't really matter, depending on directionality
> requirements.)
> 3. The best method of routing the coax from inside car to roof plate, i
> don't want to cut holes in the roof if not needed but probably will have to.
>

I did something like this for my VW Passat. The way I wound up
connecting it was two fold. First, the ends of the rack rails had a
plastic cover over where the bolts holding the rack onto the car body
were. Popped the cover off, removed the nut, put wire with lug under
the nut. Cut small notch in edge of beauty cover to run wire through
and popped it back on.

As far as coax went, I just ran through the rear hatch gasket. Cut a
small slit in the gasket, and carve out a hole big enough for the
coax, install coax, then use gasket glue (or superglue) to repair the
slit.
use small coax, at least for the gasket traversing part. RG-174 is
pretty small (2mm?) and a 10-15cm doesn't have all that much loss.

A friend went to quite a bit more trouble and went through the
existing radio antenna hole. he built a little "collar" that matched
the base of the antenna. There's a fairly large hole through the body
there, but to route the wires you have to pull the headliner off.

BTW, A good body shop or car stereo installation place can remove and
replace interior trim quickly, cheaply, and efficiently. They have
all the right weird shaped tools and the judgement about just how much
you can pry or pull without breaking things.

Especially if you have Sirius or XM radio in VK land, there's probably
folks around who have gotten pretty good at inconspicuously routing
coax from outside the car to inside.

2104. Re: Mobile Antenna Installation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-03 19:46:17 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E944E1D5045nonenowhere@61.9.191.5>
Source record: 45268

"Gary Smith" <vk3@aapt.net.au> wrote in
news:esbssd$1nq$1@news-01.bur.connect.com.au:

> Hi, i am a new ham and i just purchased an old VP commodore station
> wagon. I was wondering what the best method would be mounting antennas
> on this vehicle. It has a non metallic roof rack so i was thinking of
> getting a metal plate across the roof rack and mounting the antennas
> on that. So i was thinking:

The VP commodore is about 15 years old now.

You haven't stated why you don't want to put holes in the roof. Most people with a car of that age, if it of average value for its age, would put holes in the roof without hesitation.

It is a little difficult to comment on your plate proposal, how big is it, how will you prevent wind noise, vibration, failure etc.

If the plate is not large enough, you really have one antenna with four feedpoints. One could argue that the entire roof of the wagon is only just large enough to accomodate all the antennas you propose.

You could feed coax in between the door and door seals, but it is inconvenient and fraught with problems (cable damage, water ingress etc).

Unless the car is of some special value, I would place holes in the roof, spaced out down the centreline. Get someone experienced to help you find where to cut the holes so that they have room underneath, so you can route the cables down the windscreen pillar, and without dropping a hot piece of metal (eg the donut after holesawing the roof) through the headlining.

There are commercial dual band antennas sold here, but I would skip the MobileOne product. Look at the Diamonds and the like, but they require a proprietary base. Your other antennas will probably go on a vanilla 5/16" brass thread stud base.

If you don't want to put too many holes in the roof, you could place one good 2m/70cm antenna with the base just behing the interior light, and put the other two on Z brackets on the front mudguards.

I was wondering why you need the chook band when you have 2m and 70cm, 2m and 70cm seem like they are half way to CB here, certainly the lingo is strongly CB.

73 or 1004, or whatever they say on air these days.
Owen

2105. Re: phased array practicality was Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-03 20:04:50 UTC
From: jimlux@earthlink.net
Message-ID: <1172952290.140702.284100@h3g2000cwc.googlegroups.com>
Source record: 45269

On Mar 2, 12:15 pm, Richard Clark <kb7...@comcast.net> wrote:
>
> If you are interested in a design for yourself, and maybe a production
> run of a few hundred, then look to the HF/10M/6M/2M surplus repeater
> market from Motorola and RCA designs of the 70s and 80s. Dirt cheap
> decks with enough elbow room to make mods.

Or, perhaps the HF Superpacker Pro.. 100+Watts..20dB or so gain.

>
> >Fortunately, the problems are solvable, at least in a theoretical
> >sense.
>
> One doesn't usually see fortunately paired with theoretical.
> <ironically this is how this thread started - was with a pig in the
> poke explanation passing for science>

A heck of a lot better than "theoretically there is NO solution..."
<girn>
>
> >All you need is a few kHz, so a single L and C might do it,
> >"good enough".
>
> So, this daydream is on one band only?

1 adjustable L, 1 adjustable C.. covers all bands. For ham
applications, you only need to have the match and phase adjust at one
frequency at a time, and over a fairly small bandwidth, so the Q of
the matching circuit can be high. Not like a generic wideband phased
array where you need to have a wideband match, and do something like
true-time-delay processing.
>
>
>
> OK, Analog Devices is a star performer. I built a tube version of
> this DDS back in '68 when it was called a coherent detector (could
> have been called many names depending on where you developed the audio
> output).
>
> However, this is NOT what I was referring to, as that is distinctly
> different. This is a software controlled oscillator whose frequency
> and phase is immediately settable (within on clock, this is in the
> nanosecondS range).

That is precisly what a DDS does.. It has a phase accumulator where
you can adjust the phase increment per clock. The output of the phase

accumulator goes to a sine lookup table and then to a DAC. A typical
part might have a 48 bit phase accumulator and a 12 bit DAC.

Check out, for instance, the AD9858..

You might not be able to update the phase increment or absolute phase
in a nanosecond, but it's pretty fast (there's some pipeline delay
too.).. I'd say you could clock in a new configuration and have the
new RF appear no more than 100ns later.

If you need to phase each array element
> independently to phase steer the combined system (also to take care of
> phase matching through mutual coupling), the software solution spring
> immediately to the front for a solution.

Well, software for the calculations, but perhaps not for all the RF
processing. You still need to adjust Ls and Cs for the match, unless
you're willing to design a fairly unusual amplifier: ideally, it would
act like a current source with a lot of voltage compliance that can
tolerate a very reactive load.. so you're essentially synthesizing the
L and/or C with an active device.. doable, but not too hot on power
efficiency these days.
>
> >Interestingly, in a very much higher budget arena (deep space comms
> >and ranging), they're also doing this. Until recently, you had to
> >special order the crystal for your spacecraft radio (with 18+ month
> >lead time!!), so if you had a channel reassignment, it was a real
> >problem. (One of the Mars Rovers and the Mars Reconnaissance Orbiter
> >are on the same channel.. wasn't supposed to be a problem because the
> >rover was not planned to survive long enough)
>
> The software oscillator I described in the previous post would solve
> that for the same cost as the custom XTAL.

Well.. not the same cost as a custom rock. The rock may have a long
delivery time, but it's not particularly more expensive than a
standard frequency. The DDS doesn't come for zero power, either, so
you have a tradeoff of more DC power for flexibility (power
consumption is a very big deal in deep space exploration). And, then,
there's also the whole radiation tolerance issue.

>
> If you are looking for a design and a market, I cannot think for the
> life of me why that hasn't happened yet.

Systems like this exist, but not in the ham market. Oddly, it seems
that hams balk at forking out more than $100K for a system that does
all this. The challenge is in getting it in a ham friendly format.
The hardware's not expensive, it's all that software and system
integration. But, 10 years from now, when the early adopters have
cobbled together their systems from bits and pieces, and some of the
concepts become more familiar, I think you'll see someone make the

investment to do the development to create an off the shelf product.
Clearly, there is SOME market for $10K ham widgets or things like
IC7800s and big towers with arrays of SteppIRs wouldn't exist.

>
> 73's
> Richard Clark, KB7QHC

2106. J-pole 144/432

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-03 20:26:10 UTC
From: Radio Vintage <radiovintage2000@yahoo.it>
Message-ID: <1172953570.015891.238100@z35g2000cwz.googlegroups.com>
Source record: 45270

Hallo
Wanted schematic for construction one antenna J-pole 144/432, please
send me information
if pubblicated on magazine or other or commercial manufact.
Tnx Frank

my e_mail . Radiovintage2000@yahoo.it

2107. Re: RoomCap Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-03 20:57:44 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <escnfo$8f5$3@registered.motzarella.org>
Source record: 45271

Felix wrote:

> ...
> The computer is a very helpful tool in many aspects, but
> one may not expect much novelties by "experimenting"
> with simulation. At least not, until big improvements are
> made to these programs.
>
> Felix Meyer HB9ABX

All formulas were derived from "real hands-on"
construction/development/experimenting. They will only be correct in
the narrow confines of what has been built before, or closely related
models to these physical antennas upon which the equations/formulas were
derived from.

Duh!

JS

2108. Re: phased array practicality was Re: Gaussian antenna aunwin

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-03 21:36:31 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <jqoju2dtdrne8m5iva809aqbumsiibf7ed@4ax.com>
Source record: 45272

On 3 Mar 2007 12:04:50 -0800, jimlux@earthlink.net wrote:

>On Mar 2, 12:15 pm, Richard Clark <kb7...@comcast.net> wrote:
>>
>> If you are interested in a design for yourself, and maybe a production
>> run of a few hundred, then look to the HF/10M/6M/2M surplus repeater
>> market from Motorola and RCA designs of the 70s and 80s. Dirt cheap
>> decks with enough elbow room to make mods.
>
>Or, perhaps the HF Superpacker Pro.. 100+Watts..20dB or so gain.

Hmm, some 5-10 years ago me and my buddy were up to our hips in GE
MASTR IIs for one tenth the price of the HFSP. We could buy them
cheaper yet if we purchased by the pallet. Well, I suppose it's a
case of "that was then, this is now...."

>> So, this daydream is on one band only?
>
>1 adjustable L, 1 adjustable C.. covers all bands. For ham
>applications, you only need to have the match and phase adjust at one
>frequency at a time, and over a fairly small bandwidth, so the Q of
>the matching circuit can be high. Not like a generic wideband phased
>array where you need to have a wideband match, and do something like
>true-time-delay processing.

You might have to. I don't think an L tuner is going to have the
flexibility to look into the mutual coupling, as well as the delay, as
well as the match and be scalable to 3D. (May as well dream in
technicolor and surround sound.)

>Check out, for instance, the AD9858..

Yes, things have sped up by 10 fold since I last visited this topic.

>> If you need to phase each array element
>> independently to phase steer the combined system (also to take care of
>> phase matching through mutual coupling), the software solution spring
>> immediately to the front for a solution.
>
>Well, software for the calculations, but perhaps not for all the RF
>processing. You still need to adjust Ls and Cs for the match, unless
>you're willing to design a fairly unusual amplifier: ideally, it would
>act like a current source with a lot of voltage compliance that can
>tolerate a very reactive load.. so you're essentially synthesizing the
>L and/or C with an active device.. doable, but not too hot on power
>efficiency these days.

Ever hear of a gyrator?

The problem of solutions off the shelf is that they have been dumbed down to the most generic market.

Consider your suggestion of the HFSP. Looking at the schematics reveals the same old stale Class AB design WITHOUT neutralization. It seems that feedback is an anathema to designers that have to pay the piper called a commodity market. If they built a 20dB amp, and then discarded 10dB of that gain for stability and source resistance control - THEN you would have engineering. The 10dB cast back into the amp loop was called "noise gain" by HW Bode; and this cured so many ills of stability, distortion, noise, dampening, regulation... that it its absence cheats us all of superior performance for the sake of squeeking every dB of slop into the antenna. What would the world be like without that filter deck following the amp? Amplifiers are perfectly capable of delivering a low distortion HF sine wave - if you designed it in, that is.

Early adopters are not being served there.

A solid state inductor/capacitor (AKA Gyrator) is technically a budget buster for the chintz market; but if you design to the mission, then there you are. To invest in digital oscillators, and then short sheet the product with a limp re-hash Amp deck out of the 60s is not going to ignite a new product venture.

73's
Richard Clark, KB7QHC

2109. chokes?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-03 21:41:07 UTC
From: merlin-7 <merlin-7@sc.rr.com>
Message-ID: <45e9ebbb$0$4856$4c368faf@roadrunner.com>
Source record: 45273

This may be a dumb question for some of you, but.....

I understand what a choke does at the feed point (I use an air wound one at my feed point) However, I am having trouble understanding the purpose of one near your rig.

Also what effect happens in the coax between the two chokes?

Thanks
Joe

2110. Re: Technique to bond (rf ground) Van sliding doors

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-03 22:39:29 UTC
From: Harbin Osteen <harbinjr@adelphia.net>
Message-ID: <D7adnUJc1oS9ZHTYnZ2dnUVZ_sKunZ2d@adelphia.com>
Source record: 45274

Maybe somthing like this, but without the rollers. Some of the really cheep
ones just have a metal clasp. Mount them on small plates, or directly if you can.
http://ebay.phlat.com/44/2.JPG

Or maybe a just a piece of spring steel that would ride up on a metal
plate when you shut the sliding door.

Maybe a well placed coil spring, so when you close the door, the door
will go in to be flush with the body, and have the spring contact a clean
plate mounted where you have the most inward movement, which I believe
is near the rear sliding hinge, and down in the foot well. I think this would
make the best connection to ground.
--

SeeYaa:) Harbin Osteen KG6URO

When American Citizens with dual citizenship pledges allegiance
to the flag, to which flag do they pledge allegiance too?

-

"k1drw" <k1drw@comcast.net> wrote in message
news:1172926235.885873.154340@z35g2000cwz.googlegroups.com...
> An area of my Van (2006 Dodge Grand Caravan) that I have not applied
> RF ground straps to, is both side sliding doors. I am looking for
> suggestions. Of course, a solution with picture(s) would be ideal.
> Sincere thanks for any ideas to solve this issue. 73.
>

2111. Re: Mobile Antenna Installation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-03 22:42:38 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns98E895AECB517spectrumhogstarbandn@198.186.192.196>
Source record: 45275

> I was wondering why you need the chook band when you have 2m and 70cm,
> 2m and 70cm seem like they are half way to CB here, certainly the
> lingo is strongly CB.
>

I don't know about your location, but the need for CB can be quite valid, even for a ham, in many places. My location, as numerous others, has a lot of logging activity, and if one is driving on some of our back roads, it is quite helpful to hear where the logging trucks are.... they commonly announce their presence on dangerous parts of these roads. There are many other instances in rural areas where CB can be helpful, too.

Ed K7AAT

2112. Re: Is it possible to estimate any losses due to an unmatched antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-04 01:20:25 UTC
From: harry <harry.bilgewater@gmail.com>
Message-ID: <1172971225.702530.23570@p10g2000cwp.googlegroups.com>
Source record: 45126

On Mar 2, 10:40 am, "MRW" <mr.whate...@gmail.com> wrote:
> Good morning!
>
> I would like to request some additional info regarding the following
> matter.
>
> Is there a way to approximate the antenna factor loss (in dB/m) for an
> x-length (in inches ... maybe 26 inches) regular telescoping, monopole
> antenna that will be subjected to frequencies between 88-108MHz (FM
> band) at a height between 2ft to 15ft from the ground?
>
> Here's the scenario. A 50-ohm receiver will be used. A cable with an
> insertion loss of 1.5dB will also be used. The receiver has
> sensitivity levels as low as -5 dBuV. The lowest received signal that
> we want to measure is 100uV/m.
>
> I am concerned that if an unmatched monopole antenna is used in this
> system, then it is possible that very low level signals will not be
> measured. I'm trying to estimate the lowest amount of signal the
> receiver will be able to pickup using this setup.
>
> I have the following relationship:
>
> dB(uV/m) = dBuV + Antenna Factor (dB/m) + cable loss (dB)
>
> So, I get:
>
> dBuV = 40 dB(uV/m) - Antenna Factor (dB/m) - 1.5 dB(cable loss)
>
> Now, if only I can estimate the antenna factor, then it would give me
> an idea whether or not the resulting dBuV level is still higher than
> -5 dBuV.
>
> I was told that there may be a way to estimate the antenna impedance
> assuming certain conditions. I was hoping to find some reference for
> this subject, and just assume how much of the signal is lost due to
> the antenna impedance and 50-ohm receiver impedance mismatch. I have
> seen some nomograph for VSWR, so I figured if I can find the estimated
> antenna impedance at the given conditions, then I can calculate
> reflection coefficient and relate that to VSWR and then to the
> nomograph to get my antenna factor value.
>
> What do you experienced ones think? Thanks!

I believe you are going to be more concerned with the transmission line loss and the additional loss incurred due to the mismatch if the mismatch is severe.

To obtain a desktop estimate of the VSWR, download W7EL's EZNEC demo version (www.eznec.com) and put in the antenna dimensions, frequency of interest etc. It will calculate the impedance and VSWR for you.

Take those values and go to http://www.vk1od.net/tl/tllc.php and plug in your values along with the cable you plan on using.

You can also pull the ARRL Antenna book and look for the formula to calculate the additional transmission line loss due to a load mismatch.

Harry

2113. Re: chokes?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-04 01:36:02 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <n68ku2lf3rkv8jkc4v7cpmmgti4dqtrmk7@4ax.com>
Source record: 45127

On Sat, 3 Mar 2007 16:41:07 -0500, "merlin-7" <merlin-7@sc.rr.com>
wrote:

> This may be a dumb question for some of you, but.....
>
> I understand what a choke does at the feed point (I use an air wound one at
>my feed point) However, I am having trouble understanding the purpose of one
>near your rig.
>
> Also what effect happens in the coax between the two chokes?

Hi Joe,

The one near your rig would be opportunistic (on the chance it was
needed). However, as it could satisfy a need then that leads us to
your second question.

The portion of the line beyond the choke at the antenna is still in a
strong field that "could" couple energy into it and reestablish the
common mode currents the choke was there to prevent. If you were to
place a second choke a quarter wave from the first, that would snub
this coupling (and thus the one at the rig, if it were harmonically
related, would also tend to snub common mode current).

I use a 20 foot line section with about 60 ferrite beads distributed
along it to make for a more multiband, or general purpose second
choke.

73's
Richard Clark, KB7QHC

2114. Re: Is it possible to estimate any losses due to an unmatched antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-04 01:59:00 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E98412D74D5nonenowhere@61.9.191.5>
Source record: 45128

"harry" <harry.bilgewater@gmail.com> wrote in
news:1172971225.702530.23570@p10g2000cwp.googlegroups.com:

...
> I believe you are going to be more concerned with the transmission
> line loss and the additional loss incurred due to the mismatch if the
> mismatch is severe.

Harry,

At the risk of reawakening the source end re-reflection noise, this is a receiving application, if the receiver is 50 ohms (as the OP stated) and 50 ohm coax is used to connect to a short monopole over ideal ground, the VSWR on the line is 1:1 (or near enough), and loss is the matched line loss.

The implications of that are that the short monopole, which has a source impedance of very small radiation resistance and loss resistance, and a huge capacitive reactance is loaded by the 50 ohm impedance looking into the coax.

You can relatively easily work out the o/c voltage in the whip as a result of an incident E field (it will be ~E*length/2), but you must estimate the capacitive reactance as it is the main determinant of the voltage divider formed by the antenna source impedance and the 50 ohm load.

>
> To obtain a desktop estimate of the VSWR, download W7EL's EZNEC demo
> version (www.eznec.com) and put in the antenna dimensions, frequency
> of interest etc. It will calculate the impedance and VSWR for you.

The impedance from NEC (of any flavour) can be used to workout the voltage divider I mentioned above.

Alternatively, use a variety of NEC where you can excite the antenna with an incident wave and observe the voltage developed on a load inserted in the model. The model described http://www.vk1od.net/SmallUntunedSquareLoop/ssulNEC.htm at does such a thing for a loop, you could do something similar for a short monopole.

My thinking is that a short monopole is less attractive at these frequencies than using a dipole of known gain and impedance, a dipole is convenient (probably more than a short monopole with a large ground plane) and more sensitive (ie lower Antenna Factor).

>
> Take those values and go to http://www.vk1od.net/tl/tllc.php and plug
> in your values along with the cable you plan on using.
>
> You can also pull the ARRL Antenna book and look for the formula to
> calculate the additional transmission line loss due to a load
> mismatch.

The formula in this case for the monopole termination loss is 20*log(50/(Zs+50)) and must be factored into the ratio of E field to o/c voltage to get AF.

Owen

2115. Re: Mobile Antenna Installation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-04 03:25:16 UTC
From: Gary Smith <vk3@aapt.net.au>
Message-ID: <esdluh$l3t$1@news-01.bur.connect.com.au>
Source record: 45129

Yes, i am in rural Southwest Victoria. I am currently running a discone on 2 Metres which is about 5 Metres above ground.
The closest 2 Metre repeater is approx 100Km line of site and has big problems with RX, as such i cannot access it with my current antenna. I have a 20 element yagi on UHF CB with a repeater to the Southeast and us locals use that repeater to communicate as we have for years, and its our local link, still, at this stage. So, we're not all surrounded by repeaters in our back yards in this corner of this state and the terrain isn't all flat either, our town is built on the Glenelg river and fortunantly i live a little higher than the centre of town. We still have non amateur friends on UHF CB and like to keep in touch with them. I pitty those that use UHF CB repeaters in or near cities, usually it's a waste of time talking on them but there are SOME good operators there as well. "in the sticks" we use them for proper conversations instead of kids trying to overpower each other. Maybe thats why you are wondering why i still want UHF CB

Gary

"Ed" <Huckleberry_REMOVE_@bigvalley.net> wrote in message
news:Xns98E895AECB517spectrumhogstarbandn@198.186.192.196...
>
>> I was wondering why you need the chook band when you have 2m and 70cm,
>> 2m and 70cm seem like they are half way to CB here, certainly the
>> lingo is strongly CB.
>>
>
>
> I don't know about your location, but the need for CB can be quite valid,
> even for a ham, in many places. My location, as numerous others, has a
> lot
> of logging activity, and if one is driving on some of our back roads, it
> is
> quite helpful to hear where the logging trucks are.... they commonly
> announce their presence on dangerous parts of these roads. There are many
> other instances in rural areas where CB can be helpful, too.
>
>
> Ed K7AAT

2116. Fun -- From the Unexpected

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-04 06:15:51 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <rutGh.2440$Sh.177@newsfe15.phx>
Source record: 45130

My entry into HF has been a 10m sleeve dipole, discussed at length here and still a work in progress. (The coax is out of the lower element, so it's just a vertical dipole.) More about that below.

Today, at a local swap meet that features ham gear on the first Saturday, I bought a little tuner for $5.00. It got my puny TS-120 onto 15 meters and I talked to a guy in Pennsylvania. Hot stuff! That was my first QSO outside the local area, not counting IRLP. And this with an antenna that's mounted only 18 inches above the ground.

I tried it on 20 Meters, but that was too much of a stretch. Very high VSWR no matter what. Antenna must get bigger. How to make antenna bigger? Add metal.

I grabbed a three-foot piece of meter lead with alligator clips on both ends. I also grabbed a hank of TV coax and went out to the antenna (in the dark with a flashlight), intending to stretch out the coax and clip it to the end of the lower element of the dipole. I nearly tripped over a retracted aluminum extension ladder laying on the ground. Ah, fate! I immediately clip-lead-connected the ladder to the bottom of the lower element of the dipole and went back inside, taking the unused RG-59 with me.

This time, the tuner had no trouble getting a very low SWR. I tuned around and heard a guy. I called him and he came right back. From Hawaii. He said I had a solid signal, although I'm sure his five-element beam was doing much of the work.

I've heard stories about unusual antennas, including the one about "loading up the bedsprings" but I believe a ladder laying on the ground as part of an antenna is a novelty.

I tried 40 meters and got a good match. I could hear people but nobody came back when I called. Maybe I needed to stretch out the ladder.

Back to the subject of the original dipole. I got a 1:1 balun at the Ham Radio Outlet store in San Diego today after the swap meet. I will try fitting it to the dipole as a possible cure for feedline radiation. Also, I probably shouldn't have the dipole leaning against tree branches for support.

73,
"Sal"

2117. Re: Mobile Antenna Installation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-04 06:17:59 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98E9AFFB1272nonenowhere@61.9.191.5>
Source record: 45131

"Gary Smith" <vk3@aapt.net.au> wrote in
news:esdluh$l3t$1@news-01.bur.connect.com.au:

> Yes, i am in rural Southwest Victoria. I am currently running a
> discone on 2 Metres which is about 5 Metres above ground.
> The closest 2 Metre repeater is approx 100Km line of site and has big
> problems with RX, as such i cannot access it with my current antenna.

Gary, 100km is a long path to a repeater, so you have to make sure you are doing some things right.

I don't want to be negative about your discone, but they, being very broadband, accentuate IMD problems (so called pager interference) with receivers. If you are in the sticks, that won't be as noticeable as in the city, and it will affect ham gear more than commercial LMR which tend to have better front end selectivity. The other thing about the discone, is it is relatively low gain on tx.

I note that your main problem with the 2m repeater is it hearing you, so you should be trying initially to boost your transmit signal. Perhaps you should look around at one of the commerical high gain 2m or dual band antennas that will give you 3 - 6dB lift depending on the model (in other words to double to quadruple your effective radiated power). Review your feedline situation to see you are not chucking signal away there as well. Another alternative is to build or buy a small yagi, 4 to 6 elements, vertically polarised and fixed on the repeater, but of course it is a bit restrictive for other contacts.

> I have a 20 element yagi on UHF CB with a repeater to the Southeast
> and us locals use that repeater to communicate as we have for years,
> and its our local link, still, at this stage. So, we're not all
> surrounded by repeaters in our back yards in this corner of this state

Repeaters aren't everything, I think there are 9 or so here for a relatively low ham population, I don't use them, and they aren't very busy except for drive time when they sound a bit like CB.

> and the terrain isn't all flat either, our town is built on the
> Glenelg river and fortunantly i live a little higher than the centre
> of town. We still have non amateur friends on UHF CB and like to keep
> in touch with them. I pitty those that use UHF CB repeaters in or near
> cities, usually it's a waste of time talking on them but there are
> SOME good operators there as well. "in the sticks" we use them for
> proper conversations instead of kids trying to overpower each other.
> Maybe thats why you are wondering why i still want UHF CB

Have fun, try experimenting with some different antennas, reserve your discone for a radiating dummy load.

Re the Commodore, when I was younger, the deal was that the car owner purchased a slab, invited some competent mates around and after a certain anaesthetic threshold was reached, the holesaw came out and the antenna was installed... just watch that the guy with the holesaw isn't as anaesthetised as a newt!

Owen

2118. Re: Fun -- From the Unexpected

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-04 07:03:56 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <tgrku21ai4qmnl3dvbb1kf38s4eddm3jun@4ax.com>
Source record: 45132

On Sat, 3 Mar 2007 22:15:51 -0800, "Sal M. Onella"
<salmonella@food.poisoning.org> wrote:

> This time, the tuner had no trouble getting a very low SWR. I tuned
>around and heard a guy. I called him and he came right back. From Hawaii.
>He said I had a solid signal, although I'm sure his five-element beam was
>doing much of the work.
>
> I've heard stories about unusual antennas, including the one about
>"loading up the bedsprings" but I believe a ladder laying on the ground as
>part of an antenna is a novelty.

There you go! 90% of the modeling here is so much narcissistic
puffery in analysis and "science" when almost anything will radiate
(actually everything will radiate). If you want to mark it up to the
other guy's antenna, it all still works.

Glad you could touch the other side of the world (or at least a
quarter of the way there - there's nothing but sea, or Diego Garcia,
half way 'round).

Spread around some more ladders (cheaper than gaussian arrays).

73's
Richard Clark, KB7QHC

2119. Re: chokes?coiled?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-04 12:14:59 UTC
From: ml <m@di.net>
Message-ID: <m-F5244B.07145404032007@news.verizon.net>
Source record: 45133

In article <n68ku2lf3rkv8jkc4v7cpmmgti4dqtrmk7@4ax.com>,
Richard Clark <kb7qhc@comcast.net> wrote:

> On Sat, 3 Mar 2007 16:41:07 -0500, "merlin-7" <merlin-7@sc.rr.com>
> wrote:
>
> > This may be a dumb question for some of you, but.....
> >
> > I understand what a choke does at the feed point (I use an air wound one at
> >my feed point) However, I am having trouble understanding the purpose of one
> >near your rig.
> >
> > Also what effect happens in the coax between the two chokes?
>
> Hi Joe,
>
> The one near your rig would be opportunistic (on the chance it was
> needed). However, as it could satisfy a need then that leads us to
> your second question.
>
> The portion of the line beyond the choke at the antenna is still in a
> strong field that "could" couple energy into it and reestablish the
> common mode currents the choke was there to prevent. If you were to
> place a second choke a quarter wave from the first, that would snub
> this coupling (and thus the one at the rig, if it were harmonically
> related, would also tend to snub common mode current).
>
> I use a 20 foot line section with about 60 ferrite beads distributed
> along it to make for a more multiband, or general purpose second
> choke.
>
> 73's
> Richard Clark, KB7QHC

<<<<hi Richard

on that 20footer of yours, do you coil it up or leave it straight

and are the beads spaced random or did you calculate each location

2120. Re: Effect of raising vertical antenna higher

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-04 13:09:22 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns98E93471AA7B2doldridgsprintca@64.59.135.159>
Source record: 45134

nm5k@wt.net wrote in news:1172794335.616945.165990
@n33g2000cwc.googlegroups.com:

> On Mar 1, 9:12 am, Buck <n...@4.now> wrote:
>> However, Steppir antennas says
>> that an antenna on the ground needs 120 radials just to match one in
>> the air with two radials.
>
> That would only apply to an elevated antenna 1/2 wave or higher up
> though..

Actually, it need not be that high. Just decoupling an antenna from a
less-than decent ground will improve its gain. The ideal height for a 20m
antenna would be about 8m. Of course if you can put it up at ANY height,
then go for the 100m plus range, but if you can afford the hardware for
that, you can also afford the hardware to stack two beams!

--
Dave Oldridge+
ICQ 1800667

2121. Re: SWR and common grounds

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-04 13:18:00 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1173014279.934557.303890@h3g2000cwc.googlegroups.com>
Source record: 45135

On 2 mar, 16:06, "Teri Buck" <k...@verizon.net> wrote:
> I am using a multi-switch to change radios and antennas. One of those MFJ
> 1700Bs. I get different SWR readings depending upon where I place the
> bridge in the tangle of wires that go into and out of the switch. If I
> take the switch out of the equation I get very low SWR. With it in I get
> 2.5:1.
>
Hello Teri,

It is very likely a common mode problem (as Danny and Richard also
mentioned).

Sometimes the SWR meter is the problem. Check your instrument by
connecting a known mismatched with various length of cable (for
example 75 Ohms resistor in combination with 2 1/8 wave 50 Ohms
cables). This resistor should give a 1.5 reading on the instrument,
irrespective of cable length between resistor and instrument (provided
that cable losses can be neglected).

Other problem (unlikely) can be significant harmonics in the output of
your Final Amplifier.

Best regards,
Wim
PA3DJS

2122. Re: Fun -- From the Unexpected

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-04 13:42:18 UTC
From: Mike Coslo <mcoslo@youknow.comcast.net>
Message-ID: <Xns98E9589039BB1mcoslocomcastnet@216.196.97.136>
Source record: 45136

"Sal M. Onella" <salmonella@food.poisoning.org> wrote in
news:rutGh.2440$Sh.177@newsfe15.phx:

> I grabbed a three-foot piece of meter lead with alligator clips on
> both
> ends. I also grabbed a hank of TV coax and went out to the antenna
> (in the dark with a flashlight), intending to stretch out the coax and
> clip it to the end of the lower element of the dipole. I nearly
> tripped over a retracted aluminum extension ladder laying on the
> ground. Ah, fate! I immediately clip-lead-connected the ladder to the
> bottom of the lower element of the dipole and went back inside, taking
> the unused RG-59 with me.
>
> This time, the tuner had no trouble getting a very low SWR. I
> tuned
> around and heard a guy. I called him and he came right back. From
> Hawaii. He said I had a solid signal, although I'm sure his
> five-element beam was doing much of the work.
>
> I've heard stories about unusual antennas, including the one about
> "loading up the bedsprings" but I believe a ladder laying on the
> ground as part of an antenna is a novelty.
>
> I tried 40 meters and got a good match. I could hear people but
> nobody came back when I called. Maybe I needed to stretch out the
> ladder.

You have to be sure you feed it with ladder line, Sal! ;^)

- 73 de Mike KB3EIA -

2123. Re: Fun -- From the Unexpected

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-04 13:55:42 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <fjilu2110gvv57u4hft9ubjqt97frso5jm@4ax.com>
Source record: 45137

On Sat, 3 Mar 2007 22:15:51 -0800, "Sal M. Onella"
<salmonella@food.poisoning.org> wrote:

> My entry into HF has been a 10m sleeve dipole, discussed at length here
>and still a work in progress. (The coax is out of the lower element, so
>it's just a vertical dipole.) More about that below.
>
> Today, at a local swap meet that features ham gear on the first
>Saturday, I bought a little tuner for $5.00. It got my puny TS-120 onto 15
>meters and I talked to a guy in Pennsylvania. Hot stuff! That was my first
>QSO outside the local area, not counting IRLP. And this with an antenna
>that's mounted only 18 inches above the ground.
{snip...}
> This time, the tuner had no trouble getting a very low SWR. I tuned
>around and heard a guy. I called him and he came right back. From Hawaii.
>He said I had a solid signal, although I'm sure his five-element beam was
>doing much of the work.
>
> I've heard stories about unusual antennas, including the one about
>"loading up the bedsprings" but I believe a ladder laying on the ground as
>part of an antenna is a novelty.
>
You have my sympathy...
You have become infected with an advanced form of the Ham Radio Virus!

You will no longer be able to go to any store without seeing double.
Every thing on the shelves will have its intended purpose and some
"repurpose" involving antennas. Most of the time you will think no one
else considered such matters in the same light.

You will have visions of writing books like "One Hundred Ways to Load
a Ladder" or "Beach Umbrella Stealth Antennas".

Collecting bits and pieces of aluminum will present a storage problem.
One man's junk is another man's antenna parts.

The virus may become dormant from time to time but it will not go
away. There is no cure.

John Ferrell W8CCW

2124. Re: Effect of raising vertical antenna higher

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-04 14:17:59 UTC
From: Buck <none@4.now>
Message-ID: <91llu2d3qj93jdtrc0j0fh07lbcvoa4p4t@4ax.com>
Source record: 45138

>I don't know the minimum height above ground (in wave lengths) that
>make the improvement in an antenna. However, Steppir antennas says
>that an antenna on the ground needs 120 radials just to match one in
>the air with two radials. I would like to know where the noticable
>benefit of raising an antenna above the ground actually takes place
>and where is the maximum benefit.
>
>I know that the higher the better, but rather than that kind of
>benefit, I am wondering from a ground standpoint where the benefits
>start and where the point of diminishing returns begins.
>
Thank you to everyone who answered my question.

The reason I asked is because I am designing a vertical that can be
ported to a location and setup as a single band vertical for whatever
band is desired at the time. I was wondering if I could raise it
about ten feet or so and use radials as guy wires to get a better
effect than laying it on the ground. I figured I might could get away
with using 4 to six radials and have an improvement.

I am still not sure of the answer, but I think I have figured out that
if I use six radials at ten feet, it will still be better than 6
radials on the ground. Of course, I am wondering if I will be able to
use more than three or four radials at the time.

Thanks again.

--
73 for now
Buck
N4PGW

2125. Re: Fun -- From the Unexpected

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-04 17:35:40 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <45EB0379.F2D6D111@shaw.ca>
Source record: 45139

Aha! So that's what they call it! I have to laugh because it exactly
fits my symptoms! Until now I didn't have a name for it. "Repurposing"
is a great term -- I think I'm going to use it as well!

Incurable Irv, VE6BP

John Ferrell wrote:

> You have my sympathy...
> You have become infected with an advanced form of the Ham Radio Virus!
>
> You will no longer be able to go to any store without seeing double.
> Every thing on the shelves will have its intended purpose and some
> "repurpose" involving antennas. Most of the time you will think no one
> else considered such matters in the same light.
>
> You will have visions of writing books like "One Hundred Ways to Load
> a Ladder" or "Beach Umbrella Stealth Antennas".
>
> Collecting bits and pieces of aluminum will present a storage problem.
> One man's junk is another man's antenna parts.
>
> The virus may become dormant from time to time but it will not go
> away. There is no cure.
>
> John Ferrell W8CCW

--

Visit my HomePage at http://members.shaw.ca/finkirv/index.html
Visit my Baby Sofia website at http://members.shaw.ca/finkirv4/index.htm
Visit my OLDTIMERS website at http://members.shaw.ca/finkirv5/index.htm
---
Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

2126. Re: chokes?coiled?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-04 17:59:50 UTC
From: merlin-7 <merlin-7@sc.rr.com>
Message-ID: <45eb095f$0$16750$4c368faf@roadrunner.com>
Source record: 45140

> > On Sat, 3 Mar 2007 16:41:07 -0500, "merlin-7" <merlin-7@sc.rr.com>
> > wrote:
> >
> > > This may be a dumb question for some of you, but.....
> > >
> > > I understand what a choke does at the feed point (I use an air wound
one at
> > >my feed point) However, I am having trouble understanding the purpose
of one
> > >near your rig.
> > >
> > > Also what effect happens in the coax between the two chokes?
> >
> > Hi Joe,
> >
> > The one near your rig would be opportunistic (on the chance it was
> > needed). However, as it could satisfy a need then that leads us to
> > your second question.
> >
> > The portion of the line beyond the choke at the antenna is still in a
> > strong field that "could" couple energy into it and reestablish the
> > common mode currents the choke was there to prevent. If you were to
> > place a second choke a quarter wave from the first, that would snub
> > this coupling (and thus the one at the rig, if it were harmonically
> > related, would also tend to snub common mode current).
> >
> > I use a 20 foot line section with about 60 ferrite beads distributed
> > along it to make for a more multiband, or general purpose second
> > choke.
> >
> > 73's
> > Richard Clark, KB7QHC
>
Thanks, I get it now. Sometimes I miss the simple things (not seeing the
trees thru the forest)

Now to make things more complicated.....

I use a modified fan dipole for all bands from 10m to 80m so how to figure
out where to place the beads would be pretty hard to figure out. I really do
not favor any frequency on any band.

I do not seem to have any problems with the feed or the antenna but hell I
am all for trying different ideas.

I will be moving soon and starting over with my set-up. So now is a great time to plan everything.

Would placing the beads, 1/4 wave apart, midband for every band, have any benefit?

Also, where is a good place to buy them? I use airwound chokes now but they have there limits along with the added loss of more coax....

Thanks
KI4ILB

2127. Re: chokes?coiled?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-04 18:16:56 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <f53mu21fct1n7gqtp40dfhihs57milmcb1@4ax.com>
Source record: 45141

On Sun, 04 Mar 2007 12:14:59 GMT, ml <m@di.net> wrote:

>hi Richard
>
>on that 20footer of yours, do you coil it up or leave it straight
>
>and are the beads spaced random or did you calculate each location

Hi Myles,

The beads are spread evenly along the length, and I generally use it
to lead away from the choke so that it is in the highest field.

73's
Richard Clark, KB7QHC

2128. Re: chokes?coiled?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-04 18:26:32 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <nb3mu2lcekc7es2o7e64lftsif7luor3qn@4ax.com>
Source record: 45142

On Sun, 4 Mar 2007 12:59:50 -0500, "merlin-7" <merlin-7@sc.rr.com>
wrote:

> I do not seem to have any problems with the feed or the antenna but hell I
>am all for trying different ideas.

Hi Joe,

Well, if you are trying new ideas, how do you test how effective they
are if there is no problem to solve?

> I will be moving soon and starting over with my set-up. So now is a great
>time to plan everything.

Truly, truly.

> Would placing the beads, 1/4 wave apart, midband for every band, have any
>benefit?

It would certainly add more isolation for all bands. You might want
to focus on connector strain relief.

> Also, where is a good place to buy them? I use airwound chokes now but they
>have there limits along with the added loss of more coax....

Amidon, Fair-rite are two brands that come to mind. There are others
certainly, but having bought and scavenged all that I've ever needed
some 10 - 15 years ago, I wouldn't know just where to purchase (google
can undoubtedly point you in that direction). The harder part is
choosing which formula and form factor. I will leave that to others
to chime in, providing you aren't inundated by theorists.

73's
Richard Clark, KB7QHC

2129. Re: SWR and common grounds

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-04 21:00:53 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98EA518705733nonenowhere@61.9.191.5>
Source record: 45143

"Teri Buck" <k4ia@verizon.net> wrote in news:44XFh.4$mI6.3@trndny08:

> I am using a multi-switch to change radios and antennas. One of those
> MFJ 1700Bs. I get different SWR readings depending upon where I place
> the bridge in the tangle of wires that go into and out of the switch.

Teri, some thoughts:

For practical transmission lines and antennas, the VSWR decreases smoothly from load to source, and the rate of decrease depends on the transmission line (one way) loss and is predictable.

For example if the VSWR is 1.5 at a certain point, then at another point closer to the source and where the one way cable loss is 1dB to the first point, the VSWR will be 1.4.

So, if you are truly making VSWR readings without changing the line length, you should expect the readings to decrease towards the generator, but the decrease for practical lines will be quite small. If you observe otherwise (higher or lower) something else is happening.

A well designed switch should not change the VSWR much on the through leg, so measurements either side of it should be similar.

If you are changing line length as well as moving the VSWR meter (just to complicate issues), a likely contiribution is that the outside of the outer conductor is influencing the load seen at the load end of the coax, ie the cable is carrying current on its outer (which is often undesirable).

> If I take the switch out of the equation I get very low SWR. With it
> in I get 2.5:1.

Is this on only one antenna, or are you generalising and oversimplifying things?

In taking the switch out, have you disconnected the cable outer conductors whereas they would have all been bonded at the switch?

What does the switch do with the non-selected antennas, does it ground them? Grounding the end of the feedline to the unused, but mutually coupled antenna may inflence the load presented by the selected antenna.

Have you checked all the components in your "tangle of wires". Are there faulty cables, or loose connectors (especially if you are using UHF connectors).

The answers to these questions might throw light on what is happening and whether choking will fix it.

>
> All of the coax has a common ground so the OCF windom also shares a

Well, you know that the "OCF Windom" (aren't they all off centre fed) depends on a radiating feedline. Perhaps you mean one of the newer designs with coax vertical that are designed to have common mode current on the vertical part, then you try to restrict that current at a point where you decide the coax is to be feedline and not radiator, which is easier said than done.

...

Owen

2130. Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-04 22:07:30 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98EA5CD2ABDF2nonenowhere@61.9.191.5>
Source record: 45144

According to my ARRL Antenna Handbook, the Windom Antenna was described by Loren Windom in QST in 1929.

The design is a horizontal half wave (ie single band) fed by a vertical single wire feedline attached just off centre (~14%). Explanations go that this approximately matches the feedline Zo (which is quite high) with the horizontal wire. It is single wire (ie ultimately unbalanced) feedline and therefore radiates. The Antenna is fed between the source end of the feedline and ground, and the load impedance should be somewhere in the many hundreds of ohms. The feedline carries an appreciable net current.

More recently, the Off Centre Fed (OCF) Dipole design emerged, principally as a multi-band antenna. The OCF Dipole is a horizontal wire with a coaxial feed and coupling transformer (often called a balun) attached offset from the centre of the dipole. The feedpoint excursions at a half wave length and harmonic frequencies are much lower than centre feeding, and may be operated as a multiband antenna with reasonable efficiency, though it probably really needs an ATU at the tx end of the coax. The OCF dipole feedline does have current flowing on the outer of the outer conductor, at least as a result of the assymetric coupling to the dipole legs, and to some extent because the ineffectiveness of practical coupling transformers to isolate the feedline ends from the differing voltages on each dipole leg. The feedline carries an appreciable net current.

Then along came the Carolina Windom, which appears to be a OCF dipole with a proprietary (ie secret, undescribed) coupling transformer, a vertical coax section (feedline and radiator) and a proprietary (remember the meaning) "isolator" located at a given distance along the coax to prevent the current flowing on the outer of the outer of the coax from flowing further towards the transmitter. The isolater would appear to be a ferrite choke and it would introduce a series impedance (reactance and resistance) to current on the coax, so influencing the establishment of the standing wave pattern on the outer of the outer of the coax. You might naively think that this isolator prevents current flowing into the shack, but that is unlikely.

In all these cases, there is an expectation that the feedline carries a net radiating current, and it seems to me, that if you don't want to bring that into the shack, you need to design an appropriate solution.

In the case of the true Windom, it seems the easiest solution is to end the single wire feedline outside the shack and place a matching unit connecting to ground and the single wire feedline at that point, and transforming the load to something suitable to coax or balanced feedline

to the shack.

In the case of the OCF Dipole and the Carolina Windom, shunting the current on the outer of the outer to ground outside the shack is a potential solution. Series chokes might help, but the magnitude of the choking impedance is limited, and their effectiveness could be improved greatly by a low impedance shunt to ground.

Comments?

Owen

PS: In todays paranoid world where rules in many jurisdictions restrict the maximum permitted exposure to electromagnetic radiation, antennas such as these with radiating elements that are close to areas accessible by people are a safety challenge.

2131. Re: Mobile Antenna Installation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-04 22:34:05 UTC
From: Gary Smith <vk3@aapt.net.au>
Message-ID: <esfhgt$e6d$1@news-01.bur.connect.com.au>
Source record: 45145

Thanks Owen, Yes, i know the discone is low gain, and i have (Shock, Horror) approx 60 ft of rg58 connected to it :>
I have been playing with radio for about 20 years but only just aquired my Ham ticket. I have read the ARRL handbook around 5 times now i would say, cover to cover.

I am modifying an ex CFA "Polar" 163.2 MHz vertical at the moment, there are plans on the net to modify this antenna to 146 meg. For those wanting to view this pdf, google vk3cmc cfa. I am also going to price tubing for a 17 element 2 Metre Yagi and later on one for 70cm. Combined with some RG-213 i think that will be quite fine, another station further away than i am is getting into the repeater with a 6 element. My tower will be going up soon, got a 50ft and 75ft so debating which one to use. 75ft is narrower inner section (3 stage tilt over crank up) so would not hold as much weight and wont take my KR400 inside the top section (too narrow).

I have the discone as a way to get up and running, can use the Mount Gambier repeater with it all the time and that one is around the same distance AND a large hill between it and me.. Most repeaters for us are around 60-100k +. we have members all over the corner of the state and would be stuffed without repeaters, fantastic things!!

Anyway, back to my ex CFA antenna...

Gary
VK3LCD

"Owen Duffy" <none@no.where> wrote in message
news:Xns98E9AFFB1272nonenowhere@61.9.191.5...
> "Gary Smith" <vk3@aapt.net.au> wrote in
> news:esdluh$l3t$1@news-01.bur.connect.com.au:
>
>> Yes, i am in rural Southwest Victoria. I am currently running a
>> discone on 2 Metres which is about 5 Metres above ground.
>> The closest 2 Metre repeater is approx 100Km line of site and has big
>> problems with RX, as such i cannot access it with my current antenna.
>
> Gary, 100km is a long path to a repeater, so you have to make sure you
> are doing some things right.
>
> I don't want to be negative about your discone, but they, being very
> broadband, accentuate IMD problems (so called pager interference) with
> receivers. If you are in the sticks, that won't be as noticeable as in
> the city, and it will affect ham gear more than commercial LMR which tend
> to have better front end selectivity. The other thing about the discone,
> is it is relatively low gain on tx.

>
> I note that your main problem with the 2m repeater is it hearing you, so
> you should be trying initially to boost your transmit signal. Perhaps you
> should look around at one of the commerical high gain 2m or dual band
> antennas that will give you 3 - 6dB lift depending on the model (in other
> words to double to quadruple your effective radiated power). Review your
> feedline situation to see you are not chucking signal away there as well.
> Another alternative is to build or buy a small yagi, 4 to 6 elements,
> vertically polarised and fixed on the repeater, but of course it is a bit
> restrictive for other contacts.
>
>> I have a 20 element yagi on UHF CB with a repeater to the Southeast
>> and us locals use that repeater to communicate as we have for years,
>> and its our local link, still, at this stage. So, we're not all
>> surrounded by repeaters in our back yards in this corner of this state
>
> Repeaters aren't everything, I think there are 9 or so here for a
> relatively low ham population, I don't use them, and they aren't very
> busy except for drive time when they sound a bit like CB.
>
>> and the terrain isn't all flat either, our town is built on the
>> Glenelg river and fortunantly i live a little higher than the centre
>> of town. We still have non amateur friends on UHF CB and like to keep
>> in touch with them. I pitty those that use UHF CB repeaters in or near
>> cities, usually it's a waste of time talking on them but there are
>> SOME good operators there as well. "in the sticks" we use them for
>> proper conversations instead of kids trying to overpower each other.
>> Maybe thats why you are wondering why i still want UHF CB
>
> Have fun, try experimenting with some different antennas, reserve your
> discone for a radiating dummy load.
>
> Re the Commodore, when I was younger, the deal was that the car owner
> purchased a slab, invited some competent mates around and after a certain
> anaesthetic threshold was reached, the holesaw came out and the antenna
> was installed... just watch that the guy with the holesaw isn't as
> anaesthetised as a newt!
>
> Owen

2132. Re: Mobile Antenna Installation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-04 23:03:48 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98EA665E4DCBEnonenowhere@61.9.191.5>
Source record: 45146

"Gary Smith" <vk3@aapt.net.au> wrote in
news:esfhgt$e6d$1@news-01.bur.connect.com.au:

> Thanks Owen, Yes, i know the discone is low gain, and i have (Shock,
> Horror) approx 60 ft of rg58 connected to it :>

Yeah, ouch. Here is the bad news, if the discone VSWR is 1.5:1 (at the antenna) and you have 60' of RG58, you are losing 58% of your transmitter power in the feedline. With RG213 you would lose about 30% and with LDF4-50 you would lose around 11%. The picture is worse with increasing frequency.

Now you can offset the loss of transmitter power with an amplifier or another 4dB of antenna gain, but noise levels should be so low in Casterton that you will not recover the loss of receive performance without an LNA (preamp) at the antenna.

If you want to work some line loss solutions, try http://www.vk1od.net/tl/tllc.php .

Before I you get you carried away with LNAs, the following article might be a bit technical, but it has some summary graphs that might convey the idea: http://www.vk1od.net/gt/index.htm .

Something else to keep in mind, with an FM receiver, a 1dB increase in strength of a noisy weak signal will result in much more than 1dB improvement in Signal/Noise ratio. Improvements to your EIRP have the same effect at the remote receiver.

> I have been playing with radio for about 20 years but only just
> aquired my Ham ticket. I have read the ARRL handbook around 5 times
> now i would say, cover to cover.
>
> I am modifying an ex CFA "Polar" 163.2 MHz vertical at the moment,
> there are plans on the net to modify this antenna to 146 meg. For
> those wanting to view this pdf, google vk3cmc cfa. I am also going to
> price tubing for a 17 element 2 Metre Yagi and later on one for 70cm.

That is a huge antenna, 17el on 2m! You are talking about a 10m boom. Gee, that will be a challenge horizontally polarised, but a bigger challenge if vertically polarised. Have you thought about two yagis stacked in the H plane, and supported so that you can swing them from horizontal to vertical polarisation?

BTW, if you are interested in DL6WU designs for a long boom yagi, and they are probably a good place for a beginner to start, see http://www.vk1od.net/dl6wu/index.htm .

> Combined with some RG-213 i think that will be quite fine, another
> station further away than i am is getting into the repeater with a 6
> element. My tower will be going up soon, got a 50ft and 75ft so
> debating which one to use. 75ft is narrower inner section (3 stage
> tilt over crank up) so would not hold as much weight and wont take my
> KR400 inside the top section (too narrow).

High towers means longer coax... you might be looking at LDF4-50 sooner
than you think, especially for 70cm and 477MHz.

>
> I have the discone as a way to get up and running, can use the Mount
> Gambier repeater with it all the time and that one is around the same
> distance AND a large hill between it and me.. Most repeaters for us
> are around 60-100k +. we have members all over the corner of the state
> and would be stuffed without repeaters, fantastic things!!
>
> Anyway, back to my ex CFA antenna...

That should be an intesting project. You will see first hand what is
inside the radome, and understand why poor implementations are prone to
fatigue failure.

Owen

2133. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-04 23:26:10 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <esfki4$k29$1@nnrp.linuxfan.it>
Source record: 45147

Owen Duffy wrote:
> According to my ARRL Antenna Handbook, the Windom Antenna was described
> by Loren Windom in QST in 1929.
>
> The design is a horizontal half wave (ie single band) fed by a vertical
> single wire feedline attached just off centre (~14%). Explanations go
> that this approximately matches the feedline Zo (which is quite high)
> with the horizontal wire. It is single wire (ie ultimately unbalanced)
> feedline and therefore radiates. The Antenna is fed between the source
> end of the feedline and ground, and the load impedance should be
> somewhere in the many hundreds of ohms. The feedline carries an
> appreciable net current.
>
> More recently, the Off Centre Fed (OCF) Dipole design emerged,
> ...

EXCELLENT page on OCF construction:

http://www.radioelectronicschool.net/files/downloads/ocfdipole.pdf

Will take a bit to load up in adobe reader (is a BIG file) on slow 56K
dialup connection.

JS
--
http://assemblywizard.tekcities.com

2134. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 00:25:12 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98EA742B14111nonenowhere@61.9.191.5>
Source record: 45148

John Smith I <assemblywizard@gmail.com> wrote in news:esfki4$k29$1
@nnrp.linuxfan.it:

> Owen Duffy wrote:
> EXCELLENT page on OCF construction:
>
> http://www.radioelectronicschool.net/files/downloads/ocfdipole.pdf
>

Yes, a good article. But Ron doesn't really address the common mode current
issue, and routing common mode current into the shack.

Seems like an excuse to give him a ring, we haven't talked in a while.

Owen

2135. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 00:36:29 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <esfom0$t3f$1@nnrp.linuxfan.it>
Source record: 45149

Owen Duffy wrote:

> ...
> Yes, a good article. But Ron doesn't really address the common mode current
> issue, and routing common mode current into the shack.
>
> Seems like an excuse to give him a ring, we haven't talked in a while.
>
> Owen

Yes, for that any good page on voltage\current baluns or hybrid baluns
will bring one up to speed. For example, a page which provides more
than you want to know:

http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=12661

--
http://assemblywizard.tekcities.com

2136. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 01:27:17 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98EA7EB1F87A6nonenowhere@61.9.191.5>
Source record: 45150

John Smith I <assemblywizard@gmail.com> wrote in
news:esfom0$t3f$1@nnrp.linuxfan.it:

> http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=12661

Hmmm, content hijackers.

2137. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 02:23:50 UTC
From: Bob Miller <NOSPAM@neosoft.com>
Message-ID: <k9vmu2lmlqg82jktvgugld316rkvsskmfk@4ax.com>
Source record: 45151

I tried a real Windom on 20 meters. Used the ARRL antenna book
formula. Ran a single wire feedline to the random wire terminal of an
old Murch transmatch. Had a 1/4 wave elevated counterpoise attached to
the ground terminal of the tuner. I couldn't match the thing to my
little QRP rig to save my soul. Lots of RF and buzzing sounds.

Ended up turning it into a standard dipole.

bob
k5qwg

On Sun, 04 Mar 2007 22:07:30 GMT, Owen Duffy <none@no.where> wrote:

>
>According to my ARRL Antenna Handbook, the Windom Antenna was described
>by Loren Windom in QST in 1929.
>
>The design is a horizontal half wave (ie single band) fed by a vertical
>single wire feedline attached just off centre (~14%). Explanations go
>that this approximately matches the feedline Zo (which is quite high)
>with the horizontal wire. It is single wire (ie ultimately unbalanced)
>feedline and therefore radiates. The Antenna is fed between the source
>end of the feedline and ground, and the load impedance should be
>somewhere in the many hundreds of ohms. The feedline carries an
>appreciable net current.
>
>More recently, the Off Centre Fed (OCF) Dipole design emerged,
>principally as a multi-band antenna. The OCF Dipole is a horizontal wire
>with a coaxial feed and coupling transformer (often called a balun)
>attached offset from the centre of the dipole. The feedpoint excursions
>at a half wave length and harmonic frequencies are much lower than centre
>feeding, and may be operated as a multiband antenna with reasonable
>efficiency, though it probably really needs an ATU at the tx end of the
>coax. The OCF dipole feedline does have current flowing on the outer of
>the outer conductor, at least as a result of the assymetric coupling to
>the dipole legs, and to some extent because the ineffectiveness of
>practical coupling transformers to isolate the feedline ends from the
>differing voltages on each dipole leg. The feedline carries an
>appreciable net current.
>
>Then along came the Carolina Windom, which appears to be a OCF dipole
>with a proprietary (ie secret, undescribed) coupling transformer, a
>vertical coax section (feedline and radiator) and a proprietary (remember
>the meaning) "isolator" located at a given distance along the coax to
>prevent the current flowing on the outer of the outer of the coax from

>flowing further towards the transmitter. The isolater would appear to be
>a ferrite choke and it would introduce a series impedance (reactance and
>resistance) to current on the coax, so influencing the establishment of
>the standing wave pattern on the outer of the outer of the coax. You
>might naively think that this isolator prevents current flowing into the
>shack, but that is unlikely.
>
>In all these cases, there is an expectation that the feedline carries a
>net radiating current, and it seems to me, that if you don't want to
>bring that into the shack, you need to design an appropriate solution.
>
>In the case of the true Windom, it seems the easiest solution is to end
>the single wire feedline outside the shack and place a matching unit
>connecting to ground and the single wire feedline at that point, and
>transforming the load to something suitable to coax or balanced feedline
>to the shack.
>
>In the case of the OCF Dipole and the Carolina Windom, shunting the
>current on the outer of the outer to ground outside the shack is a
>potential solution. Series chokes might help, but the magnitude of the
>choking impedance is limited, and their effectiveness could be improved
>greatly by a low impedance shunt to ground.
>
>Comments?
>
>Owen
>
>PS: In todays paranoid world where rules in many jurisdictions restrict
>the maximum permitted exposure to electromagnetic radiation, antennas
>such as these with radiating elements that are close to areas accessible
>by people are a safety challenge.

2138. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 03:33:12 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <esg31b$n0a$1@nnrp.linuxfan.it>
Source record: 45152

John Smith I wrote:
> Owen Duffy wrote:
>
> > ...
>> Yes, a good article. But Ron doesn't really address the common mode
>> current issue, and routing common mode current into the shack.
>>
>> Seems like an excuse to give him a ring, we haven't talked in a while.
>>
>> Owen
>
> Yes, for that any good page on voltage\current baluns or hybrid baluns
> will bring one up to speed. For example, a page which provides more
> than you want to know:
>
> http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=12661
>

Practical example of winding a guanella type balun ... (good detail in
picture depicting green/white wires)

http://www.n0ss.net/qrp_4-1_guanella-type_balun.pdf

JS
--
http://assemblywizard.tekcities.com

2139. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 03:48:34 UTC
From: nm5k@wt.net
Message-ID: <1173066514.841657.123830@n33g2000cwc.googlegroups.com>
Source record: 45153

On Mar 4, 4:07 pm, Owen Duffy <n...@no.where> wrote:
> According to my ARRL Antenna Handbook, the Windom Antenna was described
> by Loren Windom in QST in 1929.
>

I can't stand windoms myself... A poor design overall.. Bout par for
1929
technology..
I compared a dipole to one of those "carolina windoms" one time using
a
A/B switch.. It was ugly.. The dipole thrashed it. The windom setup
had
way too much loss. Mostly in the perverted mess of a feedline/tuner I
suspect.
But.... It doesn't bother me if anyone else wants to use them. IE:
field day,
etc. I like having an unfair advantage... :) All those windoms strung
across
the country on field day just help me get a better score...
Ughhhmm, maybe I should keep my mouth shut...
Yea.. Forget what I said. The windoms are great antennas.
A very efficient antenna system, and everyone should use one. If you
don't
use a windom at field day, you ain't really living.. Those funky fed
tuner/choke
G5RV's also have a special place in my heart.
Greatest antenna I've ever used.. :/ Grrrrr... I still remember
losing about
3 mm of tooth length due to excessive grinding when using a "funky
fed" G5RV
on 80m at field day a few years ago..
MK

2140. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 04:24:11 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98EA9CAF48FF7nonenowhere@61.9.191.5>
Source record: 45154

John Smith I <assemblywizard@gmail.com> wrote in news:esg31b$n0a$1
@nnrp.linuxfan.it:

> John Smith I wrote:
> Practical example of winding a guanella type balun ... (good detail in
> picture depicting green/white wires)
>
> http://www.n0ss.net/qrp_4-1_guanella-type_balun.pdf

Notwithstanding all the focus on current baluns, a current balun does not (by itself) prevent common mode current on an OCF Dipole feedline. The feedline has assymetric mutual coupling to the dipole and can not be expected in any configuration of significant length to be balanced wrt the dipole over a wide frequency range.

Owen

2141. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 05:12:04 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <esg8qo$3t6$1@nnrp.linuxfan.it>
Source record: 45155

Owen Duffy wrote:
> John Smith I <assemblywizard@gmail.com> wrote in news:esg31b$n0a$1
> @nnrp.linuxfan.it:
>
>> John Smith I wrote:
>> Practical example of winding a guanella type balun ... (good detail in
>> picture depicting green/white wires)
>>
>> http://www.n0ss.net/qrp_4-1_guanella-type_balun.pdf
>
> Notwithstanding all the focus on current baluns, a current balun does not
> (by itself) prevent common mode current on an OCF Dipole feedline. The
> feedline has assymetric mutual coupling to the dipole and can not be
> expected in any configuration of significant length to be balanced wrt the
> dipole over a wide frequency range.
>
> Owen

Wide freq range?

Well, 40-50uh should provide 500 ohms impedance to common mode currents on the outside of the braid of 50 ohm coax at ~2mhz, this is about the minimum usable (in my humble opinion), although I have seen designs only providing a 5:1 "common mode impedance to coax impedance", at lowest freq, in common use (and especially when spanning wide bandwidth. And, all figures used here are approx. and taken from my guess/memory/past experiments--although I am sure they are in the ballpark)

At ~10 meters, the same inductance (same current balun) will present an impedance of 7,000+ ohms to common mode currents (impedance increasing with freq though the HF bands)

It is true, coupling to the coax, past the current balun can occur (and probably most noticeable at low freqs/high power.) I seen a post by Richard addressing that very problem, I believe, and he is using ferrite beads along a section of coax leading away from the antenna, and apparently in addition to some other current balun at the antenna. I have seen others using an additional 1:1 current balun 1/4 wave away from the antenna on the coax, or near their rig.

However, you will recognize that "magical" point where you realize minimum/reduced/tolerable common mode currents as the coax can be moved about without wild swings in SWR performance and you have a good match over the freqs/bands which the antenna is designed for (given that you don't have one end of the antenna close to a large metal building or some other structure/object providing an object to couple to and set up

a LARGE imbalance.)

Now, the above is only VERY general. As even the
bifilar/trifilar/quadfiler windings and their spacings are of importance
to a properly designed and constructed balun and will affect its'
performance.

I make only VERY GENERAL statements in the construction of these baluns
and I don't wish to accept ANY responsibility in the results of someone
using them.

There are plentiful designs, many-many tried and true, available on the
net and I leave finding those as an exercise to anyone wishing to use them.

There is also abundant formulas/equations and examples given, on the
net, on how to design your own (material to use for rod/toroid, wire,
spacing, etc.)

And someday we will talk about the "rest of the story", those guys who
can hook a coathanger to their rig with a wet thread and realize good
characteristics!!! (well, almost <grin>)

Personally, I use the current balun whether it appears I need it or not,
I find the "insertion loss" tolerable. But, I agree, in a perfect world
there would be a better solution ...

JS
--
http://assemblywizard.tekcities.com

2142. Re: Is it possible to estimate any losses due to an unmatched antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 14:23:36 UTC
From: MRW <mr.whatever@gmail.com>
Message-ID: <1173104616.465182.224840@8g2000cwh.googlegroups.com>
Source record: 45156

Thank you for the responses everyone! I will look at the links posted above.

Owen, great site! I have added it to my bookmarks. Thank you, sir!

2143. Re: How odd thinking came about

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 14:43:57 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <eshabdvms1@f04n12.cac.psu.edu>
Source record: 45157

art wrote:
>
> fishingpole store and the present antenna story but frankly I know I
> can never represent myself as an engineer anymore but my interest now
> is purely to stay alive without any more set backs

Good Grief Art! Your story made gave me the Heebie-Jeebies - I get sympathy pains.

Here's to your health improving and soon.

- 73 de Mike KB3EIA -

2144. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 15:18:34 UTC
From: John Passaneau <w3jxp@arrl.net>
Message-ID: <Xns98EA68E35FA9Bjxp16psuedu@128.118.141.40>
Source record: 45158

nm5k@wt.net wrote in
news:1173066514.841657.123830@n33g2000cwc.googlegroups.com:

> On Mar 4, 4:07 pm, Owen Duffy <n...@no.where> wrote:
>> According to my ARRL Antenna Handbook, the Windom Antenna was
>> described by Loren Windom in QST in 1929.
>>
>
> I can't stand windoms myself... A poor design overall.. Bout par for
> 1929
> technology..
> I compared a dipole to one of those "carolina windoms" one time using
> a
> A/B switch.. It was ugly.. The dipole thrashed it. The windom setup
> had
> way too much loss. Mostly in the perverted mess of a feedline/tuner I
> suspect.
> But.... It doesn't bother me if anyone else wants to use them. IE:
> field day,
> etc. I like having an unfair advantage... :) All those windoms strung
> across
> the country on field day just help me get a better score...
> Ughhhmm, maybe I should keep my mouth shut...
> Yea.. Forget what I said. The windoms are great antennas.
> A very efficient antenna system, and everyone should use one. If you
> don't
> use a windom at field day, you ain't really living.. Those funky fed
> tuner/choke
> G5RV's also have a special place in my heart.
> Greatest antenna I've ever used.. :/ Grrrrr... I still remember
> losing about
> 3 mm of tooth length due to excessive grinding when using a "funky
> fed" G5RV
> on 80m at field day a few years ago..
> MK
>
>

We have used OFC dipoles here for a few years at field day. They fill a very specific set of needs for us. 1) They are simple to put up 2) The feed line coming from one end of the dipole is shorter than from center feed dipoles in our setup. 3) OFC dipoles offer an impedance at the end of the coax that is within the range of the tuners built into our radios on the bands that are important to field day. This simplifies our setup and operation. 4) They work as well as an antenna of that

physical length on any one frequency would no mater how it's feed.

The radiation pattern from an OFC is set by the length of the wire not where RF is feed in/out of the antenna. In our setup open wire line and tuners would be a pain in the butt, and an operational inconvenience that gains us nothing. Fan dipoles or separate dipoles are hard to setup and or tune and would perform no better for us. The antennas we use were built by myself and use a 4:1 current balun which minimize feed line radiation. On 80/40/20m we can easily match the antenna with the built in tuners so the SWR must be under 3:1. OFC dipoles don't work well on 15m but with the current sun spot cycle not a problem. We see no indication of common mode current problems, so we don't worry about it, we just operate and have fun.

John W3JXP

2145. Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 16:04:17 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <5cXGh.391$iD4.256@trnddc06>
Source record: 45159

When the subject of antenna efficiency comes up, it often involves a discussion of ground losses on verticals. What about, for example, a dipole? Could one calculate "power out/power in" by measuring the VSWR and declaring that everything not reflected was transmitted? It would seem more accurate to actually measure power out and power in, but that introduces inaccuracies by having to calibrate the setup. Thoughts?

2146. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 17:04:24 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12uojd0go1faad8@corp.supernews.com>
Source record: 45160

There's no direct way to measure the total power being radiated other
than sampling the field at many points in all directions and
integrating. "Reflected" power is not power that isn't transmitted. You
can find the power being applied to the antenna by subtracting the
"reverse" or "reflected" power from the "forward" power, but that tells
you nothing about what fraction is radiated and what fraction lost as heat.

Roy Lewallen, W7EL

Wayne wrote:
> When the subject of antenna efficiency comes up, it often involves a
> discussion of ground losses on verticals. What about, for example, a
> dipole? Could one calculate "power out/power in" by measuring the VSWR and
> declaring that everything not reflected was transmitted? It would seem more
> accurate to actually measure power out and power in, but that introduces
> inaccuracies by having to calibrate the setup. Thoughts?
>
>

2147. mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 17:30:06 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns98EA60BB66FE1spectrumhogstarbandn@198.186.192.196>
Source record: 45161

I just started using the ARRL provided program, mobile.exe , for some mobile antenna design work. I see that one of the figures required to be input is ground loss.

Which raises the issue for me, how does one measure, (or calculate), the ground loss in a mobile antenna.

I am working primarily with 80M mobile antennas on medium sized motorhomes.

Ed

2148. Re: How odd thinking came about

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 17:31:27 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1173115886.954039.162010@8g2000cwh.googlegroups.com>
Source record: 45162

On 5 Mar, 06:43, Michael Coslo <m...@psu.edu> wrote:
> art wrote:
>
> > fishingpole store and the present antenna story but frankly I know I
> > can never represent myself as an engineer anymore but my interest now
> > is purely to stay alive without any more set backs
>
> Good Grief Art! Your story made gave me the Heebie-Jeebies - I get
> sympathy pains.
>
> Here's to your health improving and soon.
>
> - 73 de Mike KB3EIA -
Mike, it wasn't for sympathy, I am a very comfortable happy man
enjoying a very happy and rewarding life.

I explained how I was able
to generate the Gaussian antenna arrays where people much cleverer
than I are unable to see what I see. Even when the item is placed in
front of them their minds will not allow them to accept it this
because the regime of learning is based on remembering the sequencies
of following a formal path. This teaching does not allow forays off
the beaten path
and queastioning in general because the professor who is the informant
is also the judge at the end of the semester and a student is not
there to challenge his thinking
Every body here is convinced that antenna programs have proved their
worth but suddenly they don't want to believe that they are cleverer
than the user. If you think about it most people who are successful
become that way because they have experienced all the wrong ways while
foraging.
Many people with a damaged brain excell in certain areas and where it
is not understood. My brain was a network of communication threads
like a webb when parts decayed preventing communication. In time they
reform if you are lucky and possibly some develop at a faster pace
than others.
This is what may have happened to me, who knows what happens
in a brain>? George Green went to school for one year and then went to
work in a flour mill. Yet somehow he expanded
mathematics with his understanding of the term equilibrium
Go figure. The brain is a wondourous thing but there is a portion
there that retards all progression even with the brightest of minds in
all humans which humans themselves cultivate in competition with other
humans.

Regards
Art

2149. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 17:38:11 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <eshki3$3tv$1@nntp1.jpl.nasa.gov>
Source record: 45166

>
> The bottom line should be is EZNEC accurate? Has the programming been
> held within the confines provided by the original provider'

What you are referring to is called "validation" of the modeling code. Since EZNEC uses the NEC2 engine (or the NEC4 engine) underneath, the inherent modeling accuracy is that of those engines.

> the U.S. government. Who overseas the content of this so called
> program.
The same as is true of virtually every other RF and EM modeling program out there.. The manufacturer of the program oversees it. You, as a customer, get to run whatever validation suites make you happy. If you don't like the results, don't use the program. If you find a bug, you report it to the mfr, and usually they roll out a new version sooner or later that fixes the problem. This is the advantage of using a provider that has been in business a while.. they've gone through the release cycle more than once, and they've got lots of eyes looking at the product.

While looking at source code sounds nice, I suspect that very, very few of the people who use modeling codes would be willing to take the time needed to go through them and understand how it works, much less try to find bugs.

But it does happen. Every few years, you see Jerry Burke at LLNL announce some minor change in the NEC code base to address some bizarre corner case.

If it has a patent then all would or should be revealed
> in the patent disclosure. Has anybody taken this for his own use for
> the advancement of science which is the reason for patents?

Or, even better, they could reveal all in a peer reviewed paper in the technical literature or in a technical report. Gosh... isn't that what the NEC folks did. There's hundreds of pages of documentation explaining the theoretical underpinnings of NEC, how it was validated, etc..

If you're interested in the optimizers....well, there's a raft of papers and books on the virtues and problems with various optimizers, both in general and in combination with NEC or other modeling codes. Yes, in most cases, you have to wonder if the implementation of the algorithm was properly done, e.g. Excel uses the Nelder-Mead algorithm in it's "solver".. and MS doesn't tell you how they exactly did it.. so it's up to you to find some good test cases and see if it works like you think it should. Or, do reasonableness checks on the output.. but that's

something you should do with an optimizer in any case.

> Has anybody upgraded the assigned patent for the sake of science
> or has something not been disclosed to prevent true examination
> and as such invalidates the patent? Does the government have the
> option of review of all algorithms or are they in the same position
> the country is with voting machines? Basically the purchaser is really
> in the position of caveat emptor especially since all programs provide
> different results!

You betcha... You gets to pay yer money and you gets to take yer chances.

But in practice, the reputable mfrs of modeling codes tend to provide validation examples, if only because that's how they do their own internal testing. For example, everybody runs the examples in the NEC manual, because those have been extensively validated, so if your code gives the same result as the NEC output (subject to the limitations of NEC and your code), then you say, "yes indeedy, my program works ok!"

Jim

2150. Re: Effect of raising vertical antenna higher

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 17:42:16 UTC
From: Comcast newsgroups <newsgroups2000@hotmail.com>
Message-ID: <_ZidnVhUP7xvy3HYnZ2dnUVZ_r2onZ2d@comcast.com>
Source record: 45163

> Thank you to everyone who answered my question.
>

Hi Buck - you must be having an out of mind moment -
this was MY question :-)

Dave
WB7AWK

ps - thanks for all the responses to my question, as well as to
Bucks imaginary question.

2151. Re: Four square antenna and Roy

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 17:46:14 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12uolre51qlui0a@corp.supernews.com>
Source record: 45164

I've never claimed credit for the four square antenna, and no one makes claims on my behalf. If anyone, friend or not, is claiming that I am the originator of the four square antenna, he is in error. As often the case, I have no idea where Art got his information, but if he will give the name of this individual and where the alleged misinformation appears, I'll contact him and tell him the true story of the origin of the four square, which is as follows.

To my knowledge, its first creator was Dana Atchley, W1CF (now SK), in association with others. He was certainly the first to give it that name. Its introduction to the amateur community was "360 degree - Steerable Vertical Phased Arrays", by Dana W. Atchley, Jr., W1CF, Harold E. Stinehelfer, ex-W2ZRS, and Joseph F. White, PhD, in April 1976 _QST_. Certain aspects of the antenna were patented in U.S. Patent 4,123,759 (Hines et al), but no restriction was ever imposed or enforced on the use of the patented material to my knowledge. The article and patent promoted the use of Wilkinson power dividers to supply power to the elements, a method I knew which wouldn't produce the claimed results. This resulted in my writing a long paper on phased array theory which I sent to anyone who requested it at for the cost of duplication and postage. Dana got one of these, and saw the error of using the Wilkinson feed. The paper ended up being published as a major part of Chapter 8 of the _ARRL Antenna Book_, where it's been for many years. You'll find the _QST_ article by Atchley et al referenced at the end of the chapter.

Anyone who has EZNEC, including the demo, of version 3.0 or later (when the Antenna Notes feature was added), is invited to open the 4square.ez example file furnished with the program. Once opened, click File, then Edit Antenna Notes. This will open the Antenna Notes file for the 4 square example antenna. The first sentence is "This popular phased array was invented by Dany Atchley, W1CF."

Roy Lewallen, W7EL

art wrote:
> Looked up an article on google called Four square antenna experiences
> and to my amazement I found that one of Roy's close friends had
> claimed
> on his behalf that the four square antenna can be attributed to him.
> I waited a while for what Roy had to say because certainly was an
> achievement,
> if true. Roy did not deny or enlargen on the achievement so I started
> to dig for myself.
> The above article was the first I came across and it precedes Roys
> article in the antenna compendium by some thirty years. As expected

> Roy still remains silent taking things on the chin in his normal shy
> way.How many other things did he invent before the government released
> antenna computor programs to the public and yet still stayed quiet? Is
> there still a chance for a Nobel prize for other achievements not
> declared?.
> Art
>

2152. Re: NEC computor programs

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 17:59:29 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12uomk9b7mu3jea@corp.supernews.com>
Source record: 45165

NEC-2 has been in constant use for about 30 years, and it's used daily to design antennas for a vast multitude of purposes -- antennas which are used by millions worldwide. It has been shown, over and over, to to agree closely with measured results. This shouldn't be any big surprise, since it uses fundamental equations which have been known and verified for over a century. There are, of course, some limitations to its abilities, and situations where it gives erroneous results. The vast majority of these have been found and well documented. And like any modeling system, computerized or otherwise, a good deal of skill can be required to match the model with the real object.

Anyone who claims to have discovered principles which are beyond those incorporated in current programs has a heavy burden of proof to bear. The very first hurdle to overcome in order to gain any semblance of credibility is comparison of carefully and professionally measured data with results from a carefully and professionally created model. If the differences truly are unexplainable by known deficiencies, then further investigation is surely warranted. Vague claims, speculations, and arm-waving with a total lack of any quantitative data are far short of what is needed to gain the attention of anyone who has seen, over and over, the successful results these programs routinely provide.

Roy Lewallen, W7EL

2153. Re: NEC computor programs

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 18:24:30 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1173119069.686177.99570@c51g2000cwc.googlegroups.com>
Source record: 45167

On 5 Mar, 09:59, Roy Lewallen <w...@eznec.com> wrote:
snip
>
> Anyone who claims to have discovered principles which are beyond those
> incorporated in current programs has a heavy burden of proof to bear.
The principle that I have discovered is not in a book but if a program
is made up of proven facts of the masters proves one thing that is not
ably checked by other programs based on the same facts then humasn
intervention
is the problem and not the principles of the masters. If one deduces
an area that the masters have neglected to expand and a computor
> The very first hurdle to overcome in order to gain any semblance of
> credibility is comparison of carefully and professionally measured data
> with results from a carefully and professionally created model. If the
> differences truly are unexplainable by known deficiencies, then further
> investigation is surely warranted. Vague claims, speculations, and
> arm-waving with a total lack of any quantitative data are far short of
> what is needed to gain the attention of anyone who has seen, over and
> over, the successful results these programs routinely provide.
>
> Roy Lewallen, W7EL

Computor programs made by professionals do not agree with each other
so there is a problem. Who would use a digital calculator with
confidence when all calculators are only roughly accurate.
As far as "vague claims" professional programs of today validate my
"speculative" claims. it does not threaten anything of yours since
yours are just number crunchers for pre made designs and even then
they are not totally accurate.
Nobody but nobody has invalidated my expansion of the law of statics.
Nobody.Didn't the same thing happen to all the masters at one time or
another.
Art
art
Now it is your turn to wave the hands again

2154. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 18:30:03 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12uoodjo0blmp58@corp.supernews.com>
Source record: 45168

Among EZNEC users are aerospace companies, U.S. and foreign government agencies, universities, domestic and international broadcasters, cell phone providers, space agencies, telecommunications companies, and a very wide range of others. They are designing antennas which you make use of daily.

The purchaser truly is in the position of caveat emptor, and the legal notice included with EZNEC carefully spells this out in legalese. But EZNEC also has an unconditional full money back satisfaction guarantee, and none of the above users have asked for a refund.

Roy Lewallen, W7EL

art wrote:
>
> The bottom line should be is EZNEC accurate? Has the programming been
> held within the confines provided by the original provider'
> the U.S. government. Who overseas the content of this so called
> program. If it has a patent then all would or should be revealed
> in the patent disclosure. Has anybody taken this for his own use for
> the advancement of science which is the reason for patents?
> Has anybody upgraded the assigned patent for the sake of science
> or has something not been disclosed to prevent true examination
> and as such invalidates the patent? Does the government have the
> option of review of all algorithms or are they in the same position
> the country is with voting machines? Basically the purchaser is really
> in the position of caveat emptor especially since all programs provide
> different results!
> Art
>

2155. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 18:59:54 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <1qpou25758sc784frs2ku7nccd21g7elim@4ax.com>
Source record: 45169

On 05 Mar 2007 17:30:06 GMT, Ed <Huckleberry_REMOVE_@bigvalley.net>
wrote:

> Which raises the issue for me, how does one measure, (or calculate),
>the ground loss in a mobile antenna.
>
> I am working primarily with 80M mobile antennas on medium sized
>motorhomes.

Hi Ed,

Work it in reverse. Put in various values and note their loss.
Compare to your own situation. Choose the value that comes closest to
that.

How do you compare? Measure against a reference antenna, while trying
to maintain the same conditions. THAT is the hard part. The
reference antenna's loss should be known (and even that is difficult).

Another way is build a software model that is the best of all worlds
(no Ohmic losses ...or at least the fewest). Compare drive conditions
of the model to the one on your motorhome. The difference between the
two is the loss, take this value and put it into your software.

73's
Richard Clark, KB7QHC

2156. Re: NEC computor programs

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 19:00:37 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <eshpcm$6t3$1@nntp1.jpl.nasa.gov>
Source record: 45171

art wrote:
> On 5 Mar, 09:59, Roy Lewallen <w...@eznec.com> wrote:
> snip
>
>>Anyone who claims to have discovered principles which are beyond those
>>incorporated in current programs has a heavy burden of proof to bear.
>
> The principle that I have discovered is not in a book but if a program
> is made up of proven facts of the masters proves one thing that is not
> ably checked by other programs based on the same facts then humasn
> intervention
> is the problem and not the principles of the masters. If one deduces
> an area that the masters have neglected to expand and a computor
>
>>The very first hurdle to overcome in order to gain any semblance of
>>credibility is comparison of carefully and professionally measured data
>>with results from a carefully and professionally created model. If the
>>differences truly are unexplainable by known deficiencies, then further
>>investigation is surely warranted. Vague claims, speculations, and
>>arm-waving with a total lack of any quantitative data are far short of
>>what is needed to gain the attention of anyone who has seen, over and
>>over, the successful results these programs routinely provide.
>>
>>Roy Lewallen, W7EL
>
>
> Computor programs made by professionals do not agree with each other
> so there is a problem.

I would suggest that the various codes used by professionals DO agree,
within their stated uncertainty limits or the constraints of the model.

A simple mutual coupling approximation based on series expansion of the
exponential integral for idealized dipoles will be very close to that
derived from, say, a method of moments code like NEC2, but they will be
different, because the underlying model is subtly different. However, a
skilled user of such codes is (or should be) aware of the limitations.

Likewise, you can model a vertical monopole over ground with a simple
model (like assuming the ground is infinitely conducting and the
monopole is infinitely thin). Or you can model it as a finite thickness
monopole and a finite conductivity dielectric ground with uniform
properties. Or, you can model it with the rivet heads holding the
aluminum together, the dielectric guy wires, and the actual EM
properties of the soil that have been determined on a 10cm grid for the

surrounding km.

The answers will all be different in the details, but simultaneously the answers will be the same within the limits of the approximations used.

The devil is in the details of those limits, eh?
Jim

2157. radiation pattern of log-periodic antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 19:48:18 UTC
From: prasanna.sariki@gmail.com
Message-ID: <1173124096.517865.50720@c51g2000cwc.googlegroups.com>
Source record: 45170

how to obtain the radiation pattern of log-periodic antenna using C language....need suggestions

2158. Re: NEC computor programs

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 20:56:27 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <%t%Gh.106154$5j1.81230@bgtnsc04-news.ops.worldnet.att.net>
Source record: 45172

art wrote:

[snip]

> Nobody but nobody has invalidated my expansion of the law of statics.
> Nobody.Didn't the same thing happen to all the masters at one time or
> another.
> Art

Art,

You may have missed my earlier message, or perhaps it was not clear. I will try again.

Gauss' Law is one of the four standard Maxwell Equations. Therefore, statics has already been expanded to encompass all of classical electromagnetism, a long time ago.

You may have invented a novel antenna configuration, but you did not "invent" the extension of Gauss' Law to HF and antennas. There is nothing to validate or invalidate.

73,
Gene
W4SZ

2159. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 20:58:42 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98EB51281CDABnonenowhere@61.9.191.5>
Source record: 45173

"Wayne" <mygarbagecan@verizon.net> wrote in
news:5cXGh.391$iD4.256@trnddc06:

> When the subject of antenna efficiency comes up, it often involves a
> discussion of ground losses on verticals. What about, for example, a

The reason for focus on ground loss on (HF) verticals is that, unless you have taken extreme measures with a ground system, ground loss dwarfs other losses and in that case dominates considerations of efficiency. Next would come loading coils.

> dipole? Could one calculate "power out/power in" by measuring the

Half wave dipoles made from practical materials are usually very high efficiency, losses commonly range in the area of 1% to ~3%. Loading coils are a significant loss element in loaded dipoles. Some folk (eg ARRL) have a mind that linear loading (folding the conductors back on themselves) is lossless, but my analysis of the Cobra shows that is not the case, see http://www.vk1od.net/cobra/index.htm . Even other lengths of unloaded dipoles may be very efficient, but the feedpoint impedance may drive huge losses on the feedline and so whilst the radiator is efficient, the antenna system may be inefficient.

Components of an antenna system interact with each other in a complex way, and it is important to analyse the entire antenna system (radiator, earth, transmission line, balun, ATU etc) to obtain a correct understanding of how the system works overall.

> VSWR and declaring that everything not reflected was transmitted? It

Roy has already explained to you that you have some misconceptions about VSWR, "forward power", and "reflected power".

There has been another raging discussion here about what happens to the "reflected power", it isn't necessarily, and isn't usually lost (ie dissipated as heat), but as I have stated above the feedpoint impedance may drive huge losses on the feedline, it may also reduce the power available from the transmitter and may reduce the transmitter efficiency.

> would seem more accurate to actually measure power out and power in,
> but that introduces inaccuracies by having to calibrate the setup.
> Thoughts?
>
>

In terms of efficiency on the larger scale, a significant of power is lost in the process of reflecting some rays from real ground.

Owen

2160. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 21:09:16 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98EB52F2ECE54nonenowhere@61.9.191.5>
Source record: 45174

Ed <Huckleberry_REMOVE_@bigvalley.net> wrote in
news:Xns98EA60BB66FE1spectrumhogstarbandn@198.186.192.196:

>
>
> I just started using the ARRL provided program, mobile.exe , for
> some
> mobile antenna design work. I see that one of the figures required
> to be input is ground loss.
>
> Which raises the issue for me, how does one measure, (or
> calculate),
> the ground loss in a mobile antenna.

Ed, I assume you mean ground loss stated as an equivalent series
resistance.

If you measure the feedpoint impedance or the VSWR of a short loaded whip
at resonance, you have a figure total resistance either directly reading
or from VSWR, R=50/VSWR. (Of course, those measurements need to be made
without any impedance transformation even if you might use such in
service.) That feedpoint resistance comprises equivalent ground
resistance and the equivalent of the antenna losses and radiation
resistance. If you can estimate the second component from models, the
equivalent ground resistance can be estimated by deduction of the
equivalent radiator R from the measured feedpoint R.

Owen

2161. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 21:14:43 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <7L%Gh.506$Ih.268@trnddc02>
Source record: 45175

> Wayne wrote:
>> When the subject of antenna efficiency comes up, it often involves a
>> discussion of ground losses on verticals. What about, for example, a
>> dipole? Could one calculate "power out/power in" by measuring the VSWR
>> and declaring that everything not reflected was transmitted? It would
>> seem more accurate to actually measure power out and power in, but that
>> introduces inaccuracies by having to calibrate the setup. Thoughts?

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:12uojd0go1faad8@corp.supernews.com...
> There's no direct way to measure the total power being radiated other than
> sampling the field at many points in all directions and integrating.
> "Reflected" power is not power that isn't transmitted. You can find the
> power being applied to the antenna by subtracting the "reverse" or
> "reflected" power from the "forward" power, but that tells you nothing
> about what fraction is radiated and what fraction lost as heat.
>
> Roy Lewallen, W7EL

Thanks for the reply. My dipole example is intended to avoid transmission line issues by not having one, and the elements are assumed to be reasonably low loss. If I do some quick back-of-the-envelope calculations, for a VSWR of 1.3:1, I get an efficiency of about 98.3% (using the equation 1-gamma^2). Assuming a resistance of 1 ohm in the dipole conductors the efficiency I calculate is about 98.6% (72/73).

Are there any other loss issues missing in this example.

2162. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 21:17:48 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <0O%Gh.507$Ih.114@trnddc02>
Source record: 45076

"art" <aunwin@insightbb.com> wrote in message
news:1173121670.363922.222170@j27g2000cwj.googlegroups.com...
> On 5 Mar, 09:04, Roy Lewallen <w...@eznec.com> wrote:
>> There's no direct way to measure the total power being radiated other
>> than sampling the field at many points in all directions and
>> integrating. "Reflected" power is not power that isn't transmitted. You
>> can find the power being applied to the antenna by subtracting the
>> "reverse" or "reflected" power from the "forward" power, but that tells
>> you nothing about what fraction is radiated and what fraction lost as
>> heat.
>>
>> Roy Lewallen, W7EL
>>
>>
>>
>> Wayne wrote:
>> > When the subject of antenna efficiency comes up, it often involves a
>> > discussion of ground losses on verticals. What about, for example, a
>> > dipole? Could one calculate "power out/power in" by measuring the VSWR
>> > and
>> > declaring that everything not reflected was transmitted? It would seem
>> > more
>> > accurate to actually measure power out and power in, but that
>> > introduces
>> > inaccuracies by having to calibrate the setup. Thoughts?- Hide quoted
>> > text -
>>
>> - Show quoted text -
>
> If you adopt my expansion of gauss it can be calculated.
> If you look at the example in Chapter 21 of the Rutgers book on fields
> on the net maybe, but maybe, you will think a bit different but I
> expect you to fight off the idea of change
> Art

Art--
Thanks for your previous reponse. I don't know if the comment above is
directed to me or Roy. But I can tell you that I am not the person who is
going to understand an expansion of gauss :)
Wayne

2163. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 21:30:26 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <esi25ibll1@nntp1.jpl.nasa.gov>
Source record: 45080

Owen Duffy wrote:
> Ed <Huckleberry_REMOVE_@bigvalley.net> wrote in
> news:Xns98EA60BB66FE1spectrumhogstarbandn@198.186.192.196:
>
>
>>
>> I just started using the ARRL provided program, mobile.exe , for
>> some
>>mobile antenna design work. I see that one of the figures required
>>to be input is ground loss.
>>
>> Which raises the issue for me, how does one measure, (or
>> calculate),
>>the ground loss in a mobile antenna.
>
>
> Ed, I assume you mean ground loss stated as an equivalent series
> resistance.
>
> If you measure the feedpoint impedance or the VSWR of a short loaded whip
> at resonance, you have a figure total resistance either directly reading
> or from VSWR, R=50/VSWR. (Of course, those measurements need to be made
> without any impedance transformation even if you might use such in
> service.) That feedpoint resistance comprises equivalent ground
> resistance and the equivalent of the antenna losses and radiation
> resistance. If you can estimate the second component from models, the
> equivalent ground resistance can be estimated by deduction of the
> equivalent radiator R from the measured feedpoint R.

I would suggest that for the purposes of rough and ready estimation, and
considering the measurement uncertainty from most ham measuring gear,
you could estimate the radiation resistance of an 8ft long mobile
antenna without a tophat at being about 25-30 ohms for 10m, 5.5 ohms for
20, 1.5 ohms for 40, and 0.4 ohms for 75/80. Probably close enough with
about 1.5 significant digits accuracy.

Jefferies has similar numbers at:
http://www.ee.surrey.ac.uk/Personal/D.Jefferies/radimp.html

Jim, W6RMK

2164. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 21:33:43 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98EB57182E4B6nonenowhere@61.9.191.5>
Source record: 45077

"Wayne" <mygarbagecan@verizon.net> wrote in
news:7L%Gh.506$Ih.268@trnddc02:

>
>> Wayne wrote:
>>> When the subject of antenna efficiency comes up, it often involves a
>>> discussion of ground losses on verticals. What about, for example,
>>> a dipole? Could one calculate "power out/power in" by measuring the
>>> VSWR and declaring that everything not reflected was transmitted?
>>> It would seem more accurate to actually measure power out and power
>>> in, but that introduces inaccuracies by having to calibrate the
>>> setup. Thoughts?
>
> "Roy Lewallen" <w7el@eznec.com> wrote in message
> news:12uojd0go1faad8@corp.supernews.com...
>> There's no direct way to measure the total power being radiated other
>> than sampling the field at many points in all directions and
>> integrating. "Reflected" power is not power that isn't transmitted.
>> You can find the power being applied to the antenna by subtracting
>> the "reverse" or "reflected" power from the "forward" power, but that
>> tells you nothing about what fraction is radiated and what fraction
>> lost as heat.
>>
>> Roy Lewallen, W7EL
>
> Thanks for the reply. My dipole example is intended to avoid
> transmission line issues by not having one, and the elements are
> assumed to be reasonably low loss. If I do some quick
> back-of-the-envelope calculations, for a VSWR of 1.3:1, I get an
> efficiency of about 98.3% (using the equation 1-gamma^2). Assuming a

You probably mean 1 less the magnitude of the reflection coefficient
squared, which I would write as 1-|Gamma|^2 or 1-rho^2. Your implication
is that "reflected power" is (necessarily) lost, that is wrong.

If you do not have a transmission line, why are you trying to use
transmission line concepts to solve the problem? The power delivered to
the antenna is the real part of V^2/Z where V is the feedpoint voltage
and Z is the feedpoint impedance.

> resistance of 1 ohm in the dipole conductors the efficiency I
> calculate is about 98.6% (72/73).

The number you guess could be reasonable, and if it is truly the
equivalent R at the feedpoint (rather than R/unit length * length), it
does impact the antenna efficiency in the way you calculate.

Owen

2165. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 21:34:17 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12up371hn1to4b4@corp.supernews.com>
Source record: 45078

Wayne wrote:
>
> Thanks for the reply. My dipole example is intended to avoid transmission
> line issues by not having one, and the elements are assumed to be reasonably
> low loss. If I do some quick back-of-the-envelope calculations, for a VSWR
> of 1.3:1, I get an efficiency of about 98.3% (using the equation
> 1-gamma^2). Assuming a resistance of 1 ohm in the dipole conductors the
> efficiency I calculate is about 98.6% (72/73).
>
> Are there any other loss issues missing in this example.

There is no relationship between SWR and efficiency.

Roy Lewallen, W7EL

2166. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 21:35:52 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98EB5775A84DFnonenowhere@61.9.191.5>
Source record: 45079

Owen Duffy <none@no.where> wrote in news:Xns98EB57182E4B6nonenowhere@61.9.191.5:

> the antenna is the real part of V^2/Z where V is the feedpoint voltage

the antenna is the real part of V^2/Z where V is the feedpoint RMS voltage

2167. Verical antenna with elevated radials when receiving

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 22:20:02 UTC
From: David <nospam@nospam>
Message-ID: <94KdnbOjJ-gfCnHYnZ2dnUVZ8qO3nZ2d@bt.com>
Source record: 45081

How does a vertical monopole antenna with elevated quarterwave radials work when receiving? The radials are in free space. Do the radials reflect or emit a wave that cancels out? Is it possible to model this antenna in receive mode with a NEC program? I am trying to work out whether the electromagnetic principles that apply in transmit mode also apply in receive mode.

2168. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 22:32:42 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98EB61187EAE9nonenowhere@61.9.191.5>
Source record: 45082

Jim Lux <james.p.lux@jpl.nasa.gov> wrote in
news:esi25ibll1@nntp1.jpl.nasa.gov:

> I would suggest that for the purposes of rough and ready estimation,
> and considering the measurement uncertainty from most ham measuring
> gear, you could estimate the radiation resistance of an 8ft long
> mobile antenna without a tophat at being about 25-30 ohms for 10m, 5.5
> ohms for 20, 1.5 ohms for 40, and 0.4 ohms for 75/80. Probably close
> enough with about 1.5 significant digits accuracy.

Are those figures for an unloaded vertical?

Ed was talking 80m, and if your 0.4 is for an unloaded vertical, it is probably about 50% higher for a centre loaded vertical, so ~0.6ohms, and that sounds reasonable.

Ed still needs to quantify the equivalent loss resistance of the stuff above the feedpoint, and that will depend principally on the loading coil, but likely to be in the range 5 to 20 ohms. Measurement in situ of total feedpoint R (which is mainly loss resistances above and below the feedpoint in this case) isn't so hard (as I described) and probably better than an estimate.

Ed, it seems to me that in comparing similar resonant (80m) loaded verticals, the one with the worst VSWR (direct fed at the base) is probably the most efficient one. This implies that the antennas that are advertised with a low direct feed VSWR are less efficient, they pad the antenna with lossy loading to improve the VSWR.

Owen

2169. Re: Verical antenna with elevated radials when receiving

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 22:39:43 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12up71nohv8o5bc@corp.supernews.com>
Source record: 45083

David wrote:
> How does a vertical monopole antenna with elevated quarterwave radials work
> when receiving?

Exactly as it does when transmitting, in reverse.

> The radials are in free space.

No, not really. If high enough, they behave like they are, but they're
not that high in typical HF applications.

> Do the radials reflect or
> emit a wave that cancels out?

No. The radials radiate very little. They certainly interact with the
vertical portion of the antenna, but not in a way that could be
described as "reflection" in any sense.

> Is it possible to model this antenna in
> receive mode with a NEC program?

Yes. Look up the explanation and examples of plane wave excitation in
the NEC manual. If done correctly, you should get identical but
reciprocal results as when modeled as a transmitting antenna. (EZNEC
doesn't implement plane wave excitation, but you can create an
essentially plane wave by adding a small "transmitting" antenna with
source a few wavelengths away.)

> I am trying to work out whether the
> electromagnetic principles that apply in transmit mode also apply in receive
> mode.

Others have wondered the same thing, but somewhere around a hundred
years ago the problem was solved. They do. A google search on antenna
reciprocity should get you started in the learning process.

Roy Lewallen, W7EL

2170. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 22:47:09 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12up7flam2786e3@corp.supernews.com>
Source record: 45084

art wrote:

>. . .

> Except what is the definition of efficiency? Radiation resistance,
> effective use of the radiation, cancellation of radiation?????

The definition of efficiency with respect to antennas is very well defined, understood, and agreed upon in all the amateur and professional literature. Virtually every text and professional paper uses an identical definition, and that is: the fraction of the power applied to an antenna which is radiated. I know that Art often uses the term to mean several other different things which I don't believe he's ever clarified (at least not that I could understand), so some caution should be used in making assumptions about its meaning when used in this newsgroup.

> . . .

Roy Lewallen, W7EL

2171. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 22:48:43 UTC
From: Frank <ve6cb@spamfree.telus.net>
Message-ID: <f71Hh.16901$lY6.7593@edtnps90>
Source record: 45085

"Wayne" <mygarbagecan@verizon.net> wrote in message
news:5cXGh.391$iD4.256@trnddc06...
> When the subject of antenna efficiency comes up, it often involves a
> discussion of ground losses on verticals. What about, for example, a
> dipole? Could one calculate "power out/power in" by measuring the VSWR
> and declaring that everything not reflected was transmitted? It would
> seem more accurate to actually measure power out and power in, but that
> introduces inaccuracies by having to calibrate the setup. Thoughts?

As an example consider a horizontal 75 m dipole, constructed of
#14 AWG copper, at various heights above an average ground.
The radiation efficiency, according to NEC, is shown below:

height 10 ft, efficiency 14%;
height 30 ft, efficiency 54%,
height 90 ft efficiency 82%

The above results do not include the ground wave, which
can be considered lost power. Ground absorption also increases
with proximity to the ground.

Regards,

Frank

2172. Re: NEC computor programs

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 22:50:35 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <%81Hh.106726$5j1.85700@bgtnsc04-news.ops.worldnet.att.net>
Source record: 45086

art wrote:

>
> Gene,
> last time you wrote to me you said you were dumber than a rock and I
> took you at your word. I just read your last paragraph and I do not
> understand a bit of it other than a collection of words. I have not
> "invented" anything I have discovered something! "Nothing to validate
> or invalidate?" Sorry but I now echo Roys normal statement Is it
> refering to invention, discovery or the companionship of a rock?. Odd
> thing is you are adressing it to me., What do you want from me or are
> you reading from the bible or something such that you are soothed by
> the echo of your speech? Shall we just say it is not all clear as you
> surmised. I do admit to the idea that all is not known about antennas,
> is that what this is all about? On top of all that no
> one has faulted my analysis with authority so whats the beef? Why are
> you throwing rocks?
> Art
>

Art,

Let me put it in even simpler terms.

What you have "discovered" has been well known for over 100 years. Your "discovery" was validated before any of us was born.

73,
Gene
W4SZ

2173. Re: Verical antenna with elevated radials when receiving

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 22:52:25 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1173135145.463640.250980@s48g2000cws.googlegroups.com>
Source record: 45087

On 5 Mar, 14:39, Roy Lewallen <w...@eznec.com> wrote:
> David wrote:
> > How does a vertical monopole antenna with elevated quarterwave radials work
> > when receiving?
>
> Exactly as it does when transmitting, in reverse.
>
> > The radials are in free space.
>
> No, not really. If high enough, they behave like they are, but they're
> not that high in typical HF applications.
>
> > Do the radials reflect or
> > emit a wave that cancels out?
>
> No. The radials radiate very little. They certainly interact with the
> vertical portion of the antenna, but not in a way that could be
> described as "reflection" in any sense.
>
> > Is it possible to model this antenna in
> > receive mode with a NEC program?
>
> Yes. Look up the explanation and examples of plane wave excitation in
> the NEC manual. If done correctly, you should get identical but
> reciprocal results as when modeled as a transmitting antenna. (EZNEC
> doesn't implement plane wave excitation, but you can create an
> essentially plane wave by adding a small "transmitting" antenna with
> source a few wavelengths away.)
>
> > I am trying to work out whether the
> > electromagnetic principles that apply in transmit mode also apply in receive
> > mode.
>
> Others have wondered the same thing, but somewhere around a hundred
> years ago the problem was solved. They do. A google search on antenna
> reciprocity should get you started in the learning process.
>
> Roy Lewallen, W7EL

David,
The word reprocity is often badly used when comparing transmit and
receive.
One cannot avoid the question of the enviroventa or medium conditions
relative to the mode and direction of the radiation travel. Another

thing you might want to pursue is how a receiving antenna separates
radiation into different vectors. It is generaly stated that actions
are reciprocal but I believe that is an emperical response of which I
personaly have no scientific knoweledge that backs up that assertion.
Maybe some where it is all written down somewhere and everything is
really known about antennas
Art

2174. Re: radiation pattern of log-periodic antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 22:59:12 UTC
From: Frank <ve6cb@spamfree.telus.net>
Message-ID: <4h1Hh.16903$lY6.600@edtnps90>
Source record: 45088

<prasanna.sariki@gmail.com> wrote in message
news:1173124096.517865.50720@c51g2000cwc.googlegroups.com...
> how to obtain the radiation pattern of log-periodic antenna using C
> language....need suggestions

Try "Field Computation by Moment Methods", by Roger F. Harrington.
Available at www.bn.com for $120. NEC source code is available
in FORTRAN, so you could translate it to C.

Regards,

Frank

2175. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 23:00:48 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98EB65DB827A3nonenowhere@61.9.191.5>
Source record: 45089

"Frank" <ve6cb@spamfree.telus.net> wrote in news:f71Hh.16901$lY6.7593
@edtnps90:

>
> "Wayne" <mygarbagecan@verizon.net> wrote in message
> news:5cXGh.391$iD4.256@trnddc06...
>> When the subject of antenna efficiency comes up, it often involves a
>> discussion of ground losses on verticals. What about, for example, a
>> dipole? Could one calculate "power out/power in" by measuring the
VSWR
>> and declaring that everything not reflected was transmitted? It would
>> seem more accurate to actually measure power out and power in, but
that
>> introduces inaccuracies by having to calibrate the setup. Thoughts?
>
> As an example consider a horizontal 75 m dipole, constructed of
> #14 AWG copper, at various heights above an average ground.
> The radiation efficiency, according to NEC, is shown below:
>
> height 10 ft, efficiency 14%;
> height 30 ft, efficiency 54%,
> height 90 ft efficiency 82%
>
> The above results do not include the ground wave, which
> can be considered lost power. Ground absorption also increases
> with proximity to the ground.

Frank,

What is the figure for free space? I suspect closer to 99%. If that is
the case, don't your figures include loss (or absorbption) in rays
reflected by the ground?

Owen

2176. Re: radiation pattern of log-periodic antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 23:12:44 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12up8vkq4oo8u56@corp.supernews.com>
Source record: 45090

Frank wrote:
>. . . NEC source code is available
> in FORTRAN, so you could translate it to C.

It was done long ago. See
http://www.nic.funet.fi/pub/ham/antenna/NEC/swindex.html for sources. A
google search might reveal others.

Roy Lewallen, W7EL

2177. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 23:16:37 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12up96teq6g9ba6@corp.supernews.com>
Source record: 45091

Owen Duffy wrote:
> . . .
> Ed, it seems to me that in comparing similar resonant (80m) loaded
> verticals, the one with the worst VSWR (direct fed at the base) is
> probably the most efficient one. This implies that the antennas that are
> advertised with a low direct feed VSWR are less efficient, they pad the
> antenna with lossy loading to improve the VSWR.

This is often the case, especially with small mobile antennas. It has the added advantages of making an antenna more broadband and quieter, both considered virtues by amateurs. The closer an antenna resembles a dummy load, the better it's perceived to be.

Roy Lewallen, W7EL

2178. Re: J-pole 144/432

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-05 23:31:30 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <45ECA852.70405@bloomer.net>
Source record: 45092

Search on the term COPPER CACTUS and you will find several sites with
J-Pole antennas made of copper water pipe that will work on both bands.
I have one and used it quite successfully just sticking its extended
lower end into the front yard...

Scott

Radio Vintage wrote:
> Hallo
> Wanted schematic for construction one antenna J-pole 144/432, please
> send me information
> if pubblicated on magazine or other or commercial manufact.
> Tnx Frank
>
> my e_mail . Radiovintage2000@yahoo.it
>

2179. Re: Congratulations Art

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 00:24:40 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <09cpu250389nd911lq4uf6egi39u61bbop@4ax.com>
Source record: 45093

On 5 Mar 2007 12:53:23 -0800, "art" <aunwin@insightbb.com> wrote:

>It produces the same results every time when adressed
>which is not the same as in NEC program useage.

Hi Art,

Two things wrong with this statement:
1. You have no same results;
2. You have no NEC results.

>There are no approximations or excuses or fudge factors pencilled in
>the analyis.

You refuse to discuss the obvious errors of:
1. Scale (explain how 6 inch elements resonate at 200 MHz);
2. Elements described as orthogonal to an axis (they are not);
3. Any number of gain claims through software you challenge as
inaccurate;
4. Ignoring historical work that has preceded you.

>Shame oh shame
Congratulations! A comment like that, would probably get you
kill-filed from the new moderated group - which makes you a troglodyte
like the rest of us. ;-)

Have you though of cleaning up your act and doing a dog and pony show
for them?

73's
Richard Clark, KB7QHC

2180. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 00:29:10 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <esickm$h8d$1@nntp1.jpl.nasa.gov>
Source record: 45096

Owen Duffy wrote:
> Jim Lux <james.p.lux@jpl.nasa.gov> wrote in
> news:esi25ibll1@nntp1.jpl.nasa.gov:
>
>
>>I would suggest that for the purposes of rough and ready estimation,
>>and considering the measurement uncertainty from most ham measuring
>>gear, you could estimate the radiation resistance of an 8ft long
>>mobile antenna without a tophat at being about 25-30 ohms for 10m, 5.5
>>ohms for 20, 1.5 ohms for 40, and 0.4 ohms for 75/80. Probably close
>>enough with about 1.5 significant digits accuracy.
>
>
> Are those figures for an unloaded vertical?

Short monopole, linear current distribution, rough approximations.

capacitive end loading would tend to make the Rrad higher (by as much as
a factor of 4 in the idealized case, since the general relation goes as L^2)

>
> Ed was talking 80m, and if your 0.4 is for an unloaded vertical, it is
> probably about 50% higher for a centre loaded vertical, so ~0.6ohms, and
> that sounds reasonable.
Yep.

>
> Ed still needs to quantify the equivalent loss resistance of the stuff
> above the feedpoint, and that will depend principally on the loading
> coil, but likely to be in the range 5 to 20 ohms. Measurement in situ of
> total feedpoint R (which is mainly loss resistances above and below the
> feedpoint in this case) isn't so hard (as I described) and probably
> better than an estimate.

You can measure the feedpoint Z with probably 10% accuracy, but it's the
Rrad that's the tricky thing to determine, and without that, you'll not
get the ability to infer Rloss from Rfeedpoint. Of course, if the rough
and ready approximation shows Rrad to be 0.5 ohms, and you measure 25
ohms at the feedpoint, then you can just ignore Rrad, and assume the
loss resistance is 25 ohms (since the uncertainty in the measurement is
2.5 ohms)
>
> Ed, it seems to me that in comparing similar resonant (80m) loaded
> verticals, the one with the worst VSWR (direct fed at the base) is
> probably the most efficient one. This implies that the antennas that are
> advertised with a low direct feed VSWR are less efficient, they pad the

> antenna with lossy loading to improve the VSWR.

I'd agree.. Unless the loading scheme is some sort of tapped
autotransformer at the base, in which case it's a bit tricky to figure out.
>
> Owen

2181. Re: NEC computor programs

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 00:35:20 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <cH2Hh.37921$as2.18661@bgtnsc05-news.ops.worldnet.att.net>
Source record: 45094

art wrote:
> On 5 Mar, 14:50, Gene Fuller <W4SZzzz...@att.net> wrote:

>> Art,
>>
>> Let me put it in even simpler terms.
>>
>> What you have "discovered" has been well known for over 100 years. Your
>> "discovery" was validated before any of us was born.
>
> What, where, when and where is it written?
> What, where, when and where is it written?
> Explain yourself
>
>
>
>
>> 73,
>> Gene
>> W4SZ

Art,

Pick up any book that includes a discussion of Maxwell's Equations. One of the equations will be something like:

div D = rho

The common expression of Gauss' Law is something like:

div E = rho / epsilon

By definition:

D = E * epsilon

Therefore Gauss' Law is already included in all radiation and all antennas. You can perform any amount of mathematical manipulation you wish, including expressing these equations in integral rather than differential form. The integral form is commonly used when discussing the Gaussian "pillbox" in electrostatics. However, the physical conditions remain the same.

You have stated on many occasions that you understand this sort of vector manipulation, e.g., you throw curls around freely, so no further explanation should be necessary.

73,
Gene
W4SZ

2182. Re: radiation pattern of log-periodic antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 00:37:04 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <esid3ghhn1@nntp1.jpl.nasa.gov>
Source record: 45097

Roy Lewallen wrote:
> Frank wrote:
>
>> . . . NEC source code is available
>> in FORTRAN, so you could translate it to C.
>
>
> It was done long ago. See
> http://www.nic.funet.fi/pub/ham/antenna/NEC/swindex.html for sources. A
> google search might reveal others.
>
> Roy Lewallen, W7EL

A simpler approach, depending on the accuracy needed, might be to convert some matlab codes. Orfanidis's book has matlab routines to do the mutual coupling calculations and the transmission lines and to generate a radiation pattern from the element currents. heck, he might even have a LPDA model in there.. it would be a good exercise for a class on computational electromagnetics. If it's a free space model, that might be the easiest.

I have heard, but do not know from my own experience or anyone I know (essentialy it is totally unsubstantiated rumor), that the NEC repository C code version of NEC (converted by something like f2c) has a number of problems. Given the age of the original FORTRAN code and its coding style, I can believe that a machine translation might introduce artifacts.

2183. Re: radiation pattern of log-periodic antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 00:40:52 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98EB76D2E4581nonenowhere@61.9.191.5>
Source record: 45095

Roy Lewallen <w7el@eznec.com> wrote in news:12up8vkq4oo8u56
@corp.supernews.com:

> Frank wrote:
>>. . . NEC source code is available
>> in FORTRAN, so you could translate it to C.
>
> It was done long ago. See
> http://www.nic.funet.fi/pub/ham/antenna/NEC/swindex.html for sources. A
> google search might reveal others.

Easier said than done!

The port by the Otago Uni (NEC2++) looked promising, especially as they integrated the S-N ground model code into the main programs and was real fast, but it has subtle bugs. Unfortunately, their decision to make small changes to the output format frustrates automated testing and comparison to baseline versions, and it is a student project which seems to have stalled.

Owen

2184. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 01:11:22 UTC
From: Frank <ve6cb@spamfree.telus.net>
Message-ID: <_c3Hh.16918$lY6.10683@edtnps90>
Source record: 45098

"Owen Duffy" <none@no.where> wrote in message
news:Xns98EB65DB827A3nonenowhere@61.9.191.5...
> "Frank" <ve6cb@spamfree.telus.net> wrote in news:f71Hh.16901$lY6.7593
....
>> As an example consider a horizontal 75 m dipole, constructed of
>> #14 AWG copper, at various heights above an average ground.
>> The radiation efficiency, according to NEC, is shown below:
>>
>> height 10 ft, efficiency 14%;
>> height 30 ft, efficiency 54%,
>> height 90 ft efficiency 82%
>>
>> The above results do not include the ground wave, which
>> can be considered lost power. Ground absorption also increases
>> with proximity to the ground.
>
> Frank,
>
> What is the figure for free space? I suspect closer to 99%. If that is
> the case, don't your figures include loss (or absorbption) in rays
> reflected by the ground?
>
> Owen

Correct Owen. NEC shows 97.3% for free space, and 100 %,
as expected, with perfect conductors. Certainly the loss does
include absorption of the reflected rays. As mentioned before, in
previous threads, it is very tedious to determine what percentage
of the "Loss" is due to ground wave radiation. One of these
days I will write the code necessary to compute the actual
TRP including ground wave.

Frank

2185. Re: Congratulations Art

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 01:23:34 UTC
From: Mike Lucas <w5chr@bellsouth.net>
Message-ID: <mo3Hh.5514$sC.1827@bignews2.bellsouth.net>
Source record: 45099

"art" <aunwin@insightbb.com> wrote in message
news:1172882533.064947.323950@31g2000cwt.googlegroups.com...
.
> gentlemen I have typed this quickly and I know I have mispelled or
> misarranged words and all that but please learn to live with it
> for a while and I will be happy to answer any questions or doubts as
> long as thing dont get nasty like being called a complete idiot
> Art

Congratulations, Art!
According to my computor(sic), you have taken over sole possession
of third place in number of posts on the RRAA newsgroup.Number
one is, of course, Fractenna. Frack's total will never be matched, so
second or third place is quite honorable. While we all miss Chip,
it's better that you and he are not on stage at the same time. He would
learn that your newly discovered Gaussian Array is nothing more than
a self-similar array, falling under his broad portfolio of Fractal Patents.
That fact would upset his equilibrium, thus ensuring a flurry of threatened
lawsuits.
Regardless, congratulations are in order for your accomplishment, as
the educational aspect is second only to the entertainment value.

Mike W5CHR
Memphis, Tenn.

2186. Re: J-pole 144/432

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 02:24:52 UTC
From: Bob Miller <NOSPAM@neosoft.com>
Message-ID: <55kpu2htt0mmmjtflkreu4bkfmg97p8r7c@4ax.com>
Source record: 45100

On 3 Mar 2007 12:26:10 -0800, "Radio Vintage"
<radiovintage2000@yahoo.it> wrote:

>Hallo
>Wanted schematic for construction one antenna J-pole 144/432, please
>send me information
>if pubblicated on magazine or other or commercial manufact.
>Tnx Frank
>
>my e_mail . Radiovintage2000@yahoo.it

If you have access to QST, the latest March 2007 issue has a nice
article on a dual-band J-pole.

bob
k5qwg

2187. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 02:28:48 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12upkf8gt3bbudd@corp.supernews.com>
Source record: 45101

Frank wrote:
>
> Correct Owen. NEC shows 97.3% for free space, and 100 %,
> as expected, with perfect conductors. Certainly the loss does
> include absorption of the reflected rays. As mentioned before, in
> previous threads, it is very tedious to determine what percentage
> of the "Loss" is due to ground wave radiation. One of these
> days I will write the code necessary to compute the actual
> TRP including ground wave.

That capability is already built into NEC, as the average gain calculation.

Roy Lewallen, W7EL

2188. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 02:30:02 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <Km4Hh.1298$9h.957@trnddc03>
Source record: 45102

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:12up371hn1to4b4@corp.supernews.com...
> Wayne wrote:
>>
>> Thanks for the reply. My dipole example is intended to avoid
>> transmission line issues by not having one, and the elements are assumed
>> to be reasonably low loss. If I do some quick back-of-the-envelope
>> calculations, for a VSWR of 1.3:1, I get an efficiency of about 98.3%
>> (using the equation 1-gamma^2). Assuming a resistance of 1 ohm in the
>> dipole conductors the efficiency I calculate is about 98.6% (72/73).
>>
>> Are there any other loss issues missing in this example.
>
> There is no relationship between SWR and efficiency.
>
> Roy Lewallen, W7EL

Agreed. For example, SWR into a dummy load. The equation given was just to
show the approximation I was trying to make for the dipole case.

2189. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 02:32:49 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <lp4Hh.1299$9h.130@trnddc03>
Source record: 45103

"Frank" <ve6cb@spamfree.telus.net> wrote in message
news:_c3Hh.16918$lY6.10683@edtnps90...
>
> "Owen Duffy" <none@no.where> wrote in message
> news:Xns98EB65DB827A3nonenowhere@61.9.191.5...
>> "Frank" <ve6cb@spamfree.telus.net> wrote in news:f71Hh.16901$lY6.7593
> ....
>>> As an example consider a horizontal 75 m dipole, constructed of
>>> #14 AWG copper, at various heights above an average ground.
>>> The radiation efficiency, according to NEC, is shown below:
>>>
>>> height 10 ft, efficiency 14%;
>>> height 30 ft, efficiency 54%,
>>> height 90 ft efficiency 82%
>>>
>>> The above results do not include the ground wave, which
>>> can be considered lost power. Ground absorption also increases
>>> with proximity to the ground.
>>
>> Frank,
>>
>> What is the figure for free space? I suspect closer to 99%. If that is
>> the case, don't your figures include loss (or absorbption) in rays
>> reflected by the ground?
>>
>> Owen
>
> Correct Owen. NEC shows 97.3% for free space, and 100 %,
> as expected, with perfect conductors. Certainly the loss does
> include absorption of the reflected rays. As mentioned before, in
> previous threads, it is very tedious to determine what percentage
> of the "Loss" is due to ground wave radiation. One of these
> days I will write the code necessary to compute the actual
> TRP including ground wave.
>
> Frank
>

Interesting. Thanks Frank.

>
>

2190. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 04:30:33 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12uprjh9joe3j9d@corp.supernews.com>
Source record: 45104

Wayne wrote:
> "Roy Lewallen" <w7el@eznec.com> wrote in message

>> There is no relationship between SWR and efficiency.
>>
>> Roy Lewallen, W7EL
>
> Agreed. For example, SWR into a dummy load. The equation given was just to
> show the approximation I was trying to make for the dipole case.
>

I don't seem to be communicating well, but that's not unusual. It's a shortcoming I have. So I'll try again.

There is not even an approximate relationship between SWR and efficiency, so what you calculated was not an approximation of the efficiency. It was simply a number which has no relationship whatsoever to the efficiency. You could have used any equation you might dream up, and the result would be as meaningless as the result you got.

Roy Lewallen, W7EL

2191. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 04:35:22 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12uprsifg2ras4d@corp.supernews.com>
Source record: 45105

Jim Lux wrote:
> . . .
> You can measure the feedpoint Z with probably 10% accuracy, but it's the
> Rrad that's the tricky thing to determine, and without that, you'll not
> get the ability to infer Rloss from Rfeedpoint. Of course, if the rough
> and ready approximation shows Rrad to be 0.5 ohms, and you measure 25
> ohms at the feedpoint, then you can just ignore Rrad, and assume the
> loss resistance is 25 ohms (since the uncertainty in the measurement is
> 2.5 ohms)
> . . .

And of course that's just where modeling becomes valuable. Even a crude model will probably predict Rrad better than a "rough and ready approximation". And a decent model will very often give a value for the feedpoint Z that's more accurate than a casual or, sometimes, even a careful measurement.

Roy Lewallen, W7EL

2192. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 04:41:14 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12ups7iedts7s63@corp.supernews.com>
Source record: 45106

I should elaborate a little.

The average gain is the ratio of the total power in all directions at a great distance (beyond the point where the surface wave has decayed to a negligible value) to the power into the antenna from all the sources. (There's a factor of two also involved when using a ground plane with NEC but not with EZNEC.) So the average gain is the efficiency if you consider ground reflection and the decay of the surface wave to be part of the loss.

Roy Lewallen, W7EL

Roy Lewallen wrote:
> Frank wrote:
>>
>> Correct Owen. NEC shows 97.3% for free space, and 100 %,
>> as expected, with perfect conductors. Certainly the loss does
>> include absorption of the reflected rays. As mentioned before, in
>> previous threads, it is very tedious to determine what percentage
>> of the "Loss" is due to ground wave radiation. One of these
>> days I will write the code necessary to compute the actual
>> TRP including ground wave.
>
> That capability is already built into NEC, as the average gain calculation.
>
> Roy Lewallen, W7EL

2193. Re: J-pole 144/432

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 04:58:24 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <Rx6Hh.6307$Sh.3573@newsfe15.phx>
Source record: 45107

"Scott" <acepilot@bloomer.net> wrote in message
news:45ECA852.70405@bloomer.net...
> Search on the term COPPER CACTUS and you will find several sites with
> J-Pole antennas made of copper water pipe that will work on both bands.
> I have one and used it quite successfully just sticking its extended
> lower end into the front yard...
>
> Scott

Yes. The copper cactus cleverly combines separate antennas for each band on the same structure. However, if your needs for 440 are modest -- local repeaters, mostly -- then just make a 2m version and you will find it is also a good match on 440.

The limitation is that that a 2m J-pole on 440 has an elevated main lobe. It works well for me, but probably not as well as elements specifically cut for 440 would work.

2194. Sat tracking program

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 05:33:06 UTC
From: "Hugh Jass"
Message-ID: <I-WdnZd86p-PYHHYnZ2dnUVZ_umlnZ2d@giganews.com>
Source record: 45108

I'm thinking about experimenting with AMSAT's, and I was hoping
someone could suggest a PC tracking program for windows. Thanks for
the help.

--
---------- --- -- -
Posted with NewsLeecher v3.8 Beta 7
Web @ http://www.newsleecher.com/?usenet
---------- ----- ---- -- -

2195. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 05:39:10 UTC
From: nm5k@wt.net
Message-ID: <1173159550.058929.259340@8g2000cwh.googlegroups.com>
Source record: 45109

On Mar 5, 9:18 am, John Passaneau <w...@arrl.net> wrote:

> We have used OFC dipoles here for a few years at field day. They fill a
> very specific set of needs for us. 1) They are simple to put up
> 2) The feed line coming from one end of the dipole is shorter than from
> center feed dipoles in our setup. 3) OFC dipoles offer an impedance at
> the end of the coax that is within the range of the tuners built into
> our radios on the bands that are important to field day. This simplifies
> our setup and operation. 4) They work as well as an antenna of that
> physical length on any one frequency would no mater how it's feed.
>
> The radiation pattern from an OFC is set by the length of the wire not
> where RF is feed in/out of the antenna. In our setup open wire line and
> tuners would be a pain in the butt, and an operational inconvenience
> that gains us nothing. Fan dipoles or separate dipoles are hard to setup
> and or tune and would perform no better for us. The antennas we use were
> built by myself and use a 4:1 current balun which minimize feed line
> radiation. On 80/40/20m we can easily match the antenna with the built
> in tuners so the SWR must be under 3:1. OFC dipoles don't work well on
> 15m but with the current sun spot cycle not a problem. We see no
> indication of common mode current problems, so we don't worry about it,
> we just operate and have fun.
>
> John W3JXP

Sounds fine... Just as long as I don't have to use it.. :) Myself, I
prefer either
separate, or fan dipoles on the low bands.. 20-10, a tribander.. "A4S"
I never use a tuner. All coax fed too... To each his own I say...
MK

2196. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 05:40:40 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns98EADC9AE22BEspectrumhogstarbandn@198.186.192.196>
Source record: 45110

> I just started using the ARRL provided program, mobile.exe , for
> some
> mobile antenna design work. I see that one of the figures required
> to be input is ground loss.
>
> Which raises the issue for me, how does one measure, (or
> calculate),
> the ground loss in a mobile antenna.
>
> I am working primarily with 80M mobile antennas on medium sized
> motorhomes.

My thanks to those who have already replied to the above question. To re-iterate, I was using ARRL's mobile.exe program to model some proposed antennas for my RV. I don't yet have a design built. Ground loss resistance is one of the parameters to enter.... and entry difficult to figure without a physical antenna, it appears.

My proposed antenna will be primarily for 80M. It will be center loaded, approximately 8 to 12 feet tall, with a 4" diameter air wound coil (coil parameters can change), and will be mounted such that the FEEDPOINT/base will be at the top of my rear ladder, which is about 10 feet off the ground. The ladder is well bonded to the under chassis of the vehicle. I may use a capacity hat at the TOP of the antenna... or maybe not. I am wondering how ground loss/resistance is effected by my having the bottom/feedpoint of the antenna so high off the ground, not to mention, I wonder how to calculate or guess what it is at all.

Ed

This is what I am proposing to build.

2197. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 07:52:07 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <e67qu29mr6eq5acdtfsqmc2i5f3kbtcurg@4ax.com>
Source record: 45111

On 06 Mar 2007 05:40:40 GMT, Ed <Huckleberry_REMOVE_@bigvalley.net>
wrote:

>I wonder how to calculate or guess what it is at all.

Hi Ed,

The more practical consideration is: "What can you do about it?"

The loss is going to be in frame and chassis connections where the
loss is going to predominate. Another matter is getting over the idea
that what sticks up the air is the principle part of the antenna. You
may as well get used to the idea that it is only a tuned radial for
the bigger element, your RV. And what polarization is that RV going
to present to the world? (Probably horizontal.)

73's
Richard Clark, KB7QHC

2198. Re: Congratulations Art

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 07:58:49 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <il7qu2djbpn4vhehh2egrtc1qls8a4l4nl@4ax.com>
Source record: 45112

On 5 Mar 2007 17:59:10 -0800, "art" <aunwin@insightbb.com> wrote:

>

;-)

73's
Richard Clark, KB7QHC

2199. Re: Sat tracking program

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 08:06:46 UTC
From: twf <twf@hotmail.com>
Message-ID: <qi9Hh.51783$wP3.12688@newsfe7-gui.ntli.net>
Source record: 45113

"Hugh Jass" <Nevermind@nevermind.net> wrote in message
news:l-WdnZd86p-PYHHYnZ2dnUVZ_umlnZ2d@giganews.com...
> I'm thinking about experimenting with AMSAT's, and I was hoping
> someone could suggest a PC tracking program for windows. Thanks for
> the help.----------------- ----- ---- -- -
>

Try Satscape http://www.satscape.co.uk/

2200. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 09:54:52 UTC
From: 4nec2 <4nec2@gmx.net>
Message-ID: <1173174891.495498.178040@8g2000cwh.googlegroups.com>
Source record: 45114

art wrote:

> Even asked
> Arie to check his but only silence reigned which emphasises that
> people are just lazy or choose to remain silent when un unsuitable
> answer occurrs.

Aha, could be so. I can't remember or maybe I have banned it from my
memory :-)

But I agree I am also lazy and there are a lot of questions for which
I do not have an answer (yet), but (I hope) I have an open mind and I
am never too old to learn.

> (This also emphasises what a great job W4RLN is doing
> for ham radio where he points out where all the programs differ and
> who he perceives as correct.

I agree completely. Maybe the future will learn that we were fooled by
Nec2/4 and/or other software, but as long as I do not have (or am
willing to spend the funds for) a more accurate method of predicting
behavour or performance I am afraid I will have to stick with it.

> To me it shows that the human mind really only believes what he wants to believe
> so a program with high gain results is the best seller even tho
> inaccurate.

Hmm is it so ?. I don't know. If you ask me, every person does have
it's own motives to decide if he buys or uses one program or the
other, and how much he does trust the results obtained with the
method(s) or underlaying software used by the program.

Arie.

2201. Re: 4nec2 optimiser or equivalent

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 10:06:53 UTC
From: 4nec2 <4nec2@gmx.net>
Message-ID: <1173175613.470483.44470@j27g2000cwj.googlegroups.com>
Source record: 45115

art schreef:
> I need conformation of a three element beam design
> by use of an optimiser.
> Is anybody familiar enough with Arie's computor program
> that they could insert a three element design for me?
> I am not aware of any other program for nec that has the
> optimiser, but if you are aware of one that you have
> please let me know
> Best Regards
> Art

Aha, now I see where the previous remark was related to. I red you are
familiar with AO. Maybe you could use this to get comparable results.
Let us know the outcome.

Arie.

2202. Smith chart

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 13:24:27 UTC
From: Craig.Kinney@Blueyonder.co.uk
Message-ID: <1173187467.306167.194350@j27g2000cwj.googlegroups.com>
Source record: 45116

Does anyone have any smith chart tutorials that are easy to follow as i have some technicians who require some study aids, most of the tutorials around are a bit over burdened with math.

cheers

2203. Re: Sat tracking program

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 14:17:59 UTC
From: Alan WA4SCA <APBIDDLE@UNITED.NET>
Message-ID: <1ltqu2dartoh3pveriimglci82g92ooa0t@4ax.com>
Source record: 45117

Try SatPC32, at http://www.dk1tb.de/indexeng.htm It is not freeware, but the demo is fully functional in all respects, except that each time you start it, you need to reenter your longitude and latitude. If you do decide to register it, do so through AMSAT, and the full amount goes to AMSAT to fund operations and more satellites.

The graphics, at several levels of resolution, and multiple views, are good. It also supports frequency control and antenna pointing for just about any rig or interface you can imagine.

--
Alan
WA4SCA

2204. Re: Sat tracking program

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 14:32:27 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <%XeHh.9617$JI.4394@newsread3.news.pas.earthlink.net>
Source record: 45118

"twf" <twf@hotmail.com> wrote in message
news:qi9Hh.51783$wP3.12688@newsfe7-gui.ntli.net...
>
> "Hugh Jass" <Nevermind@nevermind.net> wrote in message
> news:l-WdnZd86p-PYHHYnZ2dnUVZ_umlnZ2d@giganews.com...
>> I'm thinking about experimenting with AMSAT's, and I was hoping
>> someone could suggest a PC tracking program for windows. Thanks for
>> the help.----------------- ----- ---- -- -
>>
>
>
> Try Satscape http://www.satscape.co.uk/
>
>
I second that . Very nice program and free. Also will update the Keps
directly from the internet with just a mouse click or two.

2205. Re: Smith chart

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 14:44:10 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <uvuqu21hn07bl4qjqumn8b9pi3jeversbk@4ax.com>
Source record: 45119

On 6 Mar 2007 05:24:27 -0800, Craig.Kinney@Blueyonder.co.uk wrote:

>Does anyone have any smith chart tutorials that are easy to follow as
>i have some technicians who require some study aids, most of the
>tutorials around are a bit over burdened with math.
>
>cheers

Here are my bookmarks on the subject:

http://education.tm.agilent.com/index.cgi?CONTENT_ID=5
http://www.scott-inc.com/html/smith.htm
http://www.maxim-ic.com/appnotes.cfm/appnote_number/742
http://www.rfcafe.com/business/software/smith_chart_for_excel/smith_chart_for_excel.htm
http://en.wikipedia.org/wiki/Smith_chart

John Ferrell W8CCW

2206. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 14:47:06 UTC
From: Frank <ve6cb@spamfree.telus.net>
Message-ID: <K9fHh.23584$lY6.6530@edtnps90>
Source record: 45120

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:12ups7iedts7s63@corp.supernews.com...
>I should elaborate a little.
>
> The average gain is the ratio of the total power in all directions at a
> great distance (beyond the point where the surface wave has decayed to a
> negligible value) to the power into the antenna from all the sources.
> (There's a factor of two also involved when using a ground plane with NEC
> but not with EZNEC.) So the average gain is the efficiency if you consider
> ground reflection and the decay of the surface wave to be part of the
> loss.
>
> Roy Lewallen, W7EL

I was using average gain for my calculation of efficiency; i.e.
XNDA = 1001, or 1002. I have also been considering
the factor of "2" in the results. To be accurate, and to
determine the radiation resistance of a structure, you do
need to include the surface wave. The only way I
can think of doing this is to sum "E X H" close enough
to the radiating structure so as to include all its
elements. At the moment I am using Excel
to compute the Poynting vector.
Even then, there is some question as
to how much ground absorption effects the results
between antenna and the hemispherical radius
of computation. I have noticed some weird results
if you get too close to the ends of a buried radial system.

Regards,

Frank (VE6CB)

2207. Re: Sat tracking program

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 14:47:44 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <kafHh.11$Ah.0@trnddc07>
Source record: 45121

"Ralph Mowery" <rmowery28146@earthlink.net> wrote in message
news:%XeHh.9617$Jl.4394@newsread3.news.pas.earthlink.net...
>
> "twf" <twf@hotmail.com> wrote in message
> news:qi9Hh.51783$wP3.12688@newsfe7-gui.ntli.net...
>>
>> "Hugh Jass" <Nevermind@nevermind.net> wrote in message
>> news:l-WdnZd86p-PYHHYnZ2dnUVZ_umlnZ2d@giganews.com...
>>> I'm thinking about experimenting with AMSAT's, and I was hoping
>>> someone could suggest a PC tracking program for windows. Thanks for
>>> the help.----------------- ----- ---- -- -
>>>
>>
>>
>> Try Satscape http://www.satscape.co.uk/
>>
>>
> I second that . Very nice program and free. Also will update the Keps
> directly from the internet with just a mouse click or two.

I also like some aspects of Orbitron http://www.stoff.pl/

Jerry

2208. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 14:53:25 UTC
From: Frank <ve6cb@spamfree.telus.net>
Message-ID: <FffHh.23585$IY6.7088@edtnps90>
Source record: 45122

"art" <aunwin@insightbb.com> wrote in message
news:1173159930.658734.155400@s48g2000cws.googlegroups.com...
> On 5 Mar, 20:41, Roy Lewallen <w...@eznec.com> wrote:
>> I should elaborate a little.
>>
>> The average gain is the ratio of the total power in all directions at a
>> great distance (beyond the point where the surface wave has decayed to a
>> negligible value) to the power into the antenna from all the sources.
>> (There's a factor of two also involved when using a ground plane with
>> NEC but not with EZNEC.) So the average gain is the efficiency if you
>> consider ground reflection and the decay of the surface wave to be part
>> of the loss.
>>
>> Roy Lewallen, W7EL
>
>>Lets have another look at this.
>
> Roy inferred that the radiation field volume is the total useful
> output
>
> He then goes on to say that average gain what ever that means relative
> to the final radiation field is the efficiency.
> He also adds a condition relative to the definition of efficiency that
> this is only true IF you count ground reflection and the decay of the
> surface wave to be part of the loss
>
>
> Hmmm I don't think anybody would deny that surface wave represents a
> loss
> relative to usefull work though some might say it contributes to
> current flow, but why single out ground reflection as a loss since
> that can be useful?
> So Roy is classifying efficiency as something he considers usefull
> and ground reflection is not usefull. He also throws average gain into
> the equation without providing a definition of average
> gain (like gain is an advance over something he doesn't want to
> state)
> Jimminy cricket
> I agree that you need to provide more elaboration
>
> Why is it you can't say the useful result of what you provided is the
> radiation volume where efficiency is useful output over input times
> 100?
> Why does one have to place conditions on :

>
> efficiency = useful output/ actual input x 100 ?
>
> Seems like efficiency in radiation is not the same as efficiencies
> in other sciences. Possibly a definition supplied by a related
> commitee
> solely for their own interpretation even though it is not in
> accordance with other diciplines. Also possibly based on the number of
> books on a particular shelf.And then the following week they placed
> conditions to clarify what efficiency includes and does not include
> such as certain portions of radiation, possibly with a different color
> to the norm
> phew

"Ground reflection loss" is probably a more precise term.

Frank

2209. Re: Smith chart

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 16:45:01 UTC
From: Frank's <frank599@nojunkmailplease.telus.net>
Message-ID: <hUgHh.16784$Du6.11791@edtnps82>
Source record: 45123

<Craig.Kinney@Blueyonder.co.uk> wrote in message
news:1173187467.306167.194350@j27g2000cwj.googlegroups.com...
> Does anyone have any smith chart tutorials that are easy to follow as
> i have some technicians who require some study aids, most of the
> tutorials around are a bit over burdened with math.
>
> cheers

RF Circuit Design by Chris Bowick has an excellent
description of the Smith Chart. Available at
www.amazon.com for $26.37.

Frank

2210. Re: Smith chart

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 17:42:49 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98EC2FF1F8E65nonenowhere@61.9.191.5>
Source record: 45124

Craig.Kinney@Blueyonder.co.uk wrote in news:1173187467.306167.194350
@j27g2000cwj.googlegroups.com:

> Does anyone have any smith chart tutorials that are easy to follow as
> i have some technicians who require some study aids, most of the
> tutorials around are a bit over burdened with math.

I think you are asking for a tutorial on how to apply the Smitch chart without needing to understand transmission line theory.

I am sure that one could teach a person the mechanics of solution of specific problems, but that is all they will know rather than how to apply the Smith chart to the solution of problems generally.

Today, when computer power allows precise solution of problems that were pretty ugly on slide rules, the real benefit of the Smith chard IMHO, is as a visualisation tool. If you take away the understanding that gives its value as a visualisation tool, you have a crude graphical solution to problems that can be more precisely and more conveniently solved with a computer program (whether or not it displays results on a Smitch chart).

Did I say crude? Yes, graphical solutions on a Smith chart are prone to gross error in some parts of the chart. That downside is to some extent masked by the accuracy of the "known" quantities being plotted, but software that solves the transmission line problems, including applying line loss, are more accurate on high VSWR problems. People like McAlpine worked at approximations of high VSWR scenarios to overcome the shortcomings of that area of the Smitch chart, but that is not really needed today, just solve the exact equations in a computer program.

That is not to say that there isn't a place for Smith charts, but IMHO the greatest value is as a visualisation tool, and that requires an understand of the underlying maths, but not the tedious solution of the underlying maths.

Owen

2211. Re: Sat tracking program

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 18:11:32 UTC
From: "Hugh Jass"
Message-ID: <TsydnVgVVf5JM3DYnZ2dnUVZ_tDinZ2d@giganews.com>
Source record: 45125

Orbitron doesnt seem to have all the amateur sat's, does it?

--
---------- --- -- -
Posted with NewsLeecher v3.8 Beta 7
Web @ http://www.newsleecher.com/?usenet
---------- ----- ---- -- -

2212. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 18:32:40 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12urcugh8elf4a1@corp.supernews.com>
Source record: 45026

Frank wrote:
>> On 5 Mar, 20:41, Roy Lewallen <w...@eznec.com> wrote:
>>> I should elaborate a little.
>>>
>>> The average gain is the ratio of the total power in all directions at a
>>> great distance (beyond the point where the surface wave has decayed to a
>>> negligible value) to the power into the antenna from all the sources.
>>> (There's a factor of two also involved when using a ground plane with
>>> NEC but not with EZNEC.) So the average gain is the efficiency if you
>>> consider ground reflection and the decay of the surface wave to be part
>>> of the loss.
>
> "Ground reflection loss" is probably a more precise term.

Yes, that is what I meant and what I should have said, instead of just
"ground reflection". Thanks for the correction.

Roy Lewallen, W7EL

2213. Re: Sat tracking program

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 18:36:48 UTC
From: Alan WA4SCA <APBIDDLE@UNITED.NET>
Message-ID: <95dru25o82ji6s9n3v48mmf9in2tnms57n@4ax.com>
Source record: 45027

It can: 20 000 satellites can be loaded from TLE file(s)
(auto:PC/Unix, 2/3 line)

--
Alan
WA4SCA

2214. Re: Sat tracking program

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 20:12:58 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98EC49673212nonenowhere@61.9.191.5>
Source record: 45028

"Jerry Martes" <j.jmartes@verizon.net> wrote in news:kafHh.11$Ah.0
@trnddc07:

>
> I also like some aspects of Orbitron http://www.stoff.pl/
>
I second that Jerry... Owen

2215. Re: Congratulations Art

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 22:14:40 UTC
From: Dave <noone@nowhere.com>
Message-ID: <kJlHh.957$1g.206@trndny05>
Source record: 45029

"art" <aunwin@insightbb.com> wrote in message
news:1173128001.922063.187230@p10g2000cwp.googlegroups.com...
> On 2 Mar, 08:30, rickn...@hotmail.com (Rick) wrote:
>> Congratulations Art, you are now in my killfile.
>> Don't bother responding - I won't see your posts anymore.
>>
>> There's enough negativity in the world, I don't need it in an antenna
>> newsgroup. Man oh Man, anyone who slams Roy.......
>>
>> 73 forever,
>>
>> Rick K2XT
>
> Does anybody disagree or agree for that matter that the expansion of
> Gaussian static law to electro magnetic law is correct or in error,

it is in error, by definition. if you want a 'Gaussian' law that is
something other than as it is written, then write your own law, make some
predictions not covered by the existing maxwell's equations, and let the
papers get accepted by a peer reviewed journal. anything less than that and
all you are doing is blowing smoke.

> Anybody. Why the reluctance to talk about the basics of radiation?
> There are no approximations or excuses or fudge factors pencilled in
> the analyis. It produces the same results every time when adressed
> which is not the same as in NEC program useage. The basic laws of the
> masters which is the under pinnings of NEC are specific and to the
> point. It is the programer that is introducing the errors and he is
> the checker of his own work. If the works of the masters reveal
> something new when the formular is used who do we shoot, the
> programmer, the masters or wait for somebody else to do some work and
> add it to the program based on empirical work?

i do believe if you read all the literature that has been written using
results of NEC and the experimental results it has been compared to you will
find that it is not the programmer checking himself, the program has been
tested many, many different ways over lots of years now.

> Well it appears that for the present all choose to ignore it because
> lack of knoweledge is not hurting anybody.
> Shame oh shame
> Art XG
>

2216. Re: Vertical antenna with elevated radials when receiving

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 22:58:30 UTC
From: David <nospam@nospam>
Message-ID: <97qdndFL2P-ab3DYnZ2dnUVZ8vednZ2d@bt.com>
Source record: 45030

But if the field of the radials cancels out, is there any benefit in having radials in receive mode?

2217. Re: Sat tracking program

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 23:09:29 UTC
From: Jim - NN7K <NN7K@NOWAY.NET>
Message-ID: <KwmHh.5705$P47.4912@newssvr22.news.prodigy.net>
Source record: 45031

Also, try:
http://www.amsat.org/amsat-new/tools/predict/

Simpley add your Lat, and long. (In Decimal
equivalent, NOT in Minutes, and seconds 30 mins
= .5, 15 mins = .25, ect.), and your elevation IN
meters, NOT feet)(also can use grid square). will
calculate for some 25 different satelites. Amsat
also has several programs available and at minimal
cost (and helps support new satelite projects)!
Hope this helps Jim NN7K

Nevermind@nevermind.net wrote:
> I'm thinking about experimenting with AMSAT's, and I was hoping
> someone could suggest a PC tracking program for windows. Thanks for
> the help.
>
>
>
> --
> ---------- --- -- -
> Posted with NewsLeecher v3.8 Beta 7
> Web @ http://www.newsleecher.com/?usenet
> ---------- ----- ---- -- -
>

2218. Re: Vertical antenna with elevated radials when receiving

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-06 23:27:56 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12uru84gomulecf@corp.supernews.com>
Source record: 45032

David wrote:
> But if the field of the radials cancels out, is there any benefit in having
> radials in receive mode?

Yes. If you eliminate the radials, you have a single conductor wire (the "antenna") connected to a feedline or receiver. The feedline or receiver has two terminals which comprise an electrical circuit. If you leave one of those conductors open circuited, current induced by the passing signal will not flow from the "antenna" to the receiver or feedline. In practice, it's nearly impossible to really open circuit the other conductor (that is, the one not connected to the "antenna") -- the outside of the feedline, if coax, will become the other half of the antenna, as will anything conductive connected to the receiver chassis. This is often undesirable because those conductors are more likely to receive noise from local sources than if the entire antenna is in the clear. It will also distort the antenna pattern, possibly in a major way.

I've put "antenna" in quotes because the vertical wire is only half the antenna. The other half is either radials or, if radials are missing, the other conductors I mentioned.

Roy Lewallen, W7EL

2219. Re: Congratulations Art

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-07 04:17:23 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <n1rHh.41346$as2.21849@bgtnsc05-news.ops.worldnet.att.net>
Source record: 45033

art wrote:

>
> Be patient Dave, Gene Fuller states in another thread that he has all
> the answers and aparently is going to point out some writing that are
> 100 years old that apparently is going to tear me to bits. I do
> believe that the answers I seek are now going to be made available.
> Gene has three degrees is physics so he is not to be taken lightly. I
> am looking forward to the upcoming education so I can see where I went
> wrong. Gene is the first person to step forward with all the written
> facts available to me.
> Perhaps others will learn something also. Follow down and read what he
> had to say.
> Art
>

Art,

You apparently are going to need a lot of patience. I have explained the relationship of Gaussian "statics" to full electromagnetic theory at least three times. I am sorry if you did not comprehend.

I cannot explain "Unwin's Law", and I will make no attempt to do so.

73,
Gene
W4SZ

2220. antenna spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-07 14:15:09 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1173276909.325542.103620@t69g2000cwt.googlegroups.com>
Source record: 45034

I have a problem with a number of vhf transceivers that interfer with each other. There are 8 closely related frequencies involved and the problem only exist when 4 or more of the frqencies are in use at one time. Circulators and filters are not practical solutions. I am hoping that spacing the antennas further apart will help but I would like to know how far apart should that be before I decide to try some other method of relief. The radio now radiate approximately 5 watts, AM modulated in the VHF aeronautical band 118 to 137 Mhz. Antennas are arranged in a rectangular array 4 antennas long and 2 wide with 8ft spacing between adjacent antennas. The transcievers have neither tuned front ends or outputs and adding filters is not an option.

I have observed that the same type of intermod distortion exist at a transmitter only site but this does not appear to be a problem because the receivers are not co located with the transmitters. The rx site is about a mile away. Also I have obseved that a rx equiped with the same tpe of antenna placed abot 100 ft from the transciever sites antenna array does not pickup the intermod. This leads me to belive that the distortion is a result of signals mixing in the transmitters and not in the receivers.

How far apart should the antennas be? I ask this only assuming this will cure the problem.

Jimmie

2221. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-07 14:34:46 UTC
From: walt <walt@w2du.com>
Message-ID: <1173278086.390893.310040@30g2000cwc.googlegroups.com>
Source record: 45035

On Mar 3, 4:37 am, Richard Clark <kb7...@comcast.net> wrote:
> On Sat, 3 Mar 2007 00:10:21 +0000, Ian White GM3SEK
>
> <gm3...@ifwtech.co.uk> wrote:
> >The confusion arises out of Richard's misleading quotation,
>
> blah blah blah blah blah
>
> Hi Ian,
>
> I have restrained the afterburners until 1200 GMT (seeing as you are
> undoubtedly in bed) so that you can fully read the entire side thread
> and discover the complete botch you've made in an attempt to weakly
> persuade the group that a transmitter could never absorb the energy of
> a reflected wave.
>
> That was your point for this chain of accusation, wasn't it, or were
> the accusations a solitary pleasure? (I hope you opt for the first,
> or other explanation.) I don't expect any apologies so that I can
> enjoy a dish that is best eaten cold (re-heated actually). ;-)
>
> 73's
> Richard Clark, KB7QHC

I'm in a hotel in Jax, FL, unable to use my routine connections to rraa, so I'm learning my way around in unknown territory here, and hope to make a post that will appear.

I've been reading this thread with interest, but the discussions appear to be only academically related. On the other hand, I've made measurements that prove the sailent points of these academic discussions. These measurements were made since those reported in Reflections 2, and will appear in Reflections 3. However, they are available on my web page at www.w2du.com. Go to 'Preview of Chapters from Reflections 3' and click on Chapter 19A.

You may want to disregard the first portion of the chapter, which is an epilog to Bruene's fiction concerning the conjugate match. The pertinent portion here is that which reports in detail the step-by-step procedure in measuring the output impedance of a Kenwood TS-830S transceiver feeding a reactive-impedance load.

With a careful review of these steps I'm sure you'll find empirical proof of the academics appearing in the previous posts.

Walt, W2DU

2222. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-07 16:52:46 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <6brtu29hili0tr73sfpa5c805iebhra0vc@4ax.com>
Source record: 45036

On Wed, 28 Feb 2007 20:35:27 GMT, Owen Duffy <none@no.where> wrote:

>Breaking out of the previous thread to explore the "power explanation" in
>a steady state situation:
>
>The scenario for discussion is a transmitter connected to a half wave of
>600 ohm lossless transmission line connected to an antenna with a
>feedpoint impedance of 70+j0.
>
>The transmitter is rated for 100W output, 100W is developed in the 70 ohm
>load, the VSWR on the transmission line is 8.6, the "forward power"
>(meaning Vf^2/Zo) on the transmission line is 267W, the "reflected
>power" (meaning Vr^2/Zo) on the transmission line is 167W, the DC input
>power to the transmitter is 200W.
>
>The questions are:
>
>Is there any internal inconsistency in the scenario characterisation, if
>so, identify / explain?
>
>What is the heat dissipated in the transmitter (and why)?
>
>What part of the "reflected power" of 167W is dissipated in the
>transmitter (and why)?
>
>Owen

Hi All,

Per recent correspondence from Walt Maxwell, he has asked me to post
his contribution:

Hi Richard,

I'm in a hotel in Jacksonville, away from my home computer, and at
this time I can't access the rraa to send, can only receive, so I'm
asking for your help.

I've been reading the posts on this thread and find it interesting.
However, it's been only discussed academically. On the other hand,
I've made measurements that prove the results described, measurements
made since those reported in Reflections 2.

I'd like for you to alert the posters on this thread to see Chapter
19A that will appear in Reflections 3, which is available for download
from my web page at www.w2du.com. The entire chapter was written as a

final epilogue to Bruene's fiction, but the portion pertinent to the thread is in the last portion of the chapter concerning the measurements made using a Kenwood TS-830S. Therein lies the proof.

It would be nice if you could post the entire portion of the measurements section, but that probably wouldn't work, because of special characters used in Word that wouldn't appear in the text. Anyway, I'd like for the posters to know that experimental proof exists to support the claims made in the thread.

Thanks, Richard,

Walt

73's
Richard Clark, KB7QHC

2223. PVC pipe for spreaders

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-07 17:48:10 UTC
From: ka9s3@comcast.net
Message-ID: <1173289690.111109.163520@p10g2000cwp.googlegroups.com>
Source record: 45037

I am contemplating making a remotely tuned "X" beam for 40m using copper weld wire supported on a PVC pipe framework. I need each arm of the horizontally oriented "X" support framework to be 18ft long. I am considering telescoping 10ft of 3/4 inch PVC, 2 ft into a 10 ft piece of 1 inch PVC pipe. When I temporarily do this at the hardware store, I get a very heavy, very wobbly spreader. I expect I will guy these spreaders (both vertically and horizontally) with Dacron rope at the half way point and let the copper weld wire provide the guying for the spreader tips.

My concern is the flexibility and weight of the PVC. Too flexible is the concern. I can imagine the spreaders developing wind resonance and starting a hula dance in the wind. This could become destructive for the wire and rope.

What are your insights on this idea?

P.S..I don't want to get into the UV degradation issue please.

- Jeff

2224. Re: antenna spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-07 17:49:50 UTC
From: You <You@shadow.orgs>
Message-ID: <You-A1DD4D.08504807032007@netnews.att.net>
Source record: 45038

In article <1173276909.325542.103620@t69g2000cwt.googlegroups.com>,
"JIMMIE" <JIMMIEDEE123@YAHOO.COM> wrote:

> I have a problem with a number of vhf transceivers that interfer with
> each other. There are 8 closely related frequencies involved and the
> problem only exist when 4 or more of the frqencies are in use at one
> time. Circulators and filters are not practical solutions. I am hoping
> that spacing the antennas further apart will help but I would like to
> know how far apart should that be before I decide to try some other
> method of relief. The radio now radiate approximately 5 watts, AM
> modulated in the VHF aeronautical band 118 to 137 Mhz. Antennas are
> arranged in a rectangular array 4 antennas long and 2 wide with 8ft
> spacing between adjacent antennas. The transcievers have neither tuned
> front ends or outputs and adding filters is not an option.
>
> I have observed that the same type of intermod distortion exist at a
> transmitter only site but this does not appear to be a problem because
> the receivers are not co located with the transmitters. The rx site is
> about a mile away. Also I have obseved that a rx equiped with the
> same tpe of antenna placed abot 100 ft from the transciever sites
> antenna array does not pickup the intermod. This leads me to belive
> that the distortion is a result of signals mixing in the transmitters
> and not in the receivers.
>
> How far apart should the antennas be? I ask this only assuming this
> will cure the problem.
>
> Jimmie
>

Since this is in the Aircraft Band, and is a Ground Station, you would
be significantly better off to seperate the antennas Vertically, rather
than Horozontally, or both. Vertical seperation will give you much
better isolation per unit of distance.

2225. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-07 18:08:53 UTC
From: richardharrison@webtv.net
Message-ID: <19940-45EEFFB5-1@storefull-3251.bay.webtv.net>
Source record: 45039

Owen Duffy wrote:
"Breaking out of the previous thread to explore the "power explanation"
in a steady state situation:"

All OK as I see it.

Bird tells us that if you have significant standing waves, reflected
power is 10% or more of the forward power, and the ratio of reflected
power to forward power is then easily determined on the Bird Thruline
Wattmeter. Ratio of the reflected power to forward power is easily
converted to VSWR.

Bird supplies, charts, slide rules, and a formula for this conversion.

Bird confirms: "Power delivered to and dissipated in a load is given by:

Watts into load = Watts forward - Watts reflected."

Owen Duffy told us 100W is developed in 70 ohm load and the DC input
power of the transmitter is 200W.

Obviously 100W is dissipated in the transmitter and the efficiency is
50%.

Best regards, Richard Harrison, KB5WZI

2226. Re: PVC pipe for spreaders

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-07 18:28:02 UTC
From: John Doe <hgorden@adelphia.net>
Message-ID: <3vidnYXjCZW3mXLYnZ2dnUVZ_t6qnZ2d@adelphia.com>
Source record: 45040

Instead of using PVC which sometimes get unwieldy either by weight or size,
try finding some WILD growing BAMBOO and paint it with either shellac or
some Marine Varnish. You can extend the lengths by using some short pieces
of PVC with some outdoor glue.
My $00.02 worth.. de Howard W3CQH

<ka9s3@comcast.net> wrote in message
news:1173289690.111109.163520@p10g2000cwp.googlegroups.com...
>I am contemplating making a remotely tuned "X" beam for 40m using
> copper weld wire supported on a PVC pipe framework. I need each arm of
> the horizontally oriented "X" support framework to be 18ft long. I am
> considering telescoping 10ft of 3/4 inch PVC, 2 ft into a 10 ft piece
> of 1 inch PVC pipe. When I temporarily do this at the hardware store,
> I get a very heavy, very wobbly spreader. I expect I will guy these
> spreaders (both vertically and horizontally) with Dacron rope at the
> half way point and let the copper weld wire provide the guying for the
> spreader tips.
>
> My concern is the flexibility and weight of the PVC. Too flexible is
> the concern. I can imagine the spreaders developing wind resonance and
> starting a hula dance in the wind. This could become destructive for
> the wire and rope.
>
> What are your insights on this idea?
>
> P.S..I don't want to get into the UV degradation issue please.
>
> - Jeff
>

2227. Re: PVC pipe for spreaders

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-07 18:53:43 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <XSDHh.157$Qw.22@newssvr29.news.prodigy.net>
Source record: 45041

ka9s3@comcast.net wrote:
> What are your insights on this idea?

PVC would probably work at 10m, probably not at 40m.
--
73, Cecil http://www.w5dxp.com

2228. Re: antenna spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-07 19:47:07 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1173296827.674072.187540@v33g2000cwv.googlegroups.com>
Source record: 45042

On Mar 7, 12:49 pm, You <Y...@shadow.orgs> wrote:
> In article <1173276909.325542.103...@t69g2000cwt.googlegroups.com>,
>
>
>
>
>
> "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote:
> > I have a problem with a number of vhf transceivers that interfer with
> > each other. There are 8 closely related frequencies involved and the
> > problem only exist when 4 or more of the frqencies are in use at one
> > time. Circulators and filters are not practical solutions. I am hoping
> > that spacing the antennas further apart will help but I would like to
> > know how far apart should that be before I decide to try some other
> > method of relief. The radio now radiate approximately 5 watts, AM
> > modulated in the VHF aeronautical band 118 to 137 Mhz. Antennas are
> > arranged in a rectangular array 4 antennas long and 2 wide with 8ft
> > spacing between adjacent antennas. The transcievers have neither tuned
> > front ends or outputs and adding filters is not an option.
>
> > I have observed that the same type of intermod distortion exist at a
> > transmitter only site but this does not appear to be a problem because
> > the receivers are not co located with the transmitters. The rx site is
> > about a mile away. Also I have obseved that a rx equiped with the
> > same tpe of antenna placed abot 100 ft from the transciever sites
> > antenna array does not pickup the intermod. This leads me to belive
> > that the distortion is a result of signals mixing in the transmitters
> > and not in the receivers.
>
> > How far apart should the antennas be? I ask this only assuming this
> > will cure the problem.
>
> > Jimmie
>
> Since this is in the Aircraft Band, and is a Ground Station, you would
> be significantly better off to seperate the antennas Vertically, rather
> than Horozontally, or both. Vertical seperation will give you much
> better isolation per unit of distance.- Hide quoted text -
>
> - Show quoted text -

I see where you are coming from, two antennas mounted in each others
vertical null. This is doable. As a matter of fact they make dual
antennas specifically designed for this purpose. This will allow me to

mount the antennas with double the horizontal spacing I have now.

2229. Using a tower as a J-Pole for 20 or 40 Meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-07 21:05:47 UTC
From: Eric <reply.in.group@nospam.no>
Message-ID: <pan.2007.03.07.21.05.45.112782@nospam.no>
Source record: 45043

Have any of you tried using a tower as a J pole antenna for 20 or 40 meters?

According to calculations, it looks like a 50-foot tower would be about right for 14.1 MHz with a 16.6-foot matching section that could be made out of aluminum tubing and spaced out about 1.5 feet.

This should make a decent low-angle radiator without needing any buried ground wires (which would be difficult to put in around here).

Then I thought maybe a taller tower, perhaps 80 feet, with a triband beam on top, could perhaps be made into a J-pole for 40 meters with the beam acting as a hat.

Obviously I haven't thought this through very much but I was just wondering if any of you had tried any of this or knew of any articles or websites that describe such a project.

2230. Re: PVC pipe for spreaders

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-07 21:09:07 UTC
From: "Paul E. Cater" <paulcater@roadrunner.com>
Message-ID: <U4-dnSwfHO1BtHLYnZ2dnUVZ_u6rnZ2d@adelphia.com>
Source record: 45044

ka9s3@comcast.net wrote:
> I am contemplating making a remotely tuned "X" beam for 40m using
> copper weld wire supported on a PVC pipe framework. I need each arm of
> the horizontally oriented "X" support framework to be 18ft long. I am
> considering telescoping 10ft of 3/4 inch PVC, 2 ft into a 10 ft piece
> of 1 inch PVC pipe. When I temporarily do this at the hardware store,
> I get a very heavy, very wobbly spreader. I expect I will guy these
> spreaders (both vertically and horizontally) with Dacron rope at the
> half way point and let the copper weld wire provide the guying for the
> spreader tips.
>
> My concern is the flexibility and weight of the PVC. Too flexible is
> the concern. I can imagine the spreaders developing wind resonance and
> starting a hula dance in the wind. This could become destructive for
> the wire and rope.
>
> What are your insights on this idea?
>
> P.S..I don't want to get into the UV degradation issue please.
>
> - Jeff
>
http://www.mgs4u.com/fiberglass-cubical-quad-spreaders.htm

2231. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-07 21:35:14 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98ED575984E83nonenowhere@61.9.191.5>
Source record: 45045

"walt" <walt@w2du.com> wrote in news:1173278086.390893.310040@
30g2000cwc.googlegroups.com:

> On Mar 3, 4:37 am, Richard Clark <kb7...@comcast.net> wrote:
>> On Sat, 3 Mar 2007 00:10:21 +0000, Ian White GM3SEK
...
> I've been reading this thread with interest, but the discussions
> appear to be only academically related. On the other hand, I've made
> measurements that prove the sailent points of these academic
> discussions. These measurements were made since those reported in
> Reflections 2, and will appear in Reflections 3. However, they are
> available on my web page at www.w2du.com. Go to 'Preview of Chapters
> from Reflections 3' and click on Chapter 19A.
>
> You may want to disregard the first portion of the chapter, which is
> an epilog to Bruene's fiction concerning the conjugate match. The
> pertinent portion here is that which reports in detail the step-by-
> step procedure in measuring the output impedance of a Kenwood TS-830S
> transceiver feeding a reactive-impedance load.
>
> With a careful review of these steps I'm sure you'll find empirical
> proof of the academics appearing in the previous posts.

Hi Walt,

I have read your document with interest, and will reread it a couple of times yet.

The measurements are interesting, and on a first read, appear consistent and in agreement with how things work as I understand it.

However, I don't believe any of your measurents actually reveal the source impedance. You have shown the impact of the changed load on the transmitter. You have demonstrated admirably the transformation of the two external loads to the load seen by the plate(s), and you have shown what the transmitter looks like from the antenna socket with a resistor in place of the valves.

So, IMHO, the promise "The output source resistance of the amplifier in this condition will later be shown to be 50 ohms" is not fulfilled.

It is my view that the statement "Because the amplifier was adjusted to deliver the maximum available power of 100 watts prior to the resistance measurement, resistance RLP looking into the plate (upstream from the network terminals) is also approximately 1400 ohms" is not proven.

If we were to view the plate as a generator, and the pi network as a lossless flexible variable impedance transformer, and you were to adjust the pi network for maximum power transfer, that would imply that the impedance loading the generator was the complex conjugate of its equivalent series resistance... IF and ONLY IF the generator can be accurately represented by an equivalent series circuit of a fixed voltage generator and fixed equivalent series impedance.

The question is can the plate (or the whole transmitter for that matter) be accurately replaced by an equivalent series circuit of a fixed voltage generator and fixed equivalent series resistance (independent of load).

How would such a simple model deal with the case of a transmitter that at maximum power output is close to voltage saturation (ie cannot develop more output voltage) and close to current saturation (ie cannot develop more output current)? These non-linear behaviours close to operating point are not captured in a simple linear equivalent circuit.

Owen

2232. Re: Is it possible to estimate any losses due to an unmatched antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-07 21:44:56 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98ED58FE82369nonenowhere@61.9.191.5>
Source record: 45046

"MRW" <mr.whatever@gmail.com> wrote in news:1172850043.053869.294430@
30g2000cwc.googlegroups.com:

> Good morning!
>
> I would like to request some additional info regarding the following
> matter.
>
> Is there a way to approximate the antenna factor loss (in dB/m) for an
> x-length (in inches ... maybe 26 inches) regular telescoping, monopole
> antenna that will be subjected to frequencies between 88-108MHz (FM
> band) at a height between 2ft to 15ft from the ground?
>
> Here's the scenario. A 50-ohm receiver will be used. A cable with an
> insertion loss of 1.5dB will also be used. The receiver has
> sensitivity levels as low as -5 dBuV. The lowest received signal that
> we want to measure is 100uV/m.
>
> I am concerned that if an unmatched monopole antenna is used in this
> system, then it is possible that very low level signals will not be
> measured. I'm trying to estimate the lowest amount of signal the
> receiver will be able to pickup using this setup.
>
> I have the following relationship:
>
> dB(uV/m) = dBuV + Antenna Factor (dB/m) + cable loss (dB)
>
> So, I get:
>
> dBuV = 40 dB(uV/m) - Antenna Factor (dB/m) - 1.5 dB(cable loss)

MRW,

I had forgotton writing a little calculator that will find the receive power given field strength given field strength, freq, antenna gain etc, it is at http://vk1od.net/sc/FS2RPCalc.htm . For your purposes, make the "Field Strengh" and "Receiver" bandwidths and distance to source the same as each other, the actual values don't matter (well, so long as they are greater than zero).

Owen

>
> Now, if only I can estimate the antenna factor, then it would give me
> an idea whether or not the resulting dBuV level is still higher than
> -5 dBuV.

>
> I was told that there may be a way to estimate the antenna impedance
> assuming certain conditions. I was hoping to find some reference for
> this subject, and just assume how much of the signal is lost due to
> the antenna impedance and 50-ohm receiver impedance mismatch. I have
> seen some nomograph for VSWR, so I figured if I can find the estimated
> antenna impedance at the given conditions, then I can calculate
> reflection coefficient and relate that to VSWR and then to the
> nomograph to get my antenna factor value.
>
>
> What do you experienced ones think? Thanks!
>

2233. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-07 22:06:21 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <dkduu2l49afjlkte5vmjqntn3ls08n8m4f@4ax.com>
Source record: 45047

On Wed, 07 Mar 2007 21:35:14 GMT, Owen Duffy <none@no.where> wrote:

>The measurements are interesting, and on a first read, appear consistent
>and in agreement with how things work as I understand it.
>
>However, I don't believe any of your measurents actually reveal the
>source impedance.

Hi Owen,

Seems like the band has struck up another waltz.

For what it is worth, Walt would like:
> Hi Richard,
>
> Without my home computer I'm relatively helpless with no address library
> available. I'd like to contact both Denny and Owen, but their email addresses
> appearing in the Google venue are shortened--a big help.
>
> So would you please give me both Denny's and Owen's email addresses.
>
> Walt

It appears neither Denny nor Owen reveal their email here, so the only
alternative is for this appeal.

73's
Richard Clark, KB7QHC

2234. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-07 22:09:42 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <iuduu2dshqanbrges7msmsrlsn4t6aal7o@4ax.com>
Source record: 45048

On 7 Mar 2007 06:34:46 -0800, "walt" <walt@w2du.com> wrote:

>I'm in a hotel in Jax, FL, unable to use my routine connections to
>rraa, so I'm learning my way around in unknown territory here, and
>hope to make a post that will appear.
>
>I've been reading this thread with interest, but the discussions
>appear to be only academically related. On the other hand, I've made
>measurements that prove the sailent points of these academic
>discussions. These measurements were made since those reported in
>Reflections 2, and will appear in Reflections 3. However, they are
>available on my web page at www.w2du.com. Go to 'Preview of Chapters
>from Reflections 3' and click on Chapter 19A.
>
>You may want to disregard the first portion of the chapter, which is
>an epilog to Bruene's fiction concerning the conjugate match. The
>pertinent portion here is that which reports in detail the step-by-
>step procedure in measuring the output impedance of a Kenwood TS-830S
>transceiver feeding a reactive-impedance load.
>
>With a careful review of these steps I'm sure you'll find empirical
>proof of the academics appearing in the previous posts.
>
>Walt, W2DU

Another relay:

Hi All,

I have now been able to access this thread from my hotel room In Jax,
FL. I've read the posts with interest, but they appear to be only
discussions in academia. On the other hand, I have made measurements
that prove the salient points being discussed here.

My measurements include those made since those reported in Reflections
2, and are going to be available in Reflections 3. However, they are
presently available from my web page at www.w2du.com. Go to 'Preview
Chapters from Reflections 3' and select Chapter 19A. You may disregard
the first portion, which is intended as an epilog to Bruene's fiction
concerning the conjugate match. The pertinent portion here is a
detailed step-by-step description of the measurement procedure I
erformed on a Kenwood TS-830S transceiver with a reactive impedance
for its load.

A careful review of these steps will add empirical proof to the
academic enlightenment already evident in the previous posts.

Walt, W2DU

73's
Richard Clark, KB7QHC

2235. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-07 22:26:22 UTC
From: walt <walt@w2du.com>
Message-ID: <1173306382.574773.263700@h3g2000cwc.googlegroups.com>
Source record: 45049

On Mar 7, 9:35 pm, Owen Duffy <n...@no.where> wrote:
> "walt" <w...@w2du.com> wrote in news:1173278086.390893.310040@
> 30g2000cwc.googlegroups.com:
>
>
>
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>
>
>
> > On Mar 3, 4:37 am, Richard Clark <kb7...@comcast.net> wrote:
> >> On Sat, 3 Mar 2007 00:10:21 +0000, Ian White GM3SEK
> > ...
> > > I've been reading this thread with interest, but the discussions
> > > appear to be only academically related. On the other hand, I've made
> > > measurements that prove the sailent points of these academic
> > > discussions. These measurements were made since those reported in
> > > Reflections 2, and will appear in Reflections 3. However, they are
> > > available on my web page atwww.w2du.com. Go to 'Preview of Chapters
> > > from Reflections 3' and click on Chapter 19A.
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> > > You may want to disregard the first portion of the chapter, which is
> > > an epilog to Bruene's fiction concerning the conjugate match. The
> > > pertinent portion here is that which reports in detail the step-by-
> > > step procedure in measuring the output impedance of a Kenwood TS-830S
> > > transceiver feeding a reactive-impedance load.
>
> > > With a careful review of these steps I'm sure you'll find empirical
> > > proof of the academics appearing in the previous posts.
>
> Hi Walt,
>
> I have read your document with interest, and will reread it a couple of
> times yet.
>
> The measurements are interesting, and on a first read, appear consistent
> and in agreement with how things work as I understand it.
>
> However, I don't believe any of your measurents actually reveal the
> source impedance. You have shown the impact of the changed load on the
> transmitter. You have demonstrated admirably the transformation of the
> two external loads to the load seen by the plate(s), and you have shown
> what the transmitter looks like from the antenna socket with a resistor
> in place of the valves.

>
> So, IMHO, the promise "The output source resistance of the amplifier in
> this condition will later be shown to be 50 ohms" is not fulfilled.
>
> It is my view that the statement "Because the amplifier was adjusted to
> deliver the maximum available power of 100 watts prior to the resistance
> measurement, resistance RLP looking into the plate (upstream from the
> network terminals) is also approximately 1400 ohms" is not proven.
>
> If we were to view the plate as a generator, and the pi network as a
> lossless flexible variable impedance transformer, and you were to adjust
> the pi network for maximum power transfer, that would imply that the
> impedance loading the generator was the complex conjugate of its
> equivalent series resistance... IF and ONLY IF the generator can be
> accurately represented by an equivalent series circuit of a fixed voltage
> generator and fixed equivalent series impedance.
>
> The question is can the plate (or the whole transmitter for that matter)
> be accurately replaced by an equivalent series circuit of a fixed voltage
> generator and fixed equivalent series resistance (independent of load).
>
> How would such a simple model deal with the case of a transmitter that at
> maximum power output is close to voltage saturation (ie cannot develop
> more output voltage) and close to current saturation (ie cannot develop
> more output current)? These non-linear behaviours close to operating
> point are not captured in a simple linear equivalent circuit.
>
> Owen- Hide quoted text -
>
> - Show quoted text -

Hi Owen,

Thank you for the insightful response.

First, let me say that although the average source resistance at the plates appears to be 1400 ohms in the case I described, and IMHO I believe it is, I'm not in the position of stating that is as a fact. What I do claim as a fact is that when the transmitter is loaded to deliver all available power to its load, the OUTPUT source resistance (or impedance) at the output terminals is the conjugate of its load. I'm differentiating between the conditions at the input of the pi-network and those at the output, because the energy storage effect of the network Q isolates the output from the input, such that the conditions at the output can be represented by an equivalent Thevenin generator. At the output terminals the conditions appearing at the input are irrelevant, such as the shape and duration of the voltage applied to the pi-network, as long as the energy storage Q is sufficient to support a constant voltage-current relationship (linear) at the output for whatever load is absorbing all the available power from the network.

Thus, when all available power is delivered into a 50-ohm load the source resistance at the output terminals is 50 ohms. Please also review the later portion of Chapter 19, also available on my web page. On those pages I report the results of measurements using the load-variation method, which also shows the output source resistance to equal the load resistance when the amp is delivering all its available power.

Walt

2236. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-07 23:17:21 UTC
From: richardharrison@webtv.net
Message-ID: <21047-45EF4801-9@storefull-3257.bay.webtv.net>
Source record: 45051

Owen Duffy wrote:
"It is my view thatthe statement "Because the amplifier was adjusted to deliver the maximum available power of 100 watts prior to the resistance measurement, resistance RLP looking into the plate (upstream from the network terminals) is also approximately 1400 ohms" is not proven.."

The maximum power transfer theorem is a classic. It has been proven countless times. It is explained by Terman in his 1955 opus on page 76. It requires linearity in the area examined. A tuned circuit is often the linearizer in an r-f amplifier. It eliminates harmonics of the fundamental frequency so that Ohm`s law prevails across the output terminals of the device. Thus, it is linear. It makes no difference that ahead of the linearizer the power source is being pulsed so long as the pulses don`t appear in the output. We don`t have pulses in the outputs of our radios feeding our antennas.

When you have a conjugate match, the resistive parts of the source and load are equal by definition.

Best regards, Richard Harrison, KB5WZI

2237. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-07 23:22:28 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98ED69877448Cnonenowhere@61.9.191.5>
Source record: 45050

"walt" <walt@w2du.com> wrote in
news:1173306382.574773.263700@h3g2000cwc.googlegroups.com:

Walt,
...
> First, let me say that although the average source resistance at the
> plates appears to be 1400 ohms in the case I described, and IMHO I
> believe it is, I'm not in the position of stating that is as a fact.

Ok, I think we are agreed that the measurements haven't directly
supported that belief.

> What I do claim as a fact is that when the transmitter is loaded to
> deliver all available power to its load, the OUTPUT source resistance
> (or impedance) at the output terminals is the conjugate of its load.

If it were a linear source and you delivered *maximum* (as opposed to
all) to the load, I agree that the load impedance is the complex
conjugate of the source impedance. That is essentially the Jacobi Maximum
Power Transfer Theoram.

The question is whether it is a sufficiently linear source to use that
model.

> I'm differentiating between the conditions at the input of the pi-
> network and those at the output, because the energy storage effect of
> the network Q isolates the output from the input, such that the
> conditions at the output can be represented by an equivalent Thevenin
> generator. At the output terminals the conditions appearing at the
> input are irrelevant, such as the shape and duration of the voltage
> applied to the pi-network, as long as the energy storage Q is
> sufficient to support a constant voltage-current relationship (linear)
> at the output for whatever load is absorbing all the available power
> from the network.
>
> Thus, when all available power is delivered into a 50-ohm load the
> source resistance at the output terminals is 50 ohms. Please also
> review the later portion of Chapter 19, also available on my web page.
> On those pages I report the results of measurements using the load-
> variation method, which also shows the output source resistance to
> equal the load resistance when the amp is delivering all its available
> power.

Walt, I have just re-read that section and note your measurements which
explored the delta V and delta I for small load variation (delta R) where
delta R is always negative, and calculated results.

Your results are interesting.

I have seen others report quite different results, and have found differently myself on rough measurements, but I note your comments on the sensitivity of the calculated Rs to tuning/matching which might reveal why other tests disagree.

(It only takes one sound repeatable experiment that shows that the source impedance is not the conjugate of the load to disprove the generality.)

On a practical note, the sensitivity discussed above does mean that if your assertion about matching is true, it is unlikely that transmitters are exactly matched.

My measurements have been on transistor PAs with broadband transformer coupling to the load. The transmitters have had a lowpass filter with a break point well above operating frequency between the transistors and load. It is a different configuration, and although my measurements were rough, they indicated different apparent source impedance at different drive levels which questions the linear model for large signal operation, especially for modes with varying amplitude such as SSB telephony.

Owen

2238. Re: Using a tower as a J-Pole for 20 or 40 Meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 00:23:57 UTC
From: Andr&#65533; <nospam@free.fr>
Message-ID: <45ef5796$0$25793$426a34cc@news.free.fr>
Source record: 45052

"Eric" <reply.in.group@nospam.no> a &#65533;crit dans le message de news:
pan.2007.03.07.21.05.45.112782@nospam.no...
>
> Have any of you tried using a tower as a J pole antenna for 20 or 40
> meters?

hello,

I tried it, but it was not a great success
I used a tower with a TH6 as a capacitive hat
matched with a gamma match system
and 16 radials

It was working first on 80 as a quarter wave, then on 40 as a half wave, and
I tried it too on 160

In fact, it was good, but not better than a dipole at the top of the mast; I
suppose due to the very poor ground here.

pse excuse my english

73

Andr&#65533;
http://f5ad.free.fr/QSP_Antennes/F5AD%20sur%20Google.kmz

2239. Re: antenna spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 00:31:03 UTC
From: William Warren <"w_warren_noise\\@comcast(William Warren).net">
Message-ID: <-dGdnR2T5PrexHLYnZ2dnUVZ_qXinZ2d@comcast.com>
Source record: 45053

JIMMIE wrote:
[snip]
> Circulators and filters are not practical solutions.
[snip]

I'm curious: please tell me why this isn't a practical solution.

TIA.

William

--
A little learning is a dang'rous thing;
Drink deep, or taste not the Pierian spring;
There shallow draughts intoxicate the brain,
And drinking largely sobers us again.
-- Alexander Pope, Essay on Criticism

2240. Re: Congratulations Art

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 00:36:23 UTC
From: richardharrison@webtv.net
Message-ID: <9872-45EF5A87-30@storefull-3252.bay.webtv.net>
Source record: 45054

Gene, W4SZ wrote:
"You apparently are going to need a lot of patience."

Patience is a virtue that carries a lot of wait.

Best regards, Richard Harrison, KB5WZI

2241. Re: antenna spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 01:16:15 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45ef600c$0$9435$4c368faf@roadrunner.com>
Source record: 45055

"William Warren" <""w_warren_noise\"@comcast(William Warren).net"> wrote in
message news:-dGdnR2T5PrexHLYnZ2dnUVZ_qXinZ2d@comcast.com...
> JIMMIE wrote:
> [snip]
> > Circulators and filters are not practical solutions.
> [snip]
>
> I'm curious: please tell me why this isn't a practical solution.
>
> TIA.
>
> William
>
> --
> A little learning is a dang'rous thing;
> Drink deep, or taste not the Pierian spring;
> There shallow draughts intoxicate the brain,
> And drinking largely sobers us again.
> -- Alexander Pope, Essay on Criticism

2242. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 01:16:57 UTC
From: Mike Coslo <mcoslo@youknow.comcast.net>
Message-ID: <Xns98ECCE53DF527mcoslocomcastnet@216.196.97.136>
Source record: 45057

nm5k@wt.net wrote in
news:1173159550.058929.259340@8g2000cwh.googlegroups.com:

> On Mar 5, 9:18 am, John Passaneau <w...@arrl.net> wrote:
>
>> We have used OFC dipoles here for a few years at field day. They fill
>> a very specific set of needs for us. 1) They are simple to put up
>> 2) The feed line coming from one end of the dipole is shorter than
>> from center feed dipoles in our setup. 3) OFC dipoles offer an
>> impedance at the end of the coax that is within the range of the
>> tuners built into our radios on the bands that are important to field
>> day. This simplifies our setup and operation. 4) They work as well as
>> an antenna of that physical length on any one frequency would no
>> mater how it's feed.
>>
>> The radiation pattern from an OFC is set by the length of the wire
>> not where RF is feed in/out of the antenna. In our setup open wire
>> line and tuners would be a pain in the butt, and an operational
>> inconvenience that gains us nothing. Fan dipoles or separate dipoles
>> are hard to setup and or tune and would perform no better for us. The
>> antennas we use were built by myself and use a 4:1 current balun
>> which minimize feed line radiation. On 80/40/20m we can easily match
>> the antenna with the built in tuners so the SWR must be under 3:1.
>> OFC dipoles don't work well on 15m but with the current sun spot
>> cycle not a problem. We see no indication of common mode current
>> problems, so we don't worry about it, we just operate and have fun.
>>
>> John W3JXP
>
>
>
> Sounds fine... Just as long as I don't have to use it.. :) Myself, I
> prefer either
> separate, or fan dipoles on the low bands.. 20-10, a tribander.. "A4S"
> I never use a tuner. All coax fed too... To each his own I say...
> MK

I have worked with one of John's OCF dipoles on the FD night shift,
and hold and run frequencies on 75 meters all night long - with 100
watts. Can't say the exact performance of the antenna, but if I'm
holding a frequency along with the big guns on a busy day, it isn't
too bad at all.

OCF dipoles are obviously a compromise. As a multiband antenna it
better not outperform a specific band dipole.

If you have found such a *drastic* difference however, perhaps
there was something wrong with your particular antenna or setup?

- 73 de Mike KB3EIA -

2243. Re: antenna spacing

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 01:19:58 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45ef60eb$0$16655$4c368faf@roadrunner.com>
Source record: 45056

"William Warren" <""w_warren_noise\"@comcast(William Warren).net"> wrote in
message news:-dGdnR2T5PrexHLYnZ2dnUVZ_qXinZ2d@comcast.com...
> JIMMIE wrote:
> [snip]
> > Circulators and filters are not practical solutions.
> [snip]
>
> I'm curious: please tell me why this isn't a practical solution.
>
> TIA.
>
> William

Multichannel transceivers. A filter that was broad enough for full operation
of the transceiver wouldnt help and I dont think circulators work with
transceivers very well.You could TX but not RX.

2244. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 01:27:10 UTC
From: Dave <W1MCE@comcast.net>
Message-ID: <05CdnbQp4PPx-3LYnZ2dnUVZ_vWtnZ2d@comcast.com>
Source record: 45058

Owen Duffy wrote:

SNIPPED

> The question is can the plate (or the whole transmitter for that matter)
> be accurately replaced by an equivalent series circuit of a fixed voltage
> generator and fixed equivalent series resistance (independent of load).
>
SNIPPED

The answer is NO!!

Power Amplifiers are not linear devices! [Regardless of manufacturer's claims].

My AL-80B puts out ~850 watts with ~1300 watts input. IF a conjugate match existed the output would be ~650 watts. The Zo of the 3-500 varies depending on the phase of the pulse signal. The amplifier provides a pulse of energy into the tuned circuit, tank circuit, tuner, antenna, where the reactances maintain the current/voltage under resonant conditions.

My understanding is that reflected energy is also coupled into the tuned circuits. The active device, power amplifier, may be cutoff, saturated, or somewhere on the active load line. The energy in the tuned circuit will increase the Vmax and/or Imax depending on the circuit QL. This increase in stored energy provides the extra stress on the active device. If the QL > 10, nominal design value, then 90% of the reflected energy is re-reflected back towards the load. The missing 10% produces heat in the tuned circuit.

Devices that operate from saturation to cutoff are by definition NON-LINEAR.

The tuned circuits store both forward and reflected energy. Ultimately all the power is radiated, either as a rf field or as heat.

2245. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 02:57:37 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <douuu2ppk4n2jkkuo1f144f2dpdja1vmfi@4ax.com>
Source record: 45059

On Wed, 07 Mar 2007 20:27:10 -0500, Dave <W1MCE@comcast.net> wrote:

>Ultimately all the power is radiated, either as a rf field or as heat.

Hi Dave,

Well, having said that, it was hardly worth constraining the rest of
the discussion with linearity, SWR, efficiency, pulses, Q, cut-off,
saturated, tube or transistor.

73's
Richard Clark, KB7QHC

2246. Re: Sat tracking program

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 03:02:19 UTC
From: king@fish.net
Message-ID: <a4vuu29di9vtms9lof878p8fkc7u30imvb@4ax.com>
Source record: 45060

There's also one called FootPrint that's not bad.

Kingfish

On Mon, 05 Mar 2007 23:33:06 -0600, Hugh Jass
(Nevermind@nevermind.net) wrote:

>I'm thinking about experimenting with AMSAT's, and I was hoping
>someone could suggest a PC tracking program for windows. Thanks for
>the help.

2247. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 03:49:26 UTC
From: walt <walt@w2du.com>
Message-ID: <1173325766.871129.129270@j27g2000cwj.googlegroups.com>
Source record: 45061

On Mar 8, 1:27 am, Dave <W...@comcast.net> wrote:
> Owen Duffy wrote:
>
> SNIPPED
>
> > The question is can the plate (or the whole transmitter for that matter)
> > be accurately replaced by an equivalent series circuit of a fixed voltage
> > generator and fixed equivalent series resistance (independent of load).
>
> SNIPPED
>
> The answer is NO!!
>
> Power Amplifiers are not linear devices! [Regardless of manufacturer's claims].
>
> My AL-80B puts out ~850 watts with ~1300 watts input. IF a conjugate match
> existed the output would be ~650 watts. The Zo of the 3-500 varies depending on
> the phase of the pulse signal. The amplifier provides a pulse of energy into the
> tuned circuit, tank circuit, tuner, antenna, where the reactances maintain the
> current/voltage under resonant conditions.
>
> My understanding is that reflected energy is also coupled into the tuned
> circuits. The active device, power amplifier, may be cutoff, saturated, or
> somewhere on the active load line. The energy in the tuned circuit will increase
> the Vmax and/or Imax depending on the circuit QL. This increase in stored energy
> provides the extra stress on the active device. If the QL > 10, nominal design
> value, then 90% of the reflected energy is re-reflected back towards the load.
> The missing 10% produces heat in the tuned circuit.
>
> Devices that operate from saturation to cutoff are by definition NON-LINEAR.
>
> The tuned circuits store both forward and reflected energy. Ultimately all the
> power is radiated, either as a rf field or as heat.

Sorry Dave, the statements in your above post indicates a common
misunderstanding of the operation of an RF power amplifier.

With the possibility that you will consider what I'm about to say is
in the 'he said she said' category, I'd still like for you to review
some of my writings, consider them seriously, and then we'll have
another conversation on the subject. Perhaps I can convince you that
some of your statements are just plain wrong--if not, then we both
simply go our separate ways and believe what we want.

One paper I'd like you to review is Chapter 19 in Reflections 2, also published in QEX. (I'm now in a hotel in Jax, FL, awaiting spinal surgery, so I'm not at home where I can obtain the references for you.) Then I'd also like for you to review Chapter 19A that will appear in Reflections 3. However, you can find these chapters on my web page at www.w2du.com. Chapter 19 is found by clicking on 'Review Chapters from Reflections 2', and Chapter 19A is found by clicking on 'Preview Chapters from Reflections 3'.

I would like to hear from you after reviewing these two papers. I hope this will help you understand the reason why some of your statements are incorrect. If you believe I'm wrong, so be it.

Walt, W2DU

2248. Re: Congratulations Art

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 04:37:38 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <mqMHh.119577$5j1.49842@bgtnsc04-news.ops.worldnet.att.net>
Source record: 45062

art wrote:

>
> Gene you keep on dogging the issue.

Art,

Arf, Arf, Arf. How's that for dogging?

I have explained the issue several times, and your responses have completely ignored the explanation. I am not going to continue to waste my time if you are not even interested.

73,
Gene
W4SZ

2249. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 06:52:49 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ufcvu21t3aer7upcphs5f1vcl4md94h78k@4ax.com>
Source record: 45063

On Wed, 07 Mar 2007 19:16:57 -0600, Mike Coslo
<mcoslo@youknow.comcast.net> wrote:

> OCF dipoles are obviously a compromise.

Hi Mike,

What happens to be the compromise?

>As a multiband antenna it
> better not outperform a specific band dipole.

Seems unlikely to perform any different than any equal length of wire
(the length of the fundamental band, that is). Only the feed Z
changes is all (or so modeling would lead me to believe).

73's
Richard Clark, KB7QHC

2250. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 10:24:52 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <c1pvu25peou2rsurmlhc2m7p2ln0tausk8@4ax.com>
Source record: 45064

On Wed, 07 Mar 2007 19:16:57 -0600, in rec.radio.amateur.antenna you wrote:

> OCF dipoles are obviously a compromise. As a multiband antenna it
> better not outperform a specific band dipole.

That's a general statement, but for a correctly fed OCF, your statement is generally false.

If an OCF is shorter than 1/2 wave for the frequency of operation, it will not perform as well as the 1/2 wave dipole. However, as the length of the OCF increases over the 1/2 wave, it generates lobes of gain in various directions. How many lobes and to where they point changes according to the relative length to the band, but there is actually gain.

You can find more information in the ARRL Antenna book or by modeling the antenna on one of the antenna model ling programs.

--
73 for now
Buck, N4PGW
www.lumpuckeroo.com
N4PGW

2251. HFV-5 antena manual

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 10:32:59 UTC
From: zz <zz@eltis.pl>
Message-ID: <bgpvu2d52th3usnalr00r4psp2o400i985@4ax.com>
Source record: 45065

Where i can find user manual (given by producent) for Diamond HFV-5
antenna?

Zielinski Zbigniew
SQ6MIZ
sq6miz@op.pl

2252. HFV-5 antenna opinion

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 10:33:49 UTC
From: zz <zz@eltis.pl>
Message-ID: <fjpvu2hpuq0jtk2srbbbtulvegr3cnj91h@4ax.com>
Source record: 45066

Please give me your opinion about this antenna.
Zielinski Zbigniew
SQ6MIZ
sq6miz@op.pl

2253. Re: Using a tower as a J-Pole for 20 or 40 Meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 11:31:41 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1173353501.184367.110970@n33g2000cwc.googlegroups.com>
Source record: 45067

On Mar 7, 4:05 pm, Eric <reply.in.gr...@nospam.no> wrote:
> Have any of you tried using a tower as a J pole antenna for 20 or 40
> meters?
>
> According to calculations, it looks like a 50-foot tower would be about
> right for 14.1 MHz with a 16.6-foot matching section that could be made
> out of aluminum tubing and spaced out about 1.5 feet.
>
> This should make a decent low-angle radiator without needing any buried
> ground wires (which would be difficult to put in around here).
>
> Then I thought maybe a taller tower, perhaps 80 feet, with a triband beam
> on top, could perhaps be made into a J-pole for 40 meters with the beam
> acting as a hat.
>
> Obviously I haven't thought this through very much but I was just
> wondering if any of you had tried any of this or knew of any articles or
> websites that describe such a project.

I tried it making mine(20M) out of conduit. Tweaking it up was a lot
more trouble than I thought it would be. Try building one for say 6
meters with only approximate deminsions, note how much tweaking it
takes to get it right them multiply this by 100. It can be a real
PITA. You are going to be fiddling with the length of the tower, the
length of the stub.

2254. Connections to an antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 14:27:31 UTC
From: wbickle <williambickley@gmail.com>
Message-ID: <1173364051.827128.34420@h3g2000cwc.googlegroups.com>
Source record: 45068

I'm building the WA5VJB "cheap yagi" antenna. Other than soldering,
what are some simple methods/materials for attaching the center wire
and braid to 1/8 inch diameter driven element. I figure there must be
a magic clamp, strap, electrical connector, etc. out there
somewhere...

TIA.

Bill W2ET

2255. Antenna grounding help

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 16:00:16 UTC
From: scooterspal <tfg1@mindspring.com>
Message-ID: <kqWHh.8733$jx3.6472@newssvr25.news.prodigy.net>
Source record: 45069

Hello all.

I need some advice regarding the electrical safety ground for a wifi antenna I'm installing on the brick wall outside my office building.

The antenna is in a 40" x 2" diameter nylon tube. It will be mounted using a standard A-frame type Channel Master side mount. A short piece of mast up from the two wall mounts to secure the antenna with U clamps. It will be up on the wall outside my office door maybe 10 feet.

I have a gas discharge unit that comes with the antenna. It mates to the bottom connector and terms with the connector for the 4' of coax wire that leads through the wall to the wireless AP unit. There is a ground lug on the side of the discharge unit to attach a lead to.

The building is on a hill so the AC units are all mounted on concrete slabs on the ground at either end of the building. There are no antennas on the roof... only two old vents from when there was a diner upstairs and the usual vent pipes from the bathrooms. Power comes in from underground to a central location at one end of the building.

The building is of wood construction with red brick facing. Shingled A-frame roof like on a house. It is about 100' wide and my office sits smack in the middle on the lower ground level.

So thats my setup. Now how and where to connect the safety ground is my concern.

1) Do I simply go straight down into the ground below and will that create any arching issues with anything else in/on the building?

2) Is it better to bring the ground lead into the building and over to the circuit breaker panel for my office (a distance of about 40') and attach to the neutral wire at that point? If so, what guage wire for that distance is required?

3) There are probably some large electrical conduits just inside the wall (that supply power to nextdoor and upstairs) where my AP will be mounted. Can I attach the ground to one of these with a suitable clamp?

Thanks for the help.

2256. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 16:03:56 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <bjc0v2d5rkdrr4mcgj0kl70njpfid8btjh@4ax.com>
Source record: 45070

On Thu, 08 Mar 2007 05:24:52 -0500, Buck <usenet01@lumpuckeroo.com>
wrote:

>If an OCF is shorter than 1/2 wave for the frequency of operation, it
>will not perform as well as the 1/2 wave dipole.

Hi Buck,

Modeling would suggest otherwise.

The difference between a 1/4 wave center fed and off-center fed (at
10% from the end) is about a 12% increase in real resistance, and
.25dB gain improvement, both favoring the off-center fed.

Are you comparing short antennas to long antennas? If so, it wouldn't
be a surprise, would it?

Coming in late, did I miss someone's extravagant claim that a OCF
could do better?

73's
Richard Clark, KB7QHC

2257. Power Dividers / Co-Phasing Harness question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 16:20:06 UTC
From: mcclements@gmail.com
Message-ID: <1173370806.793110.22390@q40g2000cwq.googlegroups.com>
Source record: 45071

Hi all,

When co-phasing two identical two meter yagis, is it necessary to use the "power dividers" sold by the antenna manufacter? If two odd multiples of 1/4 wavelength 75 Ohm coax is carefully constructed and run into a T connector, won't this achieve the same thing? Is there a real peformance difference?

Thanks,
Scott, WU2X

2258. Re: Connections to an antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 16:20:46 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <yJWHh.2028$3i.986@trnddc01>
Source record: 45072

"wbickle" <williambickley@gmail.com> wrote in message
news:1173364051.827128.34420@h3g2000cwc.googlegroups.com...
> I'm building the WA5VJB "cheap yagi" antenna. Other than soldering,
> what are some simple methods/materials for attaching the center wire
> and braid to 1/8 inch diameter driven element. I figure there must be
> a magic clamp, strap, electrical connector, etc. out there
> somewhere...
>
> TIA.
>
> Bill W2ET

Hi Bill

When I use aluminum rod for driven elements, I thread the end of the rod
then use two nuts to squeeze the wire between them.
0.125 OD will require a small die.

Jerry

2259. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 16:58:33 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <r0f0v2dhui7uu4obnip1mdbhbrhr9fspc5@4ax.com>
Source record: 45073

On Thu, 08 Mar 2007 08:03:56 -0800, Richard Clark <kb7qhc@comcast.net>
wrote:

>On Thu, 08 Mar 2007 05:24:52 -0500, Buck <usenet01@lumpuckeroo.com>
>wrote:
>
>>If an OCF is shorter than 1/2 wave for the frequency of operation, it
>>will not perform as well as the 1/2 wave dipole.
>
>Hi Buck,
>
>Modeling would suggest otherwise.
>
>The difference between a 1/4 wave center fed and off-center fed (at
>10% from the end) is about a 12% increase in real resistance, and
>.25dB gain improvement, both favoring the off-center fed.
>
>Are you comparing short antennas to long antennas? If so, it wouldn't
>be a surprise, would it?
>
>Coming in late, did I miss someone's extravagant claim that a OCF
>could do better?
>
>73's
>Richard Clark, KB7QHC

The original comment was that a multiband OCF antenna is a
'compromise' antenna and wouldn't be as good as dedicated 1/2 wave
dipole cut to frequency (or so I understood it.)

If a 135 foot OCF were compared to a 1/2 wave 160 meter dipole, the
OCF would lose, but if it were compared to a 20 meter dipole, it would
have gain in the direction of various lobes.

Yes, the comparison is between different length antennas, and you are
right, generally speaking, the longer, the better. (no doubt someone
can find an exception to the rule, but that isn't the point of this
discussion.)

The reason for my statement of 'properly fed' is that I know that the
impedance changes radically from band to band at the feed point.
Buxcomm is selling a popular OCF with a 6:1 balun to coax. I don't
think that is good as the impedance will be pretty low at the coax at
times. However, to each his own.

Feeding an OCF directly (no balun) with coax probably isn't a great idea either. I used one that way for a long time, and with great results (75 ohm indoor cable-tv coax) and switched to Radio Shack low-loss 300 ohm tv twin-lead which appeared to have better results. The best results seemed to come from a friend's setup which used 600 ohm twin lead (the good wire-man stuff) all the way to the tuner.

My favorite OCF design is still the clothesline antenna... a loop of wire to make a 40 meter dipole at 300 ohms, a 4:1 balun with coax attached and a motor at the pulley on one end. Tune the antenna by moving the balun towards or away from the center of the dipole. No tuner needed and it worked adequately in the man's attic, according to the article I read. It is an old design, but interesting still today. ;)

--
73 for now
Buck, N4PGW
www.lumpuckeroo.com
N4PGW

2260. Re: Power Dividers / Co-Phasing Harness question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 18:21:42 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12v0l1n5fh3rh18@corp.supernews.com>
Source record: 45074

All you need for this special case are two pieces of coax which are the same length and a tee connector. Yes, there might be a performance difference -- "power dividers" are likely to add unnecessary loss to the system, reducing your signal strength.

"Power dividers" aren't the right solution for any antenna phasing problem. See Chapter 8 of the _ARRL Antenna Book_ for more information. And feeding two elements or phased antennas with just two pieces of coax is usually more complicated than cutting them to the difference in phase angle, as explained in the _Antenna Book_ and http://eznec.com/Amateur/Articles/Simpfeed.pdf. But yours is a special case that's easy to do.

Roy Lewallen, W7EL

mcclements@gmail.com wrote:
> Hi all,
>
> When co-phasing two identical two meter yagis, is it necessary to use
> the "power dividers" sold by the antenna manufacter? If two odd
> multiples of 1/4 wavelength 75 Ohm coax is carefully constructed and
> run into a T connector, won't this achieve the same thing? Is there a
> real peformance difference?
>
> Thanks,
> Scott, WU2X
>

2261. Re: Power Dividers / Co-Phasing Harness question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 18:28:18 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <6BYHh.2039$3i.1312@trnddc01>
Source record: 45075

<mcclements@gmail.com> wrote in message
news:1173370806.793110.22390@q40g2000cwq.googlegroups.com...
> Hi all,
>
> When co-phasing two identical two meter yagis, is it necessary to use
> the "power dividers" sold by the antenna manufacter? If two odd
> multiples of 1/4 wavelength 75 Ohm coax is carefully constructed and
> run into a T connector, won't this achieve the same thing? Is there a
> real peformance difference?
>
> Thanks,
> Scott, WU2X

Hi Scott

That pair of 75 ohm transformers will work. I'd suggest that you
consider only 1/4 wavelength for the 70 ohm transformer in each line from
the 50 ohm Yagis. Additional transformer length will effect impedance
bandwidth.
I'd suggest using the "power dividers" unless $$cost is a consideration.

Jerry

2262. Re: Power Dividers / Co-Phasing Harness question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 18:50:58 UTC
From: mcclements@gmail.com
Message-ID: <1173379858.111355.61900@p10g2000cwp.googlegroups.com>
Source record: 44926

If the antennas are to be spaced more than a 1/2 wavelength (free space), how can I use a 1/4 wavelength of 75 Ohm coax? I guess I would have to splice in a 1/2 wavelength multiple of 50 Ohm coax between the 75 ohm coax and the T connection to make up the length.

I only need about 500Khz of bandwidth, so this might not be a concern. But this was another question I was going to raise. Is there anyway to calculate the bandwidth that I would see from a 1/4 wavelength matching section? I guess that is a real easy one to test in real life though.

Thanks for all the responses!

-Scott, WU2X

On Mar 8, 1:28 pm, "Jerry Martes" <j.jmar...@verizon.net> wrote:

>
> I'd suggest that you
> consider only 1/4 wavelength for the 70 ohm transformer in each line from
> the 50 ohm Yagis.

2263. Re: Mininec antenna computor programs and Gaussian arrays

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 19:03:24 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <97n0v21i2vmgjv85o9p1d7qnpbm3vgbkl7@4ax.com>
Source record: 44927

On 8 Mar 2007 10:37:21 -0800, "art" <aunwin@insightbb.com> wrote:

>However , in the
>interests
>of science would it not be advisable to examine the reasons for these
>so
>called fabrications so that the spread of such erronious radiation
>arrays is
>stopped before the advantages are recognised?

Hi Art,

Does this cover your web page, using NEC, to describe a 6 inch element
as being resonant at 200 MHz?

No one needs
1. A text book;
2. NEC;
3. A computer;
4. A new theory
to simply put RF to that element and realize: it just ain't so.

73's
Richard Clark, KB7QHC

2264. Re: Mininec antenna computor programs and Gaussian arrays

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 19:18:23 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <qqn0v2tp9ipes9eqsqhiinskdfovrsbj7v@4ax.com>
Source record: 44929

On 8 Mar 2007 11:10:45 -0800, "art" <aunwin@insightbb.com> wrote:

basically nothing

Hi Art,

If you cannot explain why your work fails at the bench, I'm afraid you
are not going to find anyone to read theories with equal flaws.

Let's look at another difficult question:

You write at your web page that you have 3 elements with coordinates:
#1
-1.8421 3.0697 83.6493 -25.311 25.3112 82.7236

#2
-1.7146 7.636 79.6994 -15.45145 37.578 79.6994

#3
4.3792 2.528931 81.4985 3.9279 23.645 83.6096

You (not anyone else) show two of these as being orthogonal to the X
axis. A simple review of the numbers does not require:
1. A text book;
2. NEC;
3. A computer;
4. A new theory
to show that none of them are.

73's
Richard Clark, KB7QHC

2265. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 19:19:59 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1173381598.903642.311350@c51g2000cwc.googlegroups.com>
Source record: 44928

>
> > So would you please give me both Denny's and Owen's email addresses.
>
> > Walt
>
> It appears neither Denny nor Owen reveal their email here, so the only
> alternative is for this appeal.
>
> 73's
> Richard Clark, KB7QHC

Uuuhhhh, Walt... Certainly my email in not a state secret - especially since every person in Nigeria seems to know it!

ad4hk2004@yahoo.com

Is ther anything I can do to help?

denny / k8do

2266. Re: Power Dividers / Co-Phasing Harness question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 19:31:38 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <uwZHh.15106$zh.11795@trnddc08>
Source record: 44930

<mcclements@gmail.com> wrote in message
news:1173379858.111355.61900@p10g2000cwp.googlegroups.com...
> If the antennas are to be spaced more than a 1/2 wavelength (free
> space), how can I use a 1/4 wavelength of 75 Ohm coax? I guess I would
> have to splice in a 1/2 wavelength multiple of 50 Ohm coax between the
> 75 ohm coax and the T connection to make up the length.
>
> I only need about 500Khz of bandwidth, so this might not be a concern.
> But this was another question I was going to raise. Is there anyway to
> calculate the bandwidth that I would see from a 1/4 wavelength
> matching section? I guess that is a real easy one to test in real life
> though.
>
> Thanks for all the responses!
>
> -Scott, WU2X
>
>
Hi Scott

If it is OK to assume the antenna's input impedance is close to 50 ohms.
Any length of 50 ohm line can be installed to a location where the 1/4 wave
transformers can be installed.
It may be confusion for me to add that I have connected two 50 ohm coaxes
in series to make them look like 100 ohms at the junction. I didnt think
the joining of coax center conductor to the outer conductor of another was a
good idea till I did it (after being advised by Mr Richard Clark).
Series-ing coax works quite well at 2 meters when a couple ferrite sleeves
are used to minimize currents on the outside of the shield. That allows
only one 75 ohm matching transformer (which isnt much of an advantage in
your case).

Jerry

2267. Re: Mininec antenna computor programs and Gaussian arrays

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 19:37:57 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <6po0v21tsqtha9tujtk0vubljgd5bdigua@4ax.com>
Source record: 44931

On Thu, 08 Mar 2007 11:18:23 -0800, Richard Clark <kb7qhc@comcast.net>
wrote:

>#1
>-1.8421 3.0697 83.6493 -25.311 25.3112 82.7236

Hi Art,

Anticipating you can't answer the last one about mechanical
orientation, let's examine your proficiency in using a computor with
this one element which in your words displays:
"Drive impedance of Element #1 equals
30.7 + j 0.1 ohms,
SWR = 1.01"

If we skip the modeling, once again simple bench work, not:
1. A text book;
2. NEC;
3. A computer;
4. A new theory
would reveal a SWR of 1.01 for a drive Z of 31 Ohms is a most curious
departure from convention - or did Gauss mandate a 31 Ohm system (you
certainly don't put this into your words).

The next error in light of this is (your words):
"Drive impedance of Element #2 equals
1121 + j 1554 ohms,
SWR = 3.65"

3.65:1 really? In the same 31 Ohm system? A new one for each
element? We need only look at the third example with nearly the same
mismatch, but a wildly different drive impedance to wonder from your
words that:
"Drive impedance of Element #3 equals
16.2 - j 22.4 ohms,
SWR = 3.64"

3.64:1 really? In what system are all these elements residing?

73's
Richard Clark, KB7QHC

2268. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 19:44:33 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1173383073.792652.249700@h3g2000cwc.googlegroups.com>
Source record: 44932

On Mar 8, 2:19 pm, "Denny" <k...@mailblocks.com> wrote:
> > > So would you please give me both Denny's and Owen's email addresses.
>
> > > Walt
>
> > It appears neither Denny nor Owen reveal their email here, so the only
> > alternative is for this appeal.
>
> > 73's
> > Richard Clark, KB7QHC
>
> Uuuhhhh, Walt... Certainly my email in not a state secret - especially
> since every person in Nigeria seems to know it!
>
> ad4hk2...@yahoo.com
>
> Is ther anything I can do to help?
>
> denny / k8do

OK, the magic munchkin tried to protect me by truncating said email
address

ad4hk2004 at yahoo com

denny

2269. Re: Antenna grounding help

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 19:49:42 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <esppcn$3bt$1@nntp1.jpl.nasa.gov>
Source record: 44934

scooterspal wrote:
> Hello all.
>
> I need some advice regarding the electrical safety ground for a wifi
> antenna I'm installing on the brick wall outside my office building.

Is this in a place where the National Electrical Code applies (or some similar code)? Are you legally liable if it's done wrong?

If so, the answers to all your questions as to "requirements" are in the code. I've put some comments in below, but I've specifically avoided giving you required gauges of conductors, etc., because YOU need to go read the rules and figure it out.

>
> The antenna is in a 40" x 2" diameter nylon tube.

That's the radome over the antenna. The actual antenna is made of metal and is inside the radome.

It will be mounted
> using a standard A-frame type Channel Master side mount. A short piece
> of mast up from the two wall mounts to secure the antenna with U clamps.
> It will be up on the wall outside my office door maybe 10 feet.

The mast will need to be connected to the grounding system by an appropriate sized (as defined in the code) conductor. (in many cases, the coax shield can serve as the grounding conductor, so you might not need to run a separate wire)

>
> I have a gas discharge unit that comes with the antenna. It mates to the
> bottom connector and terms with the connector for the 4' of coax wire
> that leads through the wall to the wireless AP unit. There is a ground
> lug on the side of the discharge unit to attach a lead to.

Which the NEC requires you to connect to the building electrical safety grounding system in a particular way. (i.e. you can't just casually hook it up with any old wire to any old place).
>
> The building is on a hill so the AC units are all mounted on concrete
> slabs on the ground at either end of the building. There are no antennas
> on the roof... only two old vents from when there was a diner upstairs
> and the usual vent pipes from the bathrooms. Power comes in from
> underground to a central location at one end of the building.

There is most likely a grounding point at the service entrance. That's
where you ultimately need to connect to. You can have other ground
connections too (depending on the situation) but all the grounds have to
be bonded together.

>
> The building is of wood construction with red brick facing. Shingled
> A-frame roof like on a house. It is about 100' wide and my office sits
> smack in the middle on the lower ground level.
>
> So thats my setup. Now how and where to connect the safety ground is my
> concern.
>
> 1) Do I simply go straight down into the ground below and will that
> create any arching issues with anything else in/on the building?

You can install an appropriate grounding electrode (i.e. rod) and ground
to that, BUT, you need to connect that rod to the building grounding
system with the appropriately sized conductor.
>
> 2) Is it better to bring the ground lead into the building and over
> to the circuit breaker panel for my office (a distance of about 40') and
> attach to the neutral wire at that point?

Under no circumstances should a electrical safety ground ever be
connected to the neutral, except at the one point where the groundING
conductor (aka "greenwire ground") is bonded to the the groundED
conductor (the neutral/white wire). (There are some weird exceptions,
but you're not in any of those situations)

If so, what guage wire for
> that distance is required?

Specified in the code. Distance doesn't enter into it.
>
> 3) There are probably some large electrical conduits just inside the
> wall (that supply power to nextdoor and upstairs) where my AP will be
> mounted. Can I attach the ground to one of these with a suitable clamp?

No. While conduit (metallic raceway in code-speak) can serve as the
grounding conductor for branch circuits (e.g. you can ground the third
pin in the receptacle that way), you can't "share" it with other
grounding needs. (and, besides, it's a bad practice for RFI reasons.)

Take a look at the "Low Voltage Handbook" on the Mike Holt website
(http://www.mikeholt.com/) It covers all the grounding and other code
requirements that apply to antennas and the like (including
interconnection of grounds, sizes of conductors, etc.)

Given the high cost of copper these days, you should seriously consider
using aluminum grounding wire. With the correct connectors, it works
great, and it's a lot cheaper and lighter weight.

By the way, there's lots of non-compliant installations of DBS dishes, WLAN access points, etc. around by, to be frank, hack workers who don't know or care. Just because the building hasn't burned down yet or no hardware been damaged or nobody has been killed, doesn't mean that it's an OK practice.

>
> Thanks for the help.

Good luck. It's not all that hard to do it right.

James Lux, P.E.

2270. Re: Power Dividers / Co-Phasing Harness question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 19:51:51 UTC
From: mcclements@gmail.com
Message-ID: <1173383511.462607.91360@64g2000cwx.googlegroups.com>
Source record: 44933

Oh yes, what was I thinking. From the antenna feedpoint, I can run two
equal length pieces of 50 ohm coax to the 1/4 wavelength matching
sections into the T connector - as you just said.

But it will be much more convenient for me to just use an entire run
of 75 Ohm coax, but as I said before, now you have me curious about
the effect on bandwidth - I will have a total of 1.75 wavelengths of
75 Ohm coax per leg.

-Scott, WU2X

On Mar 8, 2:31 pm, "Jerry Martes" <j.jmar...@verizon.net> wrote:

>
> If it is OK to assume the antenna's input impedance is close to 50 ohms.

2271. Re: NEC computor programs

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 20:29:07 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12v0sgk3f16b581@corp.supernews.com>
Source record: 44935

art wrote:
>
> No, I don't have the burden programmers do. Gaussian arrays are part
> of antennas and programmers continue to ignore it. Hopefully so called
> "errors" in other programs have escaped yours
> I am not familiar with your particular programs since they are just
> number crunchers that get you close to the mark but you do have
> customers and are very much aware of the Gaussian subject so shouldn't
> you recheck your own for accurracy?
> Art

Well, let's see. I have professional customers who use EZNEC daily to design complex antennas for commercial, military, and government use. On many occasions, they test the designs on a test range and find good correlation between EZNEC and measured results. This has been done over and over for a wide variety of antennas for years. Countless others have done the same with NEC and other NEC based programs. I have a standing request for anyone to report any difference in results between EZNEC and NEC, and so far have had zero responses except when the user accidentally made the models different.

On the other hand, I have you weaving your theories but without a single shred of evidence as far as I can see that the antennas you create have any advantage over any others, or even that they work as you claim. And for that matter, I find it nearly impossible to divine exactly what performance you *are* claiming for your creations.

So, should I check my program for accuracy because of your rambling conjectures? Certainly not!

Roy Lewallen, W7EL

2272. Re: Power Dividers / Co-Phasing Harness question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 20:36:28 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <gt_Hh.15109$zh.10947@trnddc08>
Source record: 44936

<mcclements@gmail.com> wrote in message
news:1173383511.462607.91360@64g2000cwx.googlegroups.com...
> Oh yes, what was I thinking. From the antenna feedpoint, I can run two
> equal length pieces of 50 ohm coax to the 1/4 wavelength matching
> sections into the T connector - as you just said.
>
> But it will be much more convenient for me to just use an entire run
> of 75 Ohm coax, but as I said before, now you have me curious about
> the effect on bandwidth - I will have a total of 1.75 wavelengths of
> 75 Ohm coax per leg.
>
> -Scott, WU2X

Hi Scott

How much do you like Smith Charts?? It would be very easy to plot, for three frequencies, the impedance at the "far end" of the 75 ohm lines. That seems like a 5 minute job. Then you will know the amount of error introduced at the edges of your bandwidth. You'd know the impedance at the upper, mid and lower frequencies. It may be that a couple wavelengths of 75 ohm line may not introduce enough error to be concerned with.

Jerry

2273. Re: Antenna grounding help

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 20:43:26 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98EE4E915DAD2nonenowhere@61.9.191.5>
Source record: 44937

scooterspal <tfg1@mindspring.com> wrote in news:kqWHh.8733$jx3.6472
@newssvr25.news.prodigy.net:

...
> I have a gas discharge unit that comes with the antenna. It mates to
the
> bottom connector and terms with the connector for the 4' of coax wire
> that leads through the wall to the wireless AP unit. There is a ground
> lug on the side of the discharge unit to attach a lead to.
...

Effective lightning protection is not trivial. It starts with an assessment of the risk, including whether or not your structure is effectively protected by nearby structures. The design of a protection system should be an integated design, what you do to your antenna may impact the other antennas / conductors / structures that are co-located.

Keep in mind that protection conductors may need to withstand typically 20,000A for 0.1s. The coax outer will probably not withstand that, so you must route the discharge to ground a different way.

The gas discharge unit is to limit the voltage rise on the inner conductor of the coax wrt the outer conductor. I think that it would be unusual that a gas discharge device would be effective unless / until the antenna / feedline was damaged, due to device's slow ionisation time and the rather small voltage with fast rise times that would be induced in a narrow band 2.4GHz antenna. It seems to me that your principle hazard is the current that will flow on the outer of the coax as a result of a direct or nearby strike, or the potential difference between your coax outer and the building earth system in the event of of a direct or nearby strike.

I know they sell these protection devices for the purpose, but I do wonder about their effectiveness.

Routing the discharge current effectively to ground is important, but equipotential bonding to avoid potential differences at critical interfaces is an important part of solution design.

So the first stage of the solution is to prevent most of the discharge current following the coax into the equipment room.

I agree with all that Jim Lux has offered you.

Owen

2274. Re: NEC computor programs

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 22:35:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <ojf6c4-oq2.ln1@mail.specsol.com>
Source record: 44938

art <aunwin@insightbb.com> wrote:

<snip>

> Your choice Roy Since you have never had reason to place revisions on
> your programs! (you consider your self as always being right) I see
> your point. It has been correct from the get go.

Are you out of your friggin' mind?

The current releases of eznec are 3.0.58 and 4.0.34; sounds like a
revision or two to me.

<snip remaining babbling, arm waving, idiotic, utter nonsense>

--
Jim Pennino

Remove .spam.sux to reply.

2275. Modeling the effect of a tower

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 23:05:38 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <6F0Ih.1335$FG1.829@newssvr27.news.prodigy.net>
Source record: 44939

How do you guys model the parasitic effects of
a tower? With its base in concrete, it is neither
floating nor grounded. Is there some sort of
modeling rule for such?

For instance, if a vertical with sloping radials
is mounted on a tower with the radials insulated
from the tower, the tower still has an effect.
If we model the tower as mininec grounded, it has
some extreme effects which may not be realistic.
--
73, Cecil http://www.w5dxp.com

2276. Re: Modeling the effect of a tower

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 23:12:52 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98EE67E6DF0C4nonenowhere@61.9.191.5>
Source record: 44940

Cecil Moore <mycall@hotmail.com> wrote in news:6F0Ih.1335$FG1.829
@newssvr27.news.prodigy.net:

> How do you guys model the parasitic effects of
> a tower? With its base in concrete, it is neither
> floating nor grounded. Is there some sort of
> modeling rule for such?
>
> For instance, if a vertical with sloping radials
> is mounted on a tower with the radials insulated
> from the tower, the tower still has an effect.
> If we model the tower as mininec grounded, it has
> some extreme effects which may not be realistic.

I know that some assert that a metal tower structure in concrete
foundations is effectively earthed for lightning protection, wouldn't you
also have some form of additional lightning protection that the RF effects
would be important to include in your model?

Owen

2277. Re: NEC computor programs

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 23:19:07 UTC
From: Allodoxaphobia <bit-bucket@config.com>
Message-ID: <slrnev16fb.si8.bit-bucket@shell.config.com>
Source record: 44941

On Thu, 08 Mar 2007 12:29:07 -0800, Roy Lewallen wrote:
> art wrote:
>>
>> No, I don't have the burden programmers do. Gaussian arrays are part
>> of antennas and programmers continue to ignore it. Hopefully so called
>> "errors" in other programs have escaped yours
>> I am not familiar with your particular programs since they are just
>> number crunchers that get you close to the mark but you do have
>> customers and are very much aware of the Gaussian subject so shouldn't
>> you recheck your own for accurracy?
>> Art
>
> Well, let's see. I have professional customers who use EZNEC daily to
> design complex antennas for commercial, military, and government use. On
> many occasions, they test the designs on a test range and find good
> correlation between EZNEC and measured results. This has been done over
> and over for a wide variety of antennas for years. Countless others have
> done the same with NEC and other NEC based programs. I have a standing
> request for anyone to report any difference in results between EZNEC and
> NEC, and so far have had zero responses except when the user
> accidentally made the models different.
>
> On the other hand, I have you weaving your theories but without a single
> shred of evidence as far as I can see that the antennas you create have
> any advantage over any others, or even that they work as you claim. And
> for that matter, I find it nearly impossible to divine exactly what
> performance you *are* claiming for your creations.
>
> So, should I check my program for accuracy because of your rambling
> conjectures? Certainly not!

Roy,

You need to learn NOT to rise to the rantings of the para-science
techno-trolls. :-)

73
Jonesy

2278. Re: Congratulations Art

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 23:28:48 UTC
From: Allodoxaphobia <bit-bucket@config.com>
Message-ID: <slrnev171g.si8.bit-bucket@shell.config.com>
Source record: 44942

On Thu, 08 Mar 2007 04:37:38 GMT, Gene Fuller wrote:
> art wrote:
>
>> Gene you keep on dogging the issue.
>
> Arf, Arf, Arf. How's that for dogging?
>
> I have explained the issue several times, and your responses have
> completely ignored the explanation. I am not going to continue to waste
> my time if you are not even interested.

It's simply a spelling error:

Gauze!
As in something you'd drap over an observer to obscure the clarity of focus.

Unlikely to happen here, since vetting is applied in rraa.

plonked , along with all that fractal bu11$h1t.

Jonesy

2279. Re: Power Dividers / Co-Phasing Harness question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 23:29:15 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <IioE+oULxJ8FFAMu@ifwtech.co.uk>
Source record: 44943

Scott wrote:
>If the antennas are to be spaced more than a 1/2 wavelength (free
>space), how can I use a 1/4 wavelength of 75 Ohm coax? I guess I would
>have to splice in a 1/2 wavelength multiple of 50 Ohm coax between the
>75 ohm coax and the T connection to make up the length.
>
Use any lengths of 50-ohm coax, and then connect them using the
"combiner" or "power divider" of your choice.

In practice the divider/combiner will be simply a quarter-wave impedance
transformer associated with a T-piece. The 75-ohm coax version will
transform each leg from 50 to 100 ohms (ideally you'd need 70.7-ohm coax
for that) and then the T-piece connects those in parallel to give 50
ohms. Alternatively, you can use the type of divider/combiner that
directly parallels the two 50-ohm lines, and then transforms the
resulting 25-ohm impedance back up to 50 ohms through a quarter-wave of
home made 35-ohm hardline.

There's not a lot of practical difference between the two methods,
except that the first one requires you to cut and terminate two sets of
equal lengths of coax. The second one is easier electrically, but
requires some basic metalworking skills.

>I only need about 500Khz of bandwidth, so this might not be a concern.
>But this was another question I was going to raise. Is there anyway to
>calculate the bandwidth that I would see from a 1/4 wavelength
>matching section? I guess that is a real easy one to test in real life
>though.

If you need only 500kHz bandwidth at 144MHz, that will not be a concern.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

2280. Re: Power Dividers / Co-Phasing Harness question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 23:35:01 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <XCTDGKVl2J8FFAsZ@ifwtech.co.uk>
Source record: 44945

wrote:
>Oh yes, what was I thinking. From the antenna feedpoint, I can run two
>equal length pieces of 50 ohm coax to the 1/4 wavelength matching
>sections into the T connector - as you just said.
>
>But it will be much more convenient for me to just use an entire run
>of 75 Ohm coax, but as I said before, now you have me curious about
>the effect on bandwidth - I will have a total of 1.75 wavelengths of
>75 Ohm coax per leg.

I just saw the above, after having posted my first reply.

That wouldn't be a smart idea. Compared with either of the solutions
that uses only a single quarter-wavelength for the impedance
transformation, running two mismatched legs to 1.75 wavelengths will
increase the rate of change of phase with frequency by a factor of
1.75/0.25 = 7.

In that case, bandwidth might indeed become a problem, and phase
matching a big problem.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

2281. Re: Modeling the effect of a tower

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-08 23:36:39 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <b61lh.1338$FG1.772@newssvr27.news.prodigy.net>
Source record: 44944

Owen Duffy wrote:
> I know that some assert that a metal tower structure in concrete
> foundations is effectively earthed for lightning protection, wouldn't you
> also have some form of additional lightning protection that the RF effects
> would be important to include in your model?

I have no additional lightning protection. I just want
to gather thoughts on modeling a concrete based tower
located within the fields of an antenna. Modeling it
connected to mininec ground just doesn't seem to provide
realistic results.
--
73, Cecil http://www.w5dxp.com

2282. Re: Antenna grounding help

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 00:29:49 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <esq9pubtp1@nntp1.jpl.nasa.gov>
Source record: 44948

Owen Duffy wrote:
> scooterspal <tfg1@mindspring.com> wrote in news:kqWHh.8733$jx3.6472
> @newssvr25.news.prodigy.net:
>
> ...
>
>>I have a gas discharge unit that comes with the antenna. It mates to
>
> the
>
>>bottom connector and terms with the connector for the 4' of coax wire
>>that leads through the wall to the wireless AP unit. There is a ground
>>lug on the side of the discharge unit to attach a lead to.
>
> ...
>
> Effective lightning protection is not trivial. It starts with an
> assessment of the risk, including whether or not your structure is
> effectively protected by nearby structures. The design of a protection
> system should be an integated design, what you do to your antenna may
> impact the other antennas / conductors / structures that are co-located.

And, decide what exactly you're protecting against. Keeping the
building from catching fire is a very different goal than keeping your
AP alive.
>
> Keep in mind that protection conductors may need to withstand typically
> 20,000A for 0.1s. The coax outer will probably not withstand that, so you
> must route the discharge to ground a different way.

The usual NEC grounding is not designed to address actual direct hit
currents from lightning. It's more to deal with things like inadvertent
contact with an overhead power line, a short from power line to
something metal and then to your antenna, and, to a certain degree, to
induced voltages from nearby strokes.

The focus of NEC is "personnel safety" followed by "structure safety",
with "equipment preservation" being a very, very far distant third.
Likewise, the local regulatory regime is more concerned about you
getting hurt or starting your house on fire than whether your AP
survives. If you're interested in "equipment preservation" there's a
whole 'nother set of places to look for recommendations (the IEEE
Emerald book, IEEE-std-1100 is a good place to start, but pricey to buy.
Roland Standler's book on protecting electronics from overvoltage from
Dover press for $20 is another).

There are also various and sundry books and app notes from the sellers of protection equipment. They provide valuable information, and practical applications engineering data, but you DO need to bear in mind that they reflect that company's opinion of what the best way is. And that way generally uses their particular devices. (not of some money grubbing crassness, but because they have analyzed the problem, figured out a solution, and make the parts for that solution)

>

2283. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 00:30:11 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns98EDA8045836Cspectrumhogstarbandn@198.186.192.196>
Source record: 44946

> The more practical consideration is: "What can you do about it?"

Richard,

Your point is understood, but I was asking the question because I am playing with the ARRL program, mobile.exe and one of the parameters to enter for mobile antenna design input is ground loss. I simply was wondering how that entry was figured, since it plays an important roll in the program's calculations.

Thans.

Ed K7AAT

2284. Re: Modeling the effect of a tower

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 00:40:45 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <esqaee$c80$1@nntp1.jpl.nasa.gov>
Source record: 44949

Cecil Moore wrote:
> How do you guys model the parasitic effects of
> a tower? With its base in concrete, it is neither
> floating nor grounded. Is there some sort of
> modeling rule for such?
>
> For instance, if a vertical with sloping radials
> is mounted on a tower with the radials insulated
> from the tower, the tower still has an effect.
> If we model the tower as mininec grounded, it has
> some extreme effects which may not be realistic.

I'll be a bit glib here..

I wouldn't use mininec to model it, just because it doesn't do a good job for those sorts of things.

Hie thee to NEC4, which is specifically designed to deal with antennas near, on, touching, partially and fully immersed in the ground.

And even then, you can get bitten.

in practical terms, the impedance to "ground" of a concrete base is very low.. large contact area with the soil, reasonably good conductivity of the concrete itself (compared to soil, and especially compared to air).

if that level of subtle detail is important, you need some sort of Finite element or finite differences code.

When I want to assess the sensitivity with something like NEC, I start by just modeling the "widget" with a single wire, or maybe, a few wires. Then, see how much difference it makes to change that simplified model a bit (maybe move it a few inches or change the length a bit). if it doesn't make much difference, there's not much interaction, and the inaccuracy of the simple model will be small.

2285. Re: NEC computor programs

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 00:45:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <73n6c4-0ue.ln1@mail.specsol.com>
Source record: 44947

art <aunwin@insightbb.com> wrote:
> On 8 Mar, 14:35, j...@specsol.spam.sux.com wrote:
> > art <aun...@insightbb.com> wrote:
> >
> > <snip>
> >
> > > Your choice Roy Since you have never had reason to place revisions on
> > > your programs! (you consider your self as always being right) I see
> > > your point. It has been correct from the get go.
> >
> > Are you out of your friggin' mind?
> >
> > The current releases of eznec are 3.0.58 and 4.0.34; sounds like a
> > revision or two to me.
> >
> > <snip remaining babbling, arm waving, idiotic, utter nonsense>
> >
> > --
> > Jim Pennino
> >
> > Remove .spam.sux to reply.

> My point is that Roy is not free from error Jim and you just made my
> point.

If there is a point to anything you write it is totally lost in the
rambling, arm waving, and nonsense.

<snip rest>

--
Jim Pennino

Remove .spam.sux to reply.

2286. Re: Antenna computor programs and pitfalls

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 02:45:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <aut6c4-qg3.ln1@mail.specsol.com>
Source record: 44950

art <aunwin@insightbb.com> wrote:
a huge pile of rambling nonsense

Out of curiosity, are you drunk, on drugs, suffering from the early
stages of dementia, a troll, or just an idiot?

<snip rambling nonsense>

--
Jim Pennino

Remove .spam.sux to reply.

2287. Re: NEC computor programs

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 02:59:45 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12v1jd1rnu03cb7@corp.supernews.com>
Source record: 44951

Allodoxaphobia wrote:
>
> Roy,
>
> You need to learn NOT to rise to the rantings of the para-science
> techno-trolls. :-)

You're absolutely right. It's a weakness that I resist but sometimes succumb to in spite of my efforts. It's time to add Art to my very short plonk list so I won't waste any more time responding to him.

The sad thing is that I don't believe Art is a troll but rather is completely serious.

Bye, Art.

Roy Lewallen, W7EL

2288. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 03:12:40 UTC
From: nm5k@wt.net
Message-ID: <1173409960.744776.248160@s48g2000cws.googlegroups.com>
Source record: 44952

On Mar 7, 7:16 pm, Mike Coslo <mco...@youknow.comcast.net> wrote:

>
> If you have found such a *drastic* difference however, perhaps
> there was something wrong with your particular antenna or setup?
>
> - 73 de Mike KB3EIA -

Wasn't mine..It was one they were using at a field day. As far as I
could
tell, it was a regular ole carolina windom, fed with their feedline. I
can't
remember if he had a tuner inline.
It was a dud though compared to a standard coax fed dipole.
A good 2 s units down on *everything*. "40m" Noise, desired signals,
the
whole ball of wax. Obvious feeder loss... Sure, you can make contacts
with such a device, but it's not for me.. Two S units difference is
about the equal of adding an average amplifier to a 100 watt radio.
I'm used to coax fed dipoles where the appx system efficiency is in
the
mid/upper 90's % range.. So almost any other compromise antenna is
going
to be inferior as far as total system loss. The main problem with the
carolina
windom I tried was the goofy feeder system with coax, choke, twin
lead,
etc... What a cluster%$#@ of engineering that is... :
If I'm going to use a compromise one wire/all band antenna, it's going
to be
fed with ladder line the whole way to a tuner which will be carefully
tuned using the least inductance possible. It will also be center fed.
Even that will be inferior to my usual coax fed... I've compared..
But usually my preferred multi band antenna will be paralled dipoles,
with the
legs spread apart as far as possible.. Fed with a single coax feed.
Thats what I use here at home. No loss in system efficiency compared
to many other multi band designs.
MK

2289. Re: NEC computor programs

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 03:20:47 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <jo4Ih.3173$tv6.222@newssvr19.news.prodigy.net>
Source record: 44953

Roy Lewallen wrote:
> It's time to add Art to my very short plonk list ...

I got ploinked for pointing out that an antenna is
a distributed network, not a lumped circuit.
--
73, Cecil http://www.w5dxp.com

2290. Re: Antenna computor programs and pitfalls

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 03:30:49 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <q5k1v2hq5ugg26kpgru8pl4pa7nt3r19nk@4ax.com>
Source record: 44954

On 8 Mar 2007 17:50:39 -0800, "art" <aunwin@insightbb.com> wrote:

>The most basic of all programs for antennas come from Roy
>They do nothing but number crunching like a calculator and
> will give you an answer close to what other programs provide
>but not the same. The program does NOT help the user in any
> way other than give you an answer regarding the performance
>of what you provide. It does NOT give you any help as to where
>you could benefit in any way.

EZNEC works for me! It is an easy to use interface to NEC2.

I made my choice for the ARRL Antenna Course. Cebik does a good job of
teaching the pro's and con's of antenna modeling there.

EZNEC does not install an engineer or a genie in your PC but it does
provide a tool set that will save a lot of time and money with
realistic answers.

If you have something specific you feel a modeling package should do
please share it!

John Ferrell W8CCW
"Life is easier if you plow around the stumps"!

2291. Re: Antenna computor programs and pitfalls

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 03:39:50 UTC
From: nm5k@wt.net
Message-ID: <1173411590.255879.274360@8g2000cwh.googlegroups.com>
Source record: 44955

On Mar 8, 7:50 pm, "art" <aun...@insightbb.com> wrote:
> The most basic of all programs for antennas come from Roy

No, I think not... I get the impression that you will not like
any program that does not automatically spit out whatever it is
that you want it to.
BTW, I've tried some programs with "optimizers" etc, etc..
MMANA has one fer instance, and it's freeware.
In many cases, I can manually churn out a better design
by ignoring it, and doing it myself. I've seen a few churn out
some pretty funky designs which were not even close to being
optimum. Overall, I don't have much use for them. I don't need
the program to hold my hand while using it.
MK

2292. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 03:55:53 UTC
From: nm5k@wt.net
Message-ID: <1173412553.256780.306530@8g2000cwh.googlegroups.com>
Source record: 44956

On Mar 5, 11:40 pm, Ed <Huckleberry_REMO...@bigvalley.net> wrote:
I am wondering how ground loss/resistance is effected by my
> having the bottom/feedpoint of the antenna so high off the ground, not
> to mention, I wonder how to calculate or guess what it is at all.

The bigger the vehicle, and the higher the mount, the lower the ground losses. But the type mount will effect also. IE: mounting directly on a roof will almost always be better than mounting on a ladder, with both at the same height. I've found that the more metal under the base of the antenna , the better. Mounting on a ladder, thin metal rail, angle iron, etc will usually result in inferior performance. But..Sometimes there is nothing you can do about it if the mounting options are limited. I ran into this on one of my trucks. At first I mounted the antenna on a piece of angle iron that ran across the truck bed, just behind the back window. Both ends were well grounded. But, I kept seeing overall lousy performance. So I decided to move it over on top of one the tool boxes, which has a good deal more metal area under the antenna base. Made a large difference, and woke the antenna up. That truck has a utility bed, and the boxes are pretty much part of the body. I'm not talking about a toolbox thrown into the back of the truck. Often those are not the greatest, unless very well grounded. I don't see why you need the exact ground loss. It's not going to effect your antenna design. But when doodling with vertical programs, I'll just stick in about 6-8 ohms as a "very good" mobile ground example.. A huge truck with the antenna on top could be slightly lower, but many small cars will be much higher. Knowing the exact loss is really not critical. Your antenna design will still come out the same.
MK

2293. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 04:01:18 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <i_4Ih.8608$re4.7800@newssvr12.news.prodigy.net>
Source record: 44957

nm5k@wt.net wrote:
> On Mar 5, 11:40 pm, Ed <Huckleberry_REMO...@bigvalley.net> wrote:
> I am wondering how ground loss/resistance is effected by my
>> having the bottom/feedpoint of the antenna so high off the ground, not
>> to mention, I wonder how to calculate or guess what it is at all.
>
> The bigger the vehicle, and the higher the mount, the lower the ground
> losses.

The ARRL Antenna Book assumes ~10 ohms of ground loss
for mobile antennas. I've found that 12.5 ohms is the
lowest I can get for a 75m mobile antenna feedpoint.
--
73, Cecil http://www.w5dxp.com

2294. Re: Antenna computor programs and pitfalls

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 04:25:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <us37c4-v4k.ln1@mail.specsol.com>
Source record: 44958

art <aunwin@insightbb.com> wrote:
> On 8 Mar, 18:45, j...@specsol.spam.sux.com wrote:
> > art <aun...@insightbb.com> wrote:
> >
> > a huge pile of rambling nonsense
> >
> > Out of curiosity, are you drunk, on drugs, suffering from the early
> > stages of dementia, a troll, or just an idiot?
> >
> > <snip rambling nonsense>
> >
> > --
> > Jim Pennino
> >
> > Remove .spam.sux to reply.

> Jim, Time will tell wether it is you or I.

You or I what?

> Either way you have lots of
> company on your side. AS YET NOBODY BUT NOBODY HAS PROVED BY ANALYSIS
> AS INCORRECT.

Analysis of what as incorrect?

> So why not be a hero and prove to all that the gaussian
> antenna as I have described and explained for many, many months
> possibly a year is an impossibility.

Post some equations that define a gaussian antenna. All I've seen
is rambling nonsense.

> Or conversley explain how
> computor programs cannot possibly react in a way I state,or conversley
> explain to all why Art was in fact correct in that computor programs
> can react as he states AND IN ADDITION he is correct in his analysis
> of the connection between statics and
> electro magnetics.

I haven't seen you post anything about the way computer programs react
that can be analyzed by a rational person.

> Bear in mind that Roy was one of those who
> ridicules the idea and thus the lemmings followed.

So, everyone is out of step except you? And what idea might that be?

> Not one, not one of
> those has provided any sort of technical analysis but continue to pile
> on nonsense or twisting the events to suit their bluster.

I've noticed technical responses, but the only bluster I've seen is from
you.

> But remember
> sooner or later the real truth will dribble out and the naysayers will
> slink away, or stand with ,I thought, I misread, it isn't in the
> books,all is known about antennas e.t.c.

Is that supposed to mean something?

The best I make of it is that you believe you have the one, true "Truth",
whatever the hell that is.

> Even if Americans refuse to acknoweledge the truth there is a whole
> wide World that is listening and watching and will make their own
> descisions as to whether to seek the truth, despite American scowls
> and bluster to the contrary.

What do Americans have to do with it?

From what I've seen there are at least some Canadians, plus a few others
that think you are a gibbering idiot.

> Again, you can't stop the advance of
> science just with bluster or piles of sand, sooner or later one has to
> decide what is the truth otherwise they are doomed to fall behind.

Raving nonsense.

Fall behind what?

What piles of sand?

> No
> one has provided a scientific response to what I state, nor is any one
> willing to prove to himself what happens when the computor program is
> actually tested and what should be done about it.

Maybe because you don't state anything, just ramble on, mostly incoherently.

I haven't the foggiest clue what your ramblings about computor (sic)
programs means.

> Why put yourself in
> the midst of such company who feel that derision is a good enough
> response to the advance of science?

What company, those that have very patiently, and several times, explained
what Gauss is all about?

Your ramblings remind me of my mother-in-law as she slipped into
dementia.

If that is your problem, I am truely sorry for you.

--
Jim Pennino

Remove .spam.sux to reply.

2295. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 07:24:38 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns98EDEE49DC5CAspectrumhogstarbandn@198.186.192.196>
Source record: 44959

nm5k@wt.net wrote in news:1173412553.256780.306530@
8g2000cwh.googlegroups.com:

> On Mar 5, 11:40 pm, Ed <Huckleberry_REMO...@bigvalley.net> wrote:
> I am wondering how ground loss/resistance is effected by my
>> having the bottom/feedpoint of the antenna so high off the ground,
not
>> to mention, I wonder how to calculate or guess what it is at all.
>
> The bigger the vehicle, and the higher the mount, the lower the ground
> losses. But the type mount will effect also. IE: mounting directly on
> a
> roof will almost always be better than mounting on a ladder, with both
> at the same height. I've found that the more metal under the base of
> the antenna , the better. Mounting on a ladder, thin metal rail,
> angle
> iron, etc will usually result in inferior performance. But..Sometimes
> there is nothing you can do about it if the mounting options are
> limited. I ran into this on one of my trucks. At first I mounted the
> antenna on a piece of angle iron that ran across the truck bed,
> just behind the back window. Both ends were well grounded.
> But, I kept seeing overall lousy performance. So I decided to
> move it over on top of one the tool boxes, which has a good deal
> more metal area under the antenna base. Made a large difference,
> and woke the antenna up. That truck has a utility bed, and the
> boxes are pretty much part of the body. I'm not talking about
> a toolbox thrown into the back of the truck. Often those are
> not the greatest, unless very well grounded. I don't see why
> you need the exact ground loss. It's not going to effect your
> antenna design. But when doodling with vertical programs, I'll
> just stick in about 6-8 ohms as a "very good" mobile ground
> example.. A huge truck with the antenna on top could be slightly
> lower, but many small cars will be much higher. Knowing the
> exact loss is really not critical. Your antenna design will still
> come
> out the same.
> MK
>

Thank you very much for the helpful info to my situation. The RV roof
is fibreglass. All I have to really work with is the ladder, which in
itself is bonded to the aluminum frame in the back walls, as well as very
well bonded to the chassis underneath by means of large copper straps.
Bout the best I can do. The figures you suggested should help too.
Thanks again.

Ed K7AAT

2296. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 07:26:26 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns98EDEE9819DBFspectrumhogstarbandn@198.186.192.196>
Source record: 44960

>
> The ARRL Antenna Book assumes ~10 ohms of ground loss
> for mobile antennas. I've found that 12.5 ohms is the
> lowest I can get for a 75m mobile antenna feedpoint.

Yes, but most mobiles are cars or pickups. Wouldn't you think that losses might be less on a large vehcle like an RV or truck, especially with such a high feedpoint as previously suggested (10 feet) ?

Ed

2297. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 07:41:15 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <s632v21k5pgft84v7nkkb6esbmh01jl8j2@4ax.com>
Source record: 44961

On 09 Mar 2007 07:24:38 GMT, Ed <Huckleberry_REMOVE_@bigvalley.net>
wrote:

> Thank you very much for the helpful info to my situation. The RV roof
>is fibreglass. All I have to really work with is the ladder, which in
>itself is bonded to the aluminum frame in the back walls, as well as very
>well bonded to the chassis underneath by means of large copper straps.
>Bout the best I can do. The figures you suggested should help too.
>Thanks again.

Hi Ed,

You've gotten several suggestions. 6-8 Ohms is no better than 10-12
Ohms as a guess; however, just what does this program do that this
number is so important in performing what it does?

73's
Richard Clark, KB7QHC

2298. Re: Antenna computor programs and pitfalls

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 09:10:24 UTC
From: 4nec2 <4nec2@gmx.net>
Message-ID: <1173431424.144482.165340@64g2000cwx.googlegroups.com>
Source record: 44962

Just out of curiosity, but can anybody inform me what's the problem between Art and Roy. In every posting of Art, Roy's name (or EZnec) shows up. Why not mention NecWin+ or Supernec or others ?

I don't know Roy, but when reading his postings I sure think he is a nice guy. When supplying answers on questions posted in this group, it's expectable he does some EZnec advertising, because it's a commercial product. Mostly he also takes the time to tell that there are other productys around with similar capabilities...

It's a pitty I was not aware of EZnec first few months after I stumbled over the Nec2 program.

:-(

Arie.

2299. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 10:33:22 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45f1341e$0$16934$4c368faf@roadrunner.com>
Source record: 44963

"art" <aunwin@insightbb.com> wrote in message
news:1173413632.124883.126230@j27g2000cwj.googlegroups.com...
> Gentlemen from outside of America. Gauss's law with respect to statics
> is quite specific and easy to understand. What is so wrong in
> mathematical terms by adding the metric of time to the law so that
> curl can be accomodated? i.e. change from a conservative field where
> all vectors have zero length,
> to a electro magnetic equation by adding the words " the addition of
> time" which by providing a three dimensional field has the true
> inclusion of curl i.e. all vectors have value in length and direction.
> America denies the feasability of such an addition to an existing law
> which in essence is regarded as a new law without basis on this side
> of the pond.Are all countries of this mentallity?
> Art
>

Because a static field does not produce an EM field(curl) only if that
static charge is in motion. Motion would even include taking a charged body,
say a pith ball and waving it back and forth. Electrons have a static charge
but when they are in motion in a conductor they produce fields(curl).
Electrons moving about an atom also produces fields but the net result of
all the aoms moving about is zero. PLEASE REFERENCE THE GUASSIAN LAW ON
STATICS. I still think you are confusing static with statistics.

2300. Antenna optimizers

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 10:37:02 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <fbyNtMOOjT8FFAtI@ifwtech.co.uk>
Source record: 44964

In a different thread, N5MK wrote:

>I've tried some programs with "optimizers" etc, etc.. MMANA has one fer
>instance, and it's freeware. In many cases, I can manually churn out a
>better design by ignoring it, and doing it myself. I've seen a few
>churn out some pretty funky designs which were not even close to being
>optimum. Overall, I don't have much use for them. I don't need the
>program to hold my hand while using it.

Can we start a new discussion, specifically about optimizers?

Having used Brian Beezley's YO and AO (Yagi Optimizer and Antenna Optimizer) extensively in the past, I'm not quite as pessimistic as Mark about the value of optimizers.

If they're simply allowed to run wild, they can produce some very foolish antenna designs. Usually that is not a criticism of the automated modeling... it mostly means that, for some practical reason or another, the user would be a fool to build the thing.

On the other hand, an optimizer can be very useful for tasks that have a very simple target, so it can't go far wrong. For example: "Adjust the length of that wire to make it resonant at this frequency." That doesn't take long to do by hand, but an optimizer can also handle more complicated tasks like: "Adjust the lengths of these three interacting wires to make the antenna resonant on three different bands." Then you really start to see some benefit from the automation.

At the other end of the spectrum is the kind of complex optimization for which YO was developed. You quickly learn that you can't just say "Optimize that yagi!" Quite the opposite: to use the program at all, you are forced to think very hard about what you really mean by "optimum" - for example, how much importance you attach to forward gain, a clean pattern, a convenient feedpoint impedance, and to maintaining that good performance over a wide bandwidth. Playing with an optimizer, you quickly come to understand that it isn't possible to get the best of everything, all at the same time... which is a very valuable lesson to learn.

The same applies to all other antenna optimizers, of course; and circuit optimizers too. The learning process alone can be worth the money.

Having gone through that learning process, an automatic optimizer can then zip out some really good antenna designs in a matter of minutes - which leaves you wondering what took you so long :-) But that isn't going to happen in the first evening, or even maybe the first month.

[Sorry, I don't know how or even if you can buy AO or YO any more.]

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

2301. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 13:10:21 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <11dIh.14149$bb1.6311@newssvr17.news.prodigy.net>
Source record: 44965

Ed wrote:
>> The ARRL Antenna Book assumes ~10 ohms of ground loss
>> for mobile antennas. I've found that 12.5 ohms is the
>> lowest I can get for a 75m mobile antenna feedpoint.
>
> Yes, but most mobiles are cars or pickups. Wouldn't you think that
> losses might be less on a large vehcle like an RV or truck, especially
> with such a high feedpoint as previously suggested (10 feet) ?

Sorry, I've been out of town for a few days and didn't
realize that an RV was being discussed.
--
73, Cecil http://www.w5dxp.com

2302. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 14:45:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <7e88c4-qsp.ln1@mail.specsol.com>
Source record: 44966

art <aunwin@insightbb.com> wrote:
> On 9 Mar, 02:33, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
> > "art" <aun...@insightbb.com> wrote in message
> >
> > news:1173413632.124883.126230@j27g2000cwj.googlegroups.com...
> >
> > > Gentlemen from outside of America. Gauss's law with respect to statics
> > > is quite specific and easy to understand. What is so wrong in
> > > mathematical terms by adding the metric of time to the law so that
> > > curl can be accomodated? i.e. change from a conservative field where
> > > all vectors have zero length,
> > > to a electro magnetic equation by adding the words " the addition of
> > > time" which by providing a three dimensional field has the true
> > > inclusion of curl i.e. all vectors have value in length and direction.
> > > America denies the feasability of such an addition to an existing law
> > > which in essence is regarded as a new law without basis on this side
> > > of the pond.Are all countries of this mentallity?
> > > Art
> >
> > Because a static field does not produce an EM field(curl) only if that
> > static charge is in motion. Motion would even include taking a charged body,
> > say a pith ball and waving it back and forth. Electrons have a static charge
> > but when they are in motion in a conductor they produce fields(curl).
> > Electrons moving about an atom also produces fields but the net result of
> > all the aoms moving about is zero. PLEASE REFERENCE THE GUASSIAN LAW ON
> > STATICS. I still think you are confusing static with statistics.

> But Jimmie my friend, now you have an understanding of Gaussian law
> what is preventing you adding the metric of time or a length of time
> to the statics law?

Because by the definition of "static field" nothing changes over time.

<snip remaining babbling nonsense>

--
Jim Pennino

Remove .spam.sux to reply.

2303. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 14:49:29 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <ZteIh.48733$as2.34412@bgtnsc05-news.ops.worldnet.att.net>
Source record: 44967

art wrote:

>
> But Jimmie my friend, now you have an understanding of Gaussian law
> what is preventing you adding the metric of time or a length of time
> to the statics law?

Art,

Adding the "metric of time" is exactly what J.C. Maxwell did, in 1865. The detailed hard work surrounding Maxwell's Equations, as we know them today, was probably more attributable to Oliver Heaviside. However, Maxwell gets the credit for adding the time contribution.

73,
Gene
W4SZ

2304. Re: Using a tower as a J-Pole for 20 or 40 Meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 15:23:13 UTC
From: "Alain.11" <Alain.11@voila.fr>
Message-ID: <45f17bf6$0$32006$426a74cc@news.free.fr>
Source record: 44968

"Andr&#65533;" <nospam@free.fr> a &#65533;crit dans le message news:
45ef5796$0$25793$426a34cc@news.free.fr...

Wow! Andr&#65533;
http://f5ad.free.fr/QSP_Antennes/F5AD%20sur%20Google.kmz
peux tu nous d&#65533;crire les antennes que l'on voit sur Google earth?

could you describe the antennas ?

2305. Re: PVC pipe for spreaders

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 15:26:41 UTC
From: mcclements@gmail.com
Message-ID: <1173454001.846886.216020@8g2000cwh.googlegroups.com>
Source record: 44969

Yeah, like others have said, you'll need some fiberglass for that
band. As simple as it seems, its easy to get lured into a project like
that and end up spending more money than you would have if you just
bought it from a manufacter and you end up with something that isn't
as good. I went through this when building my quad. I always laughed
at the bamboo and shellac solution - even when Bill Orr wrote it.

-Scott.

On Mar 7, 12:48 pm, k...@comcast.net wrote:
> I am contemplating making a remotely tuned "X" beam for 40m using
> copper weld wire supported on a PVC pipe framework. I need each arm of
> the horizontally oriented "X" support framework to be 18ft long. I am
> considering telescoping 10ft of 3/4 inch PVC, 2 ft into a 10 ft piece
> of 1 inch PVC pipe. When I temporarily do this at the hardware store,
> I get a very heavy, very wobbly spreader. I expect I will guy these
> spreaders (both vertically and horizontally) with Dacron rope at the
> half way point and let the copper weld wire provide the guying for the
> spreader tips.
>
> My concern is the flexibility and weight of the PVC. Too flexible is
> the concern. I can imagine the spreaders developing wind resonance and
> starting a hula dance in the wind. This could become destructive for
> the wire and rope.
>
> What are your insights on this idea?
>
> P.S..I don't want to get into the UV degradation issue please.
>
> - Jeff

2306. Re: Antenna computor programs and pitfalls

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 15:52:24 UTC
From: richardharrison@webtv.net
Message-ID: <13243-45F182B8-53@storefull-3257.bay.webtv.net>
Source record: 44970

Art wrote:
"These of course need to be avoided since they are based on the yagi being unbeaatable."

The Yagi in many ways is the first choice antenna.

It doesn`t increase windloading with conductors which add little to the gain. It doesn`t require more than one drivepoint.

Terman and Kraus liked it and document it.

In Arnold B. Bailey`s catalog of antennas in "TV and Other Receiving Antennas", no better array of simple wires, driven or parasitic, is to be found.

If Art can best the Yagi, he should post a comparison.

Best regards, Richard Harrison, KB5WZI

2307. Re: Congratulations Art

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 16:17:15 UTC
From: richardharrison@webtv.net
Message-ID: <13104-45F1888B-42@storefull-3255.bay.webtv.net>
Source record: 44971

Art wrote:
"Richard, why is it you get away with stating the truth and I get stoned?"

The status quo is comfortable. You are the one who would shake things up.

I think we will always need a patent office but the inventor will need to promote his own work, unless the novelty obviously fills a desperate need.

Best regards, Richard Harrison, KB5WZI

2308. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 16:45:31 UTC
From: Dave <noone@nowhere.com>
Message-ID: <LagIh.5130$ig.1434@trndny07>
Source record: 44972

"Gene Fuller" <W4SZzzzzzz@att.net> wrote in message
news:ZteIh.48733$as2.34412@bgtnsc05-news.ops.worldnet.att.net...
> art wrote:
>
>>
>> But Jimmie my friend, now you have an understanding of Gaussian law
>> what is preventing you adding the metric of time or a length of time
>> to the statics law?
>
>
> Art,
>
> Adding the "metric of time" is exactly what J.C. Maxwell did, in 1865. The
> detailed hard work surrounding Maxwell's Equations, as we know them today,
> was probably more attributable to Oliver Heaviside. However, Maxwell gets
> the credit for adding the time contribution.

unfortunately art is stuck on one of the 4 equations and is ignoring all the
others. if he really understood maxwell's work he would know:

Gauss' Law is for static electric charges and fields.
Ampere's Law is for static magnetic fields, that is fields set up by
constant (read non-time varying) currents.
Faraday's Law introduced the time varying part of the relation between
magnetic fields and currents.
Then Maxwell tied them together with the displacement current into the 4
equations that we have been using and which have successfully been used to
calculate all kinds of electromagnetic phenomena for many years.

By talking about curl of electric fields art is forgetting that this is one
of the representations of Faraday's law:
curl(E)= -dB/dt (E and B are vectors of course) which automatically adds
the time relationship that he is trying to force into Gauss's law where it
has no place.

personally i recommend ignoring him until he goes back to fields and waves
101 and gets the equations straight.

2309. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 16:49:59 UTC
From: richardharrison@webtv.net
Message-ID: <12998-45F19037-64@storefull-3251.bay.webtv.net>
Source record: 44975

Ed wrote:
"Wouldn`t you think that losses might be less on a large vehicle like an RV or Truck,---."

I earlier rederred to an article by W1DBM in QST and an ARRL Antenna Anthology from the 1970`s. The title was: "Antennas for Trailers and Campers".

Everything old is new again. Please see the article: "Compact 40 Meter Loop for Your Recreational Vehicle" by W6NBC on page 41 of the March 2007 QST.

Best regards, Richard Harrison, KB5WZI

2310. Re: Antenna optimizers

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 16:53:29 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1173459208.929439.27660@30g2000cwc.googlegroups.com>
Source record: 44973

On Mar 9, 5:37 am, Ian White GM3SEK <gm3...@ifwtech.co.uk> wrote:
> In a different thread, N5MK wrote:
>
> >I've tried some programs with "optimizers" etc, etc.. MMANA has one fer
> >instance, and it's freeware. In many cases, I can manually churn out a
> >better design by ignoring it, and doing it myself. I've seen a few
> >churn out some pretty funky designs which were not even close to being
> >optimum. Overall, I don't have much use for them. I don't need the
> >program to hold my hand while using it.
>
> Can we start a new discussion, specifically about optimizers?
>
> Having used Brian Beezley's YO and AO (Yagi Optimizer and Antenna
> Optimizer) extensively in the past, I'm not quite as pessimistic as Mark
> about the value of optimizers.
>
> If they're simply allowed to run wild, they can produce some very
> foolish antenna designs. Usually that is not a criticism of the
> automated modeling... it mostly means that, for some practical reason or
> another, the user would be a fool to build the thing.
>
> On the other hand, an optimizer can be very useful for tasks that have a
> very simple target, so it can't go far wrong. For example: "Adjust the
> length of that wire to make it resonant at this frequency." That doesn't
> take long to do by hand, but an optimizer can also handle more
> complicated tasks like: "Adjust the lengths of these three interacting
> wires to make the antenna resonant on three different bands." Then you
> really start to see some benefit from the automation.
>
> At the other end of the spectrum is the kind of complex optimization for
> which YO was developed. You quickly learn that you can't just say
> "Optimize that yagi!" Quite the opposite: to use the program at all, you
> are forced to think very hard about what you really mean by "optimum" -
> for example, how much importance you attach to forward gain, a clean
> pattern, a convenient feedpoint impedance, and to maintaining that good
> performance over a wide bandwidth. Playing with an optimizer, you
> quickly come to understand that it isn't possible to get the best of
> everything, all at the same time... which is a very valuable lesson to
> learn.
>
> The same applies to all other antenna optimizers, of course; and circuit
> optimizers too. The learning process alone can be worth the money.
>
> Having gone through that learning process, an automatic optimizer can

> then zip out some really good antenna designs in a matter of minutes -
> which leaves you wondering what took you so long :-) But that isn't
> going to happen in the first evening, or even maybe the first month.
>
> [Sorry, I don't know how or even if you can buy AO or YO any more.]
>
> --
>
> 73 from Ian GM3SEK 'In Practice' columnist for RadCom
(RSGB)http://www.ifwtech.co.uk/g3sek

The first time I used YO was on a 386 computer and I remember how
looooong it took. Not too long ago I ran it on my daugther's 3.2Ghz
computer and it zipped by so fast I couldnt see what was going on. Are
there new versions that take care of this timing problem? The hardest
thing to do when using this type of software is to define BEST. BEST
is a very subjective quality. For eample I had a vertical on 10 meters
that is 1.5wl long. Most people would call this an awful antenna with
a vertical radiation angle that is way too high. No doubt this wasnt
the best local antenna or the best DX antenna but it filled a niche.
It worked great for short range skip and allowed me to have QSOs that
I never would have had with any other antenna. Seemed to really like
to talk into Louisianna for some reason.

Jimmie

2311. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 16:55:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <kuf8c4-dgp.ln1@mail.specsol.com>
Source record: 44974

art <aunwin@insightbb.com> wrote:
> On 9 Mar, 06:45, j...@specsol.spam.sux.com wrote:

<snip old crap>

> > Because by the definition of "static field" nothing changes over time.
> >
> > <snip remaining babbling nonsense>
> >
> > --
> > Jim Pennino
> >
> > Remove .spam.sux to reply.- Hide quoted text -
> >
> > - Show quoted text -

> Jim, it is the logic applied that produces the law is what you should
> be concentrating on since that same logic can be applied elsewher.

Is this babble supposed to mean something?

If something changes over time, it isn't static.

If it isn't static, static laws don't apply.

See Maxwell and friends for what applies when things are not static.

<snip rambling babble>

--
Jim Pennino

Remove .spam.sux to reply.

2312. Re: Antenna optimizers

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 17:05:27 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1173459927.377185.154340@v33g2000cwv.googlegroups.com>
Source record: 44976

On Mar 9, 9:18 am, "art" <aun...@insightbb.com> wrote:
> On 9 Mar, 02:37, Ian White GM3SEK <gm3...@ifwtech.co.uk> wrote:
>
>
>
>
>
> > In a different thread, N5MK wrote:
>
> > >I've tried some programs with "optimizers" etc, etc.. MMANA has one fer
> > >instance, and it's freeware. In many cases, I can manually churn out a
> > >better design by ignoring it, and doing it myself. I've seen a few
> > >churn out some pretty funky designs which were not even close to being
> > >optimum. Overall, I don't have much use for them. I don't need the
> > >program to hold my hand while using it.
>
> > Can we start a new discussion, specifically about optimizers?
>
> > Having used Brian Beezley's YO and AO (Yagi Optimizer and Antenna
> > Optimizer) extensively in the past, I'm not quite as pessimistic as Mark
> > about the value of optimizers.
>
> > If they're simply allowed to run wild, they can produce some very
> > foolish antenna designs. Usually that is not a criticism of the
> > automated modeling... it mostly means that, for some practical reason or
> > another, the user would be a fool to build the thing.
>
> > On the other hand, an optimizer can be very useful for tasks that have a
> > very simple target, so it can't go far wrong. For example: "Adjust the
> > length of that wire to make it resonant at this frequency." That doesn't
> > take long to do by hand, but an optimizer can also handle more
> > complicated tasks like: "Adjust the lengths of these three interacting
> > wires to make the antenna resonant on three different bands." Then you
> > really start to see some benefit from the automation.
>
> > At the other end of the spectrum is the kind of complex optimization for
> > which YO was developed. You quickly learn that you can't just say
> > "Optimize that yagi!" Quite the opposite: to use the program at all, you
> > are forced to think very hard about what you really mean by "optimum" -
> > for example, how much importance you attach to forward gain, a clean
> > pattern, a convenient feedpoint impedance, and to maintaining that good
> > performance over a wide bandwidth. Playing with an optimizer, you
> > quickly come to understand that it isn't possible to get the best of
> > everything, all at the same time... which is a very valuable lesson to

> > learn.
>
> > The same applies to all other antenna optimizers, of course; and circuit
> > optimizers too. The learning process alone can be worth the money.
>
> > Having gone through that learning process, an automatic optimizer can
> > then zip out some really good antenna designs in a matter of minutes -
> > which leaves you wondering what took you so long :-) But that isn't
> > going to happen in the first evening, or even maybe the first month.
>
> > [Sorry, I don't know how or even if you can buy AO or YO any more.]
>
> > --
>
> > 73 from Ian GM3SEK 'In Practice' columnist for RadCom
(RSGB)http://www.ifwtech.co.uk/g3sek
>
> What bothers me about all this Ian is that AO when allowed to run
> freely
> does produces an array where all elements are resonant in situ.
> Put this same array in NEC4 and the program will concur with the value
> of the desirables given. In the early days I thought that this was a
> result of programming interference by outsiders but the symetry kept
> bugging me. So I gave a rational for why AO was correct to test the
> water. Well we all know that it is not in the books therefore I am an
> idiot. So we flip the coin and determine why the original NEC code
> provided an opening for such a big error but first we determine if
> this so called"" error" had spread in any way.
> Tho I believe my rational is correct surely the majority would be
> interested in the cause of this anomaly, why it produced antenna
> arrays that were legitametly smaller than the yagi and since NEC4
> verified its performance it should be of interest to all antenna
> designers. But no.
> Ridicule has been put into motion and true science went out of the
> window.
> Cheers
> Art
> Go figure!- Hide quoted text -
>
> - Show quoted text -

Sorry but I dont understand you Art, you denounce known theory but
want to use software based on known theory to prove your hypothesis.
Sorry but you tend to accept or denounce current theory just so you
can defend your current arguments.

Jimmie

2313. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 17:15:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <btg8c4-ihs.ln1@mail.specsol.com>
Source record: 44977

art <aunwin@insightbb.com> wrote:
> On 9 Mar, 06:49, Gene Fuller <W4SZzzz...@att.net> wrote:
> > art wrote:
> >
> > > But Jimmie my friend, now you have an understanding of Gaussian law
> > > what is preventing you adding the metric of time or a length of time
> > > to the statics law?
> >
> > Art,
> >
> > Adding the "metric of time" is exactly what J.C. Maxwell did, in 1865.
> > The detailed hard work surrounding Maxwell's Equations, as we know them
> > today, was probably more attributable to Oliver Heaviside. However,
> > Maxwell gets the credit for adding the time contribution.
> >
> > 73,
> > Gene
> > W4SZ

> But he did not associate it with antennas period.

Correct, he described EM fields in general.

> In the previous post
> I applied the same logic to an antenna array and using the initial
> logic that Gauss used and which Maxwell enlarged upon for other
> reasons. And to follow the logic applied by Gauss one must focus on
> equilibrium such that the static particles on the enclosed antenna
> array MUST be in equilibrium or else all falls apart inside the
> enclosed border. Remember that static particles reside on the surface
> of a radiator when energy is not applied.

Babbling nonsense.

The existance of static particles (whatever the hell they are, I presume
you mean electrons) on the surface of a radiator has nothing to do with
applied energy (other than maybe wind energy).

> It departes from the SURFACE when energy is applied and continues to
> do so as time passes by in a time varying form until time stops where
> at that time it must be in a state of equilibrium in static form Q.E.D

More babbling nonsense.

EM waves depart when energy is applied, not particles.

--
Jim Pennino

Remove .spam.sux to reply.

2314. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 17:39:29 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <lZgIh.9027$jx3.4210@newssvr25.news.prodigy.net>
Source record: 44978

jimp@specsol.spam.sux.com wrote:
> EM waves depart when energy is applied, not particles.

Quantum Electrodynamics tells us that EM waves consist
of photons which are particles.
--
73, Cecil, w5dxp.com

2315. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 17:41:46 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <u%glh.9028$jx3.5787@newssvr25.news.prodigy.net>
Source record: 44979

Richard Harrison wrote:
> Everything old is new again.

In one of the CA 75m shootouts, the strongest signal by far
was from a large RV with a motor-erected vertical on top.
Of course, it violated the 12.5 foot height-above-ground
limit for official entries. Heck, the top of the RV was
almost 12.5 foot above ground.
--
73, Cecil, w5dxp.com

2316. Re: Antenna computor programs and pitfalls

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 17:50:53 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ess6pu$ja5$1@nntp1.jpl.nasa.gov>
Source record: 44980

art wrote:
> The most basic of all programs for antennas come from Roy
> They do nothing but number crunching like a calculator and
> will give you an answer close to what other programs provide
> but not the same. The program does NOT help the user in any
> way other than give you an answer regarding the performance
> of what you provide.

Which, is, of course, the "sine qua non" for a *modeling* program.. it should take your model and tell you what the performance will be.

It does NOT give you any help as to where
> you could benefit in any way. When you move beyond the most
> basic of antenna programes you can obtain help fr4om the
> programs in that you don't have to specify actual dimensions
> which may be useles because you can alow those dimensions
> to be variable to allow the computor to guide you in the right
> direction
> to meet your desires.

This is an "antenna designing" program. Many such programs will use one or more "antenna modeling" programs as part of their operation, although, it's not by any means universal.

The cost of these type programs are similar
> to eznec but can go up as high as a couple of thousand dollars
> tho most amateurs should be satisfied with the cheapest versions

"antenna design" is a fairly wide field, and people literally spend their life becoming good at one small part of it. There's a lot of judgement and skill in antenna design, particularly when it comes to things like mechanical/electrical tradeoffs and manufacturability. There are tools designed to address one niche or another (e.g. there's programs that are designed to optimize electrical performance microstrip patch arrays, there's programs that are designed to optimize Yagi-Udas, etc.)

Invariably, such tools are (at least originally) designed to be used by a person who will do the "higher level" trades (Do I use a rectangular or circular array of patches? What mechanical tolerances can I hold in manfuacturing? Can I hold a 5 meter by 4 meter array flat enough to actually work at Ka-band?)

There is some work on integrating all of these, but it's still baby steps (for instance, taking a Solidworks model and turning it into a meshed grid for modeling, or trying to integrate electrical, optical,

and mechanical models for large dishes (e.g. IMOS))

> Some programs are designed around the yagi only for simplification.

yes.. back before computers got cheap, people worked out clever analytical models for certain classes of antennas.. arrays of parallel straight thin elements would be one that's particularly amenable to such analysis. No surprise that as computers came to be more common, such models would be first ones to be implemented.
> These ofcourse need to be avoided since they are based on the
> yagi being unbeatable.

Not at all. it's that people had equations for Yagis (based on empirical experience that Yagis worked and met at least some of the requirements), and people tend to want to work with what is familiar. If for no other reason than you can compare the output of the modeling code (or the optimization code) with something you've actually built and see if it matches (aka validation).

So if a choice has to be made then programs
> with variable dimension abilities together with a sufficient large
> number of pulses are by far superior toi any other computor program.

Well, sure.. if you're going to any sort of Finite Element analysis (of which the method of moments methods are just one subset), more elements is better. But there's issues and concerns there, too: computational resources is one, roundoff and numerical precision is another. Start looking at models with hundreds of thousands of very tiny pieces, and it becomes quite the numerical analysis/computer science challenge to effectively compute it. And there are people working on it. I'm aware of several efforts to implement some MoM and FDTD codes on large (1000 processor) cluster computers. (say you want to simulate an entire ship, airplane, or spacecraft)
> None of these programs agree with each other because of built in
> errors

Error is the wrong word here (although technically correct), because it is perjorative and implies that there is a fundamental bug, which is generally not the case. All modeling codes are inaccurate to some degree, partly because of the limited fidelity of the model input (surely you don't want to spend the time to put in the actual atomic composition of the elements) and partly because of a deliberate tradeoff between speed and uncertainty (most people would rather have an answer in a few minutes accurate to 1% than an answer next week accurate to 0.01%)

> As a side point some programs provide errors because the user
> doesn't understand the thinking behind garbage in and garbage out
> because there is no oversight with respect to programmers error.

This is true of any modeling code. Better codes DO some reasonableness checks for nonphysical structures and such. But, just like using a chainsaw to saw down trees more rapidly than using a handsaw, there's some assumption that the user has some skill.

2317. Re: Antenna computor programs and pitfalls

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 17:53:50 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ess6vejal1@nntp1.jpl.nasa.gov>
Source record: 44981

4nec2 wrote:
>
> It's a pitty I was not aware of EZnec first few months after I
> stumbled over the Nec2 program.

No it's not a pity, Arie.. Because then you might not have been inspired to write 4nec2, which is what I use, rather than EZNEC. (Not that EZNEC is better or worse, just different, and I've grown to like 4nec2)

Jim

2318. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 18:11:20 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <ess7vg$u7s$1@nnrp.linuxfan.it>
Source record: 44982

```
Cecil Moore wrote:
> jimp@specsol.spam.sux.com wrote:
>> EM waves depart when energy is applied, not particles.
>
> Quantum Electrodynamics tells us that EM waves consist
> of photons which are particles.
> --
> 73, Cecil, w5dxp.com

So, which is the real question:

1) Why do waves act like particles?

--OR--

2) Why do particles act like waves?

JS
--
http://assemblywizard.tekcities.com
```

2319. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 18:23:06 UTC
From: nm5k@wt.net
Message-ID: <1173464586.659604.138500@h3g2000cwc.googlegroups.com>
Source record: 44983

>In rec.radio.amateur.antenna you write:
>>Wasn't mine..It was one they were using at a field day. As far as I could
>>....[snip]....
>>But usually my preferred multi band antenna will be paralled dipoles,
>>with the legs spread apart as far as possible.. Fed with a single coax
>>feed. Thats what I use here at home. No loss in system efficiency
>>compared to many other multi band designs.

>Maybe you can suggest why our formula-cut paralleled-dipole didn't
>work all that well at our last "Kids Day at the Mall" effort:

>Using some 4-foot-high decorative pillars about 15 feet outside the
>mall doors as base mounts, we were able to erect and guy two 25-foot-high
>metal masts about 40 feet apart. We then pulleyed-up a 10/15/20 meter
>coax-fed parallel-dipole (20m on top, 15m on bottom, 15m between) with
>the ropes to each dipole spread about 2 feet at the masts.

>VSWR was something like 6:1, although a "tuner" brought it down to
>where the radio worked OK. We made lots of contacts, but still
>haven't determined why the "raw" VSWR was so high. Any ideas?

Sure. Coupling between the elements being they are so close
together, and inline with each other.
Thats why I spread mine apart as far as possible. The wider apart,
the less coupling in general.
If two dipoles are at right angles, they is almost zero coupling.
In such a case, I've had a leg of one of the dipoles fall down,
with little change in SWR for the other band being used.
Also the wider apart, the less skewing of the pattern from a
normal dipole pattern.
You can use the type antenna you describe, but tuning is tricky.
You have to start with the lowest band, get it tuned, and then
add the next higher band, get it tuned, and so on. Thats about
the only way you will get one tuned for each band.
And I've seen weird things happen with close coupling. I've
had cases where I would have to increase the length of the
legs on a higher band to go *up* the band. Pretty weird..
With them spaced as far apart as possible, you don't have
to go through all that tuning torture, and the antenna will
act more like a normal dipole for each band used.
I've used that system here at home for years. I change it
up quite a bit depending on season, etc..
Right now, it's a turnstile on 80m, and a dipole on 40.
At times, I'll have it 160,80,40 , and others 80/40/20..
Just depends what I'm doing at the time.

MK

2320. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 18:23:12 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <kChIh.1481$FG1.1254@newssvr27.news.prodigy.net>
Source record: 44984

John Smith I wrote:
> So, which is the real question:

How can a single photon go through two slits
at the same time and interfere with itself
on the other side?
--
73, Cecil http://www.w5dxp.com

2321. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 18:25:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <oqk8c4-ng8.ln1@mail.specsol.com>
Source record: 44985

Cecil Moore <mycall@hotmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:
> > EM waves depart when energy is applied, not particles.

> Quantum Electrodynamics tells us that EM waves consist
> of photons which are particles.

Like other quanta the photon has both wave and particle
properties, but has zero rest mass and is not a particle like
an electron

--
Jim Pennino

Remove .spam.sux to reply.

2322. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 18:28:14 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <2HhIh.1483$FG1.1100@newssvr27.news.prodigy.net>
Source record: 44987

art wrote:
> Same way with regard to free particles residing on the surface of a
> conductor,

Are you referring to free electrons?
--
73, Cecil http://www.w5dxp.com

2323. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 18:28:54 UTC
From: nm5k@wt.net
Message-ID: <1173464934.563790.149330@q40g2000cwq.googlegroups.com>
Source record: 44986

On Mar 8, 10:01 pm, Cecil Moore <myc...@hotmail.com> wrote:
> n...@wt.net wrote:
> > On Mar 5, 11:40 pm, Ed <Huckleberry_REMO...@bigvalley.net> wrote:
> > I am wondering how ground loss/resistance is effected by my
> >> having the bottom/feedpoint of the antenna so high off the ground, not
> >> to mention, I wonder how to calculate or guess what it is at all.
>
> > The bigger the vehicle, and the higher the mount, the lower the ground
> > losses.
>
> The ARRL Antenna Book assumes ~10 ohms of ground loss
> for mobile antennas. I've found that 12.5 ohms is the
> lowest I can get for a 75m mobile antenna feedpoint.
> --
> 73, Cecil http://www.w5dxp.com

Well, in my book, they state it varied for the size vehicle. They
state as
low as 4-6 ohms, but I agree, thats kinda optimistic... :(
But it still really doesn't matter as far as designing the antenna.
It's going to be the same no matter what... And it's consideration
of current distribution, etc, etc, will be important.
My antenna design will be the same , no matter what the ground
loss. So I don't worry about it too much. I just accept what I get..
BTW, my book is getting a little old, "90's something" so maybe they
have changed that section.
MK

2324. Re: Using a tower as a J-Pole for 20 or 40 Meters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 18:53:24 UTC
From: Andr&#65533; <nospam@free.fr>
Message-ID: <45f1ad25$0$32000$426a34cc@news.free.fr>
Source record: 44988

"Alain.11" <Alain.11@voila.fr> a &#65533;crit dans le message de news:
45f17bf6$0$32006$426a74cc@news.free.fr...

> Wow! Andr&#65533;
> http://f5ad.free.fr/QSP_Antennes/F5AD%20sur%20Google.kmz
> peux tu nous d&#65533;crire les antennes que l'on voit sur Google earth?
>
> could you describe the antennas ?

Oui, bien s&#65533;r,

At the top you can see a parabolic dish (diameter 3.2 meters)

underneath a TH6, stacked with a Create DB18-24

underneath it's not a 4 elements yagi but 4 VHF antennas:
two phased 9 el yagi 144
and two phased 19 el yagi 435
rotatable site and az for sat tracking

On the right, you can see 6 whites points
the first 3 points are offset dishes (30 and 60 cm) for links on ATV 10 GHz
FM (transmitting)
the other 3 points are offset dishes (50 and 80 cm) for links on ATV 10 GHz
FM (receiving)

The links are:
with a repeater on Mont Aigoual (70 km)
with a repeater on Mont Ventoux (80 km) and montagne de Lure (120 km)
with a repeater in Marseille town (100 km)

underneath, near the shack, you can see a 5 elements yagi on 50 MHz and 2
small offsets on 10 Ghz for a link with F6BES 6 km away.

73
Andr&#65533;

2325. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 19:03:17 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns98EE709CEA057spectrumhogstarbandn@198.186.192.196>
Source record: 44989

> You've gotten several suggestions. 6-8 Ohms is no better than 10-12
> Ohms as a guess; however, just what does this program do that this
> number is so important in performing what it does?
>

mobile.exe is a little DOS based program that gives you radiation efficiency, Q factor, etc, after you input several proposed design measurements of a mobile antenna. When calculating these antenna parameters for a "fixed station" type of mounting, (not on a vehicle, I guess), ground loss is one figure required for input. It is NOT a required input when figuring for mounting on a vehicle, I just realized.

Ed

2326. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 19:08:54 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <ahilh.6363$M65.6276@newssvr21.news.prodigy.net>
Source record: 44990

Ed wrote:
> It is NOT a
> required input when figuring for mounting on a vehicle, I just realized.

Does it require one to input the type of vehicle?
--
73, Cecil http://www.w5dxp.com

2327. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 19:11:12 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns98EE71F51208Bspectrumhogstarbandn@198.186.192.196>
Source record: 44991

richardharrison@webtv.net (Richard Harrison) wrote in news:12998-45F19037-64@storefull-3251.bay.webtv.net:

> Ed wrote:
> "Wouldn`t you think that losses might be less on a large vehicle like an
> RV or Truck,---."
>
> I earlier rederred to an article by W1DBM in QST and an ARRL Antenna
> Anthology from the 1970`s. The title was: "Antennas for Trailers and
> Campers".
>
> Everything old is new again. Please see the article: "Compact 40 Meter
> Loop for Your Recreational Vehicle" by W6NBC on page 41 of the March
> 2007 QST.
>
> Best regards, Richard Harrison, KB5WZI
>
>

I saw that. Neat idea, but as previously mentioned, I think, my needed antenna design is for 80M, operation only while stopped, must be vertical, and lastly, must not require me to climb up to the RV rooftop to put it up or take it down. I have a good idea where I'm going with this and will discuss the final product when it is completed ... probably several weeks from now.

Ed

Ed

2328. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 19:13:18 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns98EE72501EE8Fspectrumhogstarbandn@198.186.192.196>
Source record: 44992

Cecil Moore <mycall@hotmail.com> wrote in news:u%gIh.9028$jx3.5787
@newssvr25.news.prodigy.net:

> Richard Harrison wrote:
>> Everything old is new again.
>
> In one of the CA 75m shootouts, the strongest signal by far
> was from a large RV with a motor-erected vertical on top.
> Of course, it violated the 12.5 foot height-above-ground
> limit for official entries. Heck, the top of the RV was
> almost 12.5 foot above ground.
> --
> 73, Cecil, w5dxp.com
>

A beautifully constructed 23' marine antenna on the roof with custom
fabricated lift mechanism, I believe? I think I saw that rig at Quartzite
in January. Fantastic.

Ed

2329. Re: Antenna optimizers

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 19:15:20 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1173467720.012438.195240@v33g2000cwv.googlegroups.com>
Source record: 44993

On Mar 9, 1:58 pm, "art" <aun...@insightbb.com> wrote:
> On 9 Mar, 09:05, "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote:
>
>
>
>
>
> > On Mar 9, 9:18 am, "art" <aun...@insightbb.com> wrote:
>
> > > On 9 Mar, 02:37, Ian White GM3SEK <gm3...@ifwtech.co.uk> wrote:
>
> > > > In a different thread, N5MK wrote:
>
> > > > >I've tried some programs with "optimizers" etc, etc.. MMANA has one fer
> > > > >instance, and it's freeware. In many cases, I can manually churn out a
> > > > >better design by ignoring it, and doing it myself. I've seen a few
> > > > >churn out some pretty funky designs which were not even close to being
> > > > >optimum. Overall, I don't have much use for them. I don't need the
> > > > >program to hold my hand while using it.
>
> > > > Can we start a new discussion, specifically about optimizers?
>
> > > > Having used Brian Beezley's YO and AO (Yagi Optimizer and Antenna
> > > > Optimizer) extensively in the past, I'm not quite as pessimistic as Mark
> > > > about the value of optimizers.
>
> > > > If they're simply allowed to run wild, they can produce some very
> > > > foolish antenna designs. Usually that is not a criticism of the
> > > > automated modeling... it mostly means that, for some practical reason or
> > > > another, the user would be a fool to build the thing.
>
> > > > On the other hand, an optimizer can be very useful for tasks that have a
> > > > very simple target, so it can't go far wrong. For example: "Adjust the
> > > > length of that wire to make it resonant at this frequency." That doesn't
> > > > take long to do by hand, but an optimizer can also handle more
> > > > complicated tasks like: "Adjust the lengths of these three interacting
> > > > wires to make the antenna resonant on three different bands." Then you
> > > > really start to see some benefit from the automation.
>
> > > > At the other end of the spectrum is the kind of complex optimization for
> > > > which YO was developed. You quickly learn that you can't just say
> > > > "Optimize that yagi!" Quite the opposite: to use the program at all, you
> > > > are forced to think very hard about what you really mean by "optimum" -
> > > > for example, how much importance you attach to forward gain, a clean

> > > > pattern, a convenient feedpoint impedance, and to maintaining that good
> > > > performance over a wide bandwidth. Playing with an optimizer, you
> > > > quickly come to understand that it isn't possible to get the best of
> > > > everything, all at the same time... which is a very valuable lesson to
> > > > learn.
>
> > > > The same applies to all other antenna optimizers, of course; and circuit
> > > > optimizers too. The learning process alone can be worth the money.
>
> > > > Having gone through that learning process, an automatic optimizer can
> > > > then zip out some really good antenna designs in a matter of minutes -
> > > > which leaves you wondering what took you so long :-) But that isn't
> > > > going to happen in the first evening, or even maybe the first month.
>
> > > > [Sorry, I don't know how or even if you can buy AO or YO any more.]
>
> > > > --
>
> > > > 73 from Ian GM3SEK 'In Practice' columnist for RadCom
(RSGB)http://www.ifwtech.co.uk/g3sek
>
> > > What bothers me about all this Ian is that AO when allowed to run
> > > freely
> > > does produces an array where all elements are resonant in situ.
> > > Put this same array in NEC4 and the program will concur with the value
> > > of the desirables given. In the early days I thought that this was a
> > > result of programming interference by outsiders but the symetry kept
> > > bugging me. So I gave a rational for why AO was correct to test the
> > > water. Well we all know that it is not in the books therefore I am an
> > > idiot. So we flip the coin and determine why the original NEC code
> > > provided an opening for such a big error but first we determine if
> > > this so called"" error" had spread in any way.
> > > Tho I believe my rational is correct surely the majority would be
> > > interested in the cause of this anomaly, why it produced antenna
> > > arrays that were legitametly smaller than the yagi and since NEC4
> > > verified its performance it should be of interest to all antenna
> > > designers. But no.
> > > Ridicule has been put into motion and true science went out of the
> > > window.
> > > Cheers
> > > Art
> > > Go figure!- Hide quoted text -
>
> > > - Show quoted text -
>
> > Sorry but I dont understand you Art, you denounce known theory but
> > want to use software based on known theory to prove your hypothesis.
> > Sorry but you tend to accept or denounce current theory just so you
> > can defend your current arguments.
>

> > Jimmie- Hide quoted text -
>
> > - Show quoted text -
>
> Thats an untruth Jimmie! are you only reading what you want to read?
> Art- Hide quoted text -
>
> - Show quoted text -

What do you mean UNTRUE, Isnt it TRUE that you have repeatedly chastised people for only accepting that which is ACCEPTED and written in books, calling these people LEMMINGS. ISNT it also true you use the same software based on that long accepted data that you claim to be in error. Sounds to me as you want to have your cake and eat it too. Please explain how you can accept results from software that uses the theory you have denounced.

Jimmie

2330. Isolation of guy wires

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 19:26:20 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <wxilh.10901$tD2.4626@newsread1.news.pas.earthlink.net>
Source record: 44994

Has anyone thought of trying to use some of the ferrite beads to isolate the guy wires of a tower for RF so the tower could be shunt fed ? Along the same lines could the beads be used to electrically brake up the wires into non resonate lengths ?

2331. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 19:32:20 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns98EE758A53DFspectrumhogstarbandn@198.186.192.196>
Source record: 44995

Cecil Moore <mycall@hotmail.com> wrote in news:ahiIh.6363$M65.6276
@newssvr21.news.prodigy.net:

> Ed wrote:
>> It is NOT a
>> required input when figuring for mounting on a vehicle, I just
realized.
>
> Does it require one to input the type of vehicle?

yes, input selections are pretty much based on vehicle size; largest
vehicle choice is a Van type. Last choice is "fixed station" which I
assume means no vehicle at all.. and that is the only choice requiring a
ground loss entry. Since my proposed antenna is for an RV, it appears I
really needn't have asked the ground loss question at all!

mobile.exe is a rather neat little DOS program located on the CD in
the back of newer ARRL antenna books, I believe.... maybe in the Handbook
too, I'm not sure on that.

Ed

2332. Re: Antenna optimizers

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 19:35:37 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <esscu9$mh5$1@nntp1.jpl.nasa.gov>
Source record: 44997

Ian White GM3SEK wrote:
> In a different thread, N5MK wrote:
>
>> I've tried some programs with "optimizers" etc, etc.. MMANA has one
>> fer instance, and it's freeware. In many cases, I can manually churn
>> out a better design by ignoring it, and doing it myself. I've seen a
>> few churn out some pretty funky designs which were not even close to
>> being optimum. Overall, I don't have much use for them. I don't need
>> the program to hold my hand while using it.
>
>
> Can we start a new discussion, specifically about optimizers?
>
> Having used Brian Beezley's YO and AO (Yagi Optimizer and Antenna
> Optimizer) extensively in the past, I'm not quite as pessimistic as Mark
> about the value of optimizers.
>
> If they're simply allowed to run wild, they can produce some very
> foolish antenna designs. Usually that is not a criticism of the
> automated modeling... it mostly means that, for some practical reason or
> another, the user would be a fool to build the thing.
>
> On the other hand, an optimizer can be very useful for tasks that have a
> very simple target, so it can't go far wrong. For example: "Adjust the
> length of that wire to make it resonant at this frequency." That doesn't
> take long to do by hand, but an optimizer can also handle more
> complicated tasks like: "Adjust the lengths of these three interacting
> wires to make the antenna resonant on three different bands." Then you
> really start to see some benefit from the automation.
>
> At the other end of the spectrum is the kind of complex optimization for
> which YO was developed. You quickly learn that you can't just say
> "Optimize that yagi!" Quite the opposite: to use the program at all, you
> are forced to think very hard about what you really mean by "optimum" -
> for example, how much importance you attach to forward gain, a clean
> pattern, a convenient feedpoint impedance, and to maintaining that good
> performance over a wide bandwidth. Playing with an optimizer, you
> quickly come to understand that it isn't possible to get the best of
> everything, all at the same time... which is a very valuable lesson to
> learn.
>
> The same applies to all other antenna optimizers, of course; and circuit
> optimizers too. The learning process alone can be worth the money.
>

> Having gone through that learning process, an automatic optimizer can
> then zip out some really good antenna designs in a matter of minutes -
> which leaves you wondering what took you so long :-) But that isn't
> going to happen in the first evening, or even maybe the first month.
>
>
> [Sorry, I don't know how or even if you can buy AO or YO any more.]

However, there are other optimizers out there. Arie has one in 4nec2 that works fairly well. There's also a program called GENOPT which can optimize ANYTHING (or at least, anything where the modeling program can be invoked from the command line and which takes a file as input and generates a file as output).. You can specify all sorts of contstraints and evaluation functions, and it just keeps shooting new models out, running the modeler, and parsing the output. For use with NEC, you need to write a little postprocessor to extract your desired "figure of merit" from the NEC output file (e.g. NEC doesn't give you something like F/B or SWR Bandwidth.. and while the GENOPT parser *could* be set up to do it, it would be painful...)

And, there's a variety of ways to do things like fire off NEC from Excel, and you can use Excel's optimizer (such as it is..).

If you get into more esoteric optimizers like particle swarm or genetic optimizers, they're all available in fairly generic form.

So, what you need is the following 4 pieces of software:

1) The optimizer engine
2) Something that takes a list of "parameters being optimized" (your independent variables) and turns it into a suitable model file
3) The modeler (e.g. NEC)
4) Something that post processes the output of the modeler to generate your "evaluation function".

If you can get each of the latter 3 in a form which is invokable from the command line, then almost all of the existing #1 programs can use it.

For doing #2, there is a perl script/program out there that can do fairly nice parameter substitution. Not quite as nice as Arie's 4nec2 symbol substitution with math, but at least it will take a file with one parameter per line, and substitute them into a "skeleton" NEC input deck that has parameter references, with some arithmetic. There's actually a lot of these sorts of scripting tools around.

for #3, it exists already

for #4, it would be nice if there were a library of little programs that could parse a NEC output deck and just emit a few numbers for some standardized analyses.. For instance, you could feed in a NEC output file and it would give you front/back ratio, or SWR bandwidth. Obviously, such things exist, embedded in programs like EZNEC and 4nec2, but they're not readily available as little usable components (and I

don't expect Roy or Arie to provide them, either.. That's their proprietary improvements on the raw NEC engine, and they should use them as they see fit, in exchange for the considerable work they've put into it.)

Maybe a good start would be to define some common "figure of merit" numbers that might be applied to antennas. Not just define in words, but in a more rigorous quantitative specification sort of way. Some are easy (forward gain, swr bandwidth for a single band), some are more difficult.. how do you handle describing side/back lobe performance? Do you cutoff above a certain elevation angle (on the basis that there's no propagation there anyway)? The radar folks talk about things like Peak Sidelobe Level, Integrated Sidelobe Level, and average sidelobe level.

Jim
>
>

2333. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 19:44:58 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <essdf1$al8$1@nnrp.linuxfan.it>
Source record: 44996

jimp@specsol.spam.sux.com wrote:

> ...
> properties, but has zero rest mass and is not a particle like
> an electron
>
>

Really? I am going to have to see that one to believe it (not saying it is incorrect though), a "something" with no mass--kinda like a "ghost particle!"

JS
--
http://assemblywizard.tekcities.com

2334. Re: Antenna computor programs and pitfalls

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 19:49:11 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <essdno$ms3$1@nntp1.jpl.nasa.gov>
Source record: 44999

art wrote:
I am more than a little
> dismayed that the owner of 4NEC2 is not cooperating. He asked what AO
> provided but now refuses to provide what
> his program provides, thus I have a sneaking suspicion that all he did
> was convert AO and AOP from DOS to WINDOWS without checking content
> such that the contended bug or supposed error has carried thru today
> without review.

Uhh.. I think Arie is doing what he can. Have YOU downloaded 4nec2 and taken the time to learn how to use it and loaded your model in and run it? It's your design, and YOU should put the work into verifying it. Sure, you might have to figure out how to convert your conceptual design into a format amenable for 4nec2 (or EZNEC or any of the other modeling/optimizing codes). But this is something that any antenna designer has to do. The program is just a tool. You have to invest the effort in effectively using the tool, or deciding whether it's an appropriate tool to use for answering YOUR questions.

It's not like Arie should do this as a demo, just to convince you to download a FREE program. If you were a large company that was contemplating spending $60K on a big modeling code, it might be reasonable to ask the vendor of the code to run a sample model to see if you've got a handle on the interfaces, etc. But the vendor's work in that case fits in the category of "marketing expenses".

And, it's not real clear what the question is that you expect to have answered by 4nec2 or AO, or whatever.

As far as the source of what Arie has done... I have NO first hand knowledge other than observing the changes it's gone through over the years. I'm pretty sure it does NOT use the same optimizers or optimization method as AO. For that matter, his optimizers have evolved over the years as new optimization algorithms come along.

And, on a more philosophical note.. it's pretty darn offensive to allege that Arie's merely copied someone else's work, especially since Brian's codes haven't ever been published as source code, to my knowledge. Arie's put a lot of work into this, and is being quite gracious in giving to us to use for free.

2335. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 20:05:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <buq8c4-d23.ln1@mail.specsol.com>
Source record: 44998

John Smith I <assemblywizard@gmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:

> > ...
> > properties, but has zero rest mass and is not a particle like
> > an electron
> >
> >

> Really? I am going to have to see that one to believe it (not saying it
> is incorrect though), a "something" with no mass--kinda like a "ghost
> particle!"

You see it every day; it is called light.

Photons are not particles because they have no rest mass; particles
by definition do.

If photons had mass, they couldn't travel at the speed of light.

Or didn't you know that nothing with mass can travel at the speed of
light?

--
Jim Pennino

Remove .spam.sux to reply.

2336. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 20:14:33 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <JejIh.6495$P47.1609@newssvr22.news.prodigy.net>
Source record: 45000

Ed wrote:
> ... as previously mentioned, I think, my
> needed antenna design is for 80M, operation only while stopped, must be
> vertical, and lastly, must not require me to climb up to the RV rooftop
> to put it up or take it down. I have a good idea where I'm going with
> this and will discuss the final product when it is completed ... probably
> several weeks from now.

At one of the CA 75m shootouts, Sanford, W6YY had
a motorized 30 foot vertical mounted on top of his
huge RV. While he was traveling, it laid down against
the top of the RV. When he was stopped, he had it
motorized so he could raise it to a vertical position.
He beat the best of the best 75m mobile bugcatchers
and screwdrivers by 2 dB and beat a 75m hamstick
by about 14 dB. It's certainly worth considering.
--
73, Cecil http://www.w5dxp.com

2337. Re: Isolation of guy wires

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 20:17:55 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <ShjIh.6496$P47.4753@newssvr22.news.prodigy.net>
Source record: 45001

Ralph Mowery wrote:
> Has anyone thought of trying to use some of the ferrite beads to isolate the
> guy wires of a tower for RF so the tower could be shunt fed ? Along the same
> lines could the beads be used to electrically brake up the wires into non
> resonate lengths ?

The most effective ferrites are primarily resistive
thus dissipating some power. Maybe a more reactive
ferrite might work better?
--
73, Cecil http://www.w5dxp.com

2338. Re: Isolation of guy wires

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 20:18:55 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <45f1c131$0$10626$4fafbaef@reader2.news.tin.it>
Source record: 45002

"Ralph Mowery" <rmowery28146@earthlink.net> ha scritto nel messaggio
news:wxiIh.10901$tD2.4626@newsread1.news.pas.earthlink.net...
> Has anyone thought of trying to use some of the ferrite beads to isolate the
> guy wires of a tower for RF so the tower could be shunt fed ? Along the same
> lines could the beads be used to electrically brake up the wires into non
> resonate lengths ?

The inductance of a piece of wire passing through a ferrite bead would be way
too low to produce a discernible choking effect at HF frequencies.

73

Tony I0JX

2339. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 20:27:46 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <6rjlh.6413$M65.882@newssvr21.news.prodigy.net>
Source record: 45003

John Smith I wrote:
> Really? I am going to have to see that one to believe it (not saying it
> is incorrect though), a "something" with no mass--kinda like a "ghost
> particle!"

It's old hat knowledge, John, and one of the reasons
why standing wave energy doesn't just stand there or
just "slosh around" as one guru asserted. If a photon
is slowed to zero velocity, its mass vanishes and
it ceases to be detectable. A photon's mass derives
from its speed-of-light velocity, i.e. it is 100%
kinetic. Any particle with a resting mass would necessarily
have infinite mass at the speed of light. Therefore, any
particle with a finite mass at the speed of light must
necessarily have a zero rest mass.
--
73, Cecil http://www.w5dxp.com

2340. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 20:33:04 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <4wjIh.6417$M65.4896@newssvr21.news.prodigy.net>
Source record: 45004

jimp@specsol.spam.sux.com wrote:
> Photons are not particles because they have no rest mass; particles
> by definition do.

Quantum ElectroDynamics tells us that nothing except
particles exist. Photons are *particles* with zero
rest mass. QED! (Get it? :-)

Would you like to hear about virtual particles?
--
73, Cecil http://www.w5dxp.com

2341. Re: Isolation of guy wires

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 20:41:49 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <hEjIh.6419$M65.6111@newssvr21.news.prodigy.net>
Source record: 45005

Antonio Vernucci wrote:
> The inductance of a piece of wire passing through a ferrite bead would
> be way too low to produce a discernible choking effect at HF frequencies.

Ever heard of a w2du balun? http://w2du.com/r3ch21a.pdf
How about passing the wire through 50 #77 beads as
recommended by the ARRL Antenna Book?
--
73, Cecil http://www.w5dxp.com

2342. Re: Isolation of guy wires

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 20:56:12 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12v3ifdaenijh94@corp.supernews.com>
Source record: 45006

Ralph Mowery wrote:
> Has anyone thought of trying to use some of the ferrite beads to isolate the
> guy wires of a tower for RF so the tower could be shunt fed ? Along the same
> lines could the beads be used to electrically brake up the wires into non
> resonate lengths ?

It would require multiple beads at each point, and at multiple points.
While it could be made to work, it would be heavy and expensive. That's
why egg insulators or non-conductive guys are used instead.

Roy Lewallen, W7EL

2343. Re: Antenna computor programs and pitfalls

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 21:06:09 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12v3j22hbmj3g4c@corp.supernews.com>
Source record: 45007

Thanks for the kind words, something too seldom seen here lately.

Long ago, I told Art that I and some others wouldn't pay much attention to his conjectures unless he posted some quantitative results showing how his antenna creations were better than any others. He interpreted this as an attack, and that slowly turned to the hatred you now see. He dislikes EZNEC, I believe, simply because it's my program. I've eventually become the personification of the cartel which is out to belittle and deride him, preventing him from achieving the recognition he believes he deserves for his revolutionary insights. I'm in no way a qualified psychologist, but I see a number of similarities between this and the behavior shown some time ago by Nathan "Chip" Cohen (Fractenna"), who also considers me to be evil incarnate for much the same reason. As far as I know, these are the only two people in the entire world who dislike me this much. I'm afraid that by saying complimentary things about me, you -- and by association, your program -- will be joining me on Art's hate list.

I'm sorry to see that some of my postings and comments about EZNEC are regarded by anyone as advertising, since I don't believe that advertising is appropriate here. I do naturally use EZNEC as an example or suggestion when giving an example of how to model something or to illustrate a point and frequently recommend the free demo, but I don't believe I've ever suggested that anyone buy EZNEC or that it's necessarily superior to any other program. In fact, I often give tips on using NEC-2. I also post corrections when someone says something about EZNEC's capabilities which isn't true, and to answer questions about it. I invite anyone who considers what I say about EZNEC to be out of line to comment -- I'll certainly try to change my level of commentary if there's general agreement that I've been advertising.

Roy Lewallen, W7EL

4nec2 wrote:
> Just out of curiosity, but can anybody inform me what's the problem
> between Art and Roy. In every posting of Art, Roy's name (or EZnec)
> shows up. Why not mention NecWin+ or Supernec or others ?
>
> I don't know Roy, but when reading his postings I sure think he is a
> nice guy. When supplying answers on questions posted in this group,
> it's expectable he does some EZnec advertising, because it's a
> commercial product. Mostly he also takes the time to tell that there
> are other productys around with similar capabilities...
>
> It's a pitty I was not aware of EZnec first few months after I

> stumbled over the Nec2 program.
>
> :-(
>
> Arie.
>

2344. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 21:13:25 UTC
From: Dave <noone@nowhere.com>
Message-ID: <V5klh.20$Bi2.9@trnddc01>
Source record: 45008

"Gene Fuller" <W4SZzzzzzz@att.net> wrote in message
news:ZteIh.48733$as2.34412@bgtnsc05-news.ops.worldnet.att.net...
> art wrote:
>
>>
>> But Jimmie my friend, now you have an understanding of Gaussian law
>> what is preventing you adding the metric of time or a length of time
>> to the statics law?
>
>
> Art,
>
> Adding the "metric of time" is exactly what J.C. Maxwell did, in 1865. The
> detailed hard work surrounding Maxwell's Equations, as we know them today,
> was probably more attributable to Oliver Heaviside. However, Maxwell gets
> the credit for adding the time contribution.

unfortunately art is stuck on one of the 4 equations and is ignoring all the
others. if he really understood maxwell's work he would know:

Gauss' Law is for static electric charges and fields.
Ampere's Law is for static magnetic fields, that is fields set up by
constant (read non-time varying) currents.
Faraday's Law introduced the time varying part of the relation between
magnetic fields and currents.
Then Maxwell tied them together with the displacement current into the 4
equations that we have been using and which have successfully been used to
calculate all kinds of electromagnetic phenomena for many years.

By talking about curl of electric fields art is forgetting that this is one
of the representations of Faraday's law:
curl(E)= -dB/dt (E and B are vectors of course) which automatically adds
the time relationship that he is trying to force into Gauss's law where it
has no place.

personally i recommend ignoring him until he goes back to fields and waves
101 and gets the equations straight.

2345. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 22:05:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <j129c4-2fq.ln1@mail.specsol.com>
Source record: 45009

Cecil Moore <mycall@hotmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:
> > Photons are not particles because they have no rest mass; particles
> > by definition do.

> Quantum ElectroDynamics tells us that nothing except
> particles exist. Photons are *particles* with zero
> rest mass. QED! (Get it? :-)

Cecil, do you ever tire of playing semantic games?

--
Jim Pennino

Remove .spam.sux to reply.

2346. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 22:45:40 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <oslIh.14204$bb1.9102@newssvr17.news.prodigy.net>
Source record: 45010

jimp@specsol.spam.sux.com wrote:
> Cecil Moore <mycall@hotmail.com> wrote:
>> Quantum ElectroDynamics tells us that nothing except
>> particles exist. Photons are *particles* with zero
>> rest mass. QED! (Get it? :-)
>
> Cecil, do you ever tire of playing semantic games?

I never tire of semantic humor. A double meaning or,
even better, a triple meaning, is one of the things
that makes English so enjoyable. (And I really enjoy
the "wench for sell" over on rec.radio.swap.)

But seriously, QED indicates that everything that
exists is a particle, even if it has no rest mass,
even if it is only virtual.
--
73, Cecil http://www.w5dxp.com

2347. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 22:58:02 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <5vl3v21lj4jnfif47i8q0rqor3jq1tpgji@4ax.com>
Source record: 45011

Owen,

Just returned from five days in Jacksonville, FL for spinal surgery that didn't occur. I had cataract surgery on Feb 20, and the spinal surgeon said I needed six weeks of recovery from the earlier surgery before he'd perform the spinal, for fear of damaging the yet unhealed eye. So now I can get back to business as usual for a while.

On Wed, 07 Mar 2007 23:22:28 GMT, Owen Duffy <none@no.where> wrote:

>"walt" <walt@w2du.com> wrote in
>news:1173306382.574773.263700@h3g2000cwc.googlegroups.com:
>
>Walt,
>...
>> First, let me say that although the average source resistance at the
>> plates appears to be 1400 ohms in the case I described, and IMHO I
>> believe it is, I'm not in the position of stating that is as a fact.
>
>Ok, I think we are agreed that the measurements haven't directly
>supported that belief.
>
>> What I do claim as a fact is that when the transmitter is loaded to
>> deliver all available power to its load, the OUTPUT source resistance
>> (or impedance) at the output terminals is the conjugate of its load.
>
>If it were a linear source and you delivered *maximum* (as opposed to
>*all*) to the load, I agree that the load impedance is the complex
>conjugate of the source impedance. That is essentially the Jacobi Maximum
>Power Transfer Theoram.

I'm familiar with the Maximum Power Transfer Theorem that appears in Everitt's 'Communication Engineering', but not with Jacobi's. Is there a difference in their definitions?

I still believe that the 1400 ohms appearing in my paper you reviewed is the average of the dynamic resistance of the source, because the maximum power available for the given drive level, i.e., the 'available' power, was being delivered when the input resistance of the pi-network was 1400 ohms, while less than the available power was delivered when the input resistance of the network was either greater or less than 1400 ohms. This condition conforms to the Maximum Power Transfer Theorem as I understand it.

>The question is whether it is a sufficiently linear source to use that
>model.
>

>> I'm differentiating between the conditions at the input of the pi-
>> network and those at the output, because the energy storage effect of
>> the network Q isolates the output from the input, such that the
>> conditions at the output can be represented by an equivalent Thevenin
>> generator. At the output terminals the conditions appearing at the
>> input are irrelevant, such as the shape and duration of the voltage
>> applied to the pi-network, as long as the energy storage Q is
>> sufficient to support a constant voltage-current relationship (linear)
>> at the output for whatever load is absorbing all the available power
>> from the network.
>>
>> Thus, when all available power is delivered into a 50-ohm load the
>> source resistance at the output terminals is 50 ohms. Please also
>> review the later portion of Chapter 19, also available on my web page.
>> On those pages I report the results of measurements using the load-
>> variation method, which also shows the output source resistance to
>> equal the load resistance when the amp is delivering all its available
>> power.
>
>Walt, I have just re-read that section and note your measurements which
>explored the delta V and delta I for small load variation (delta R) where
>delta R is always negative, and calculated results.
>
>Your results are interesting.
>
>I have seen others report quite different results, and have found
>differently myself on rough measurements, but I note your comments on the
>sensitivity of the calculated Rs to tuning/matching which might reveal
>why other tests disagree.

Owen, you wouldn't believe the sensitivity of these measurements unless you tried them.

First, measuring voltages v1 and v2 with an analog voltmeter just won't cut it. A VM with digital readout is essential, and it must be precise to 0.1 v. Because the delta current in the denominator is so small, even an error of 0.2 v skews the result.

Second, reading the voltage at each load requires a few seconds for the voltage and current to stabilize, and then the readings must be taken while the voltage and current are stabile for at least two to three seconds. You'd be surprised how unstable the voltage is at the 0.1 v measurement level. Even so, many readings must be taken, first the reference, then the load, then average out the readings.

Third, consider the breadth of the slope of the power vs load resistance curve at the peak power point--it is broad! For example, a load resistance of +/- 10% of the source resistance, say 55 or 45 ohms, yields a 1.11111 mismatch to the source, for a reflection coefficient of 0.053, for a power loss of only 0.012 dB. When trying to adjust the amp loading for maximum delivery of power using an analog meter, it's impossible to observe a change of 0.01 dB, thus when one

appears to have loaded for maximum, the source resistance can be anywhere between 45 and 55 ohms and you'd never know just what it is. Thus, it's practically impossible to achieve a perfect conjugate match in practice, but you could. On the other hand, though not a perfect conjugate match, you'll have a practical conjugate match, because the difference in power delivered is insignificant. What I'm trying to convey is that a conjugate match is possible, though difficult to achieve when loading the xmtr.

Consequently, I can appreciate why others have obtained results different from mine, unless they have taken the necessary steps to overcome the sensitivity problem of the small current number in the denominator of the load-variation equation.

>
>(It only takes one sound repeatable experiment that shows that the source
>impedance is not the conjugate of the load to disprove the generality.)
>
>On a practical note, the sensitivity discussed above does mean that if
>your assertion about matching is true, it is unlikely that transmitters
>are exactly matched.

See my above comment.

>My measurements have been on transistor PAs with broadband transformer
>coupling to the load. The transmitters have had a lowpass filter with a
>break point well above operating frequency between the transistors and
>load. It is a different configuration, and although my measurements were
>rough, they indicated different apparent source impedance at different
>drive levels which questions the linear model for large signal operation,
>especially for modes with varying amplitude such as SSB telephony.
>
>Owen

I should have mentioned above that all of my measurements that determined a particular source resistance were taken with constant drive level, If source-resistance measurements are taken at any one drive level, the observed source resistance will be equal to the load resistance if all available power was delivered during the measurements. But if the drive level is changed without readjusting the loading, the source resistance will also have changed. However, I have found that for any given drive level, the measured source resistance will equal the load resistance if the loading is adjusted so that all the power available for that drive level is being delivered.

Just to be sure we're on the same page, let me define my understanding of 'maximum' power and 'available' power. For any given drive level there is a maximum of power that can be delivered. I call that the 'available' power. I consider 'maximum' power to be that which can be obtained by overloading a tube with excessive voltage or current relative to the manufacturer's ratings.

Walt, W2DU

2348. Re: Isolation of guy wires

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 23:46:02 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <essrjqsh1@nntp1.jpl.nasa.gov>
Source record: 45013

Roy Lewallen wrote:
> Ralph Mowery wrote:
>
>> Has anyone thought of trying to use some of the ferrite beads to
>> isolate the guy wires of a tower for RF so the tower could be shunt
>> fed ? Along the same lines could the beads be used to electrically
>> brake up the wires into non resonate lengths ?
>
>
> It would require multiple beads at each point, and at multiple points.
> While it could be made to work, it would be heavy and expensive. That's
> why egg insulators or non-conductive guys are used instead.

However, such things have been done for stuff like the electrical power drop to your house.

I believe Jim Brown's website has a picture of where he's got a bunch of clamp on ferrites on the feeder for this sort of purpose (because, obviously, a insulator wouldn't work)
Check figure 31 on page 23 of http://audiosystemsgroup.com/RFI-Ham.pdf

>
> Roy Lewallen, W7EL

2349. Re: Antenna optimizers

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-09 23:57:14 UTC
From: microwaves@blueyonder.co.uk
Message-ID: <45f1f40e.748410066@news.blueyonder.co.uk>
Source record: 45012

On 9 Mar 2007 10:58:02 -0800, "art" <aunwin@insightbb.com> wrote:

>> Sorry but I dont understand you Art, you denounce known theory but
>> want to use software based on known theory to prove your hypothesis.

Just what the Global Warming Paranoia brigade are doing these days
with their climatic change modelling software!!!

Peter, G3PHO

2350. Re: Power Dividers / Co-Phasing Harness question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 00:53:23 UTC
From: Jim - NN7K <NN7K@NOWAY.NET>
Message-ID: <8knlh.14217$bb1.149@newssvr17.news.prodigy.net>
Source record: 45014

See comments below.

mcclements@gmail.com wrote:
> Hi all,
>
> When co-phasing two identical two meter yagis, is it necessary to use
> the "power dividers" sold by the antenna manufacter? NO!, use ODD
multiples of a 1/4 wavelength (dont forget the
velocity factor) of 75 ohm coax (for 50 ohm ants)!

If two odd
> multiples of 1/4 wavelength 75 Ohm coax is carefully constructed and
> run into a T connector, won't this achieve the same thing? Is there a
> real peformance difference? Only in the small difference of loss in the
coax vs. the loss in the (devider+ coax lengths)
to the antennas! And ALSO, consider that the
lengths from a power devider must be identical
(to the antennas, and fed in PHASE), tho they are
NOT limited to the
(Odd 1/4 wavelengths, of a impedence matching
setup! Also, If you use , say 1/4 and a 3/4 wave
pieces for the 75 ohm example, (it works), BUT
remember the feed on antenna left right, and
the other antanna Right to LEFT! (180 degree
phase shift)! JIM NN7K
>
> Thanks,
> Scott, WU2X
>

2351. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 01:09:12 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <est0f2$kl5$1@nnrp.linuxfan.it>
Source record: 45015

jimp@specsol.spam.sux.com wrote:

> ...

No, I am far from thinking light is actually "something." (at least not a "something" we are familiar with or have "true" examples of ...)

It is unthinkable that any object/particle can exist without mass ... the discovery and absolute proof of that being possible is in our future; presently we only have theories ...

I don't argue that it is impossible, rather only improbable. It is more than likely, like has happened so many times, when we know why rf waves appear to be both wave and particle, that physicists and mathematicians will go scurrying to their dens and emerge with new "laws." And, finally we will have a more complete picture of the phenomenon.

We only see a puzzle, although we can "work with the puzzle", although we can "seem" to get meaningful data from this puzzle, or manipulate it to do useful things for us, although we "seem" to have laws, equations and formulas to describe this puzzle--we have been there and done that before--that is, we have rewritten those laws, equations and formulas to fit our new findings and started pretending we have reached the final conclusions and "know" the phenomenon--but then, at some future date, we do it all over again ...

JS
--
http://assemblywizard.tekcities.com

2352. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 01:11:36 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <est0jf$kl5$2@nnrp.linuxfan.it>
Source record: 45016

Cecil Moore wrote:

> ...
> the "wench for sell" over on rec.radio.swap.)
> ...

How much is the wench? What does that wench look like, there a pic? <grin>

JS
--
http://assemblywizard.tekcities.com

2353. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 01:16:01 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <est0rqlpn1@nnrp.linuxfan.it>
Source record: 45017

Cecil Moore wrote:
> John Smith I wrote:
>> Really? I am going to have to see that one to believe it (not saying
>> it is incorrect though), a "something" with no mass--kinda like a
>> "ghost particle!"
>
> It's old hat knowledge, John, and one of the reasons
> why standing wave energy doesn't just stand there or
> just "slosh around" as one guru asserted. If a photon
> is slowed to zero velocity, its mass vanishes and
> it ceases to be detectable. A photon's mass derives
> from its speed-of-light velocity, i.e. it is 100%
> kinetic. Any particle with a resting mass would necessarily
> have infinite mass at the speed of light. Therefore, any
> particle with a finite mass at the speed of light must
> necessarily have a zero rest mass.

Cecil:

I know that is argued, and I suspect it all hogwash.

If "they" have to create theories depending on disappearing particles,
when you get one where you can take a look at one of them dern
"particles", that is just TOO desperate.

However, it does, in my personal opinion, suggest a STRONG relationship
of the "particles" to the ether--the ether cannot be seen nor detected
either ... (that is, IF it really exists, as I suspect it does ...)

JS
--
http://assemblywizard.tekcities.com

2354. Re: Antenna optimizers

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 01:23:50 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <est1agmhp1@nnrp.linuxfan.it>
Source record: 45018

Peter wrote:
> On 9 Mar 2007 10:58:02 -0800, "art" <aunwin@insightbb.com> wrote:
>
>>> Sorry but I dont understand you Art, you denounce known theory but
>>> want to use software based on known theory to prove your hypothesis.
>
> Just what the Global Warming Paranoia brigade are doing these days
> with their climatic change modelling software!!!
>
> Peter, G3PHO

Computer modeling seems to be the new shill game of street smart con men
alright.

However, I think antenna modeling software is in a bit different
category--however, the computer model can only be as good as our
understanding of "radio theory." (and note, that IS radio theory and
NOT "radio laws."

JS
--
http://assemblywizard.tekcities.com

2355. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 01:35:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <0ae9c4-ja1.ln1@mail.specsol.com>
Source record: 45019

John Smith I <assemblywizard@gmail.com> wrote:
> jimp@specsol.spam.sux.com wrote:

> > ...

> No, I am far from thinking light is actually "something." (at least not
> a "something" we are familiar with or have "true" examples of ...)

> It is unthinkable that any object/particle can exist without mass ...
> the discovery and absolute proof of that being possible is in our
> future; presently we only have theories ...

> I don't argue that it is impossible, rather only improbable. It is more
> than likely, like has happened so many times, when we know why rf waves
> appear to be both wave and particle, that physicists and mathematicians
> will go scurrying to their dens and emerge with new "laws." And,
> finally we will have a more complete picture of the phenomenon.

> We only see a puzzle, although we can "work with the puzzle", although
> we can "seem" to get meaningful data from this puzzle, or manipulate it
> to do useful things for us, although we "seem" to have laws, equations
> and formulas to describe this puzzle--we have been there and done that
> before--that is, we have rewritten those laws, equations and formulas to
> fit our new findings and started pretending we have reached the final
> conclusions and "know" the phenomenon--but then, at some future date, we
> do it all over again ...

Ignorant nonsense.

--
Jim Pennino

Remove .spam.sux to reply.

2356. Re: Antenna optimizers

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 01:35:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <pee9c4-ja1.ln1@mail.specsol.com>
Source record: 45020

John Smith I <assemblywizard@gmail.com> wrote:
> Peter wrote:
> > On 9 Mar 2007 10:58:02 -0800, "art" <aunwin@insightbb.com> wrote:
> >
> >>> Sorry but I dont understand you Art, you denounce known theory but
> >>> want to use software based on known theory to prove your hypothesis.
> >
> > > Just what the Global Warming Paranoia brigade are doing these days
> > > with their climatic change modelling software!!!
> > >
> > > Peter, G3PHO

> Computer modeling seems to be the new shill game of street smart con men
> alright.

> However, I think antenna modeling software is in a bit different
> category--however, the computer model can only be as good as our
> understanding of "radio theory." (and note, that IS radio theory and
> NOT "radio laws."

Thus blovates another ignorant dweeb that doesn't know the word "theory"
has a different meaning in science than it does in a TV mystery.

--
Jim Pennino

Remove .spam.sux to reply.

2357. Re: Antenna optimizers

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 02:50:13 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <F1plh.9068$jx3.404@newssvr25.news.prodigy.net>
Source record: 45021

Peter wrote:
> Just what the Global Warming Paranoia brigade are doing these days
> with their climatic change modelling software!!!

Wonder what caused the Global Warming trend that
began 140,000 years ago and eventually resulted
in temperatures a lot higher than today?

Wonder what triggered the present Global Warming
trend that started 20,000 years ago? Caveman
campfires?
--
73, Cecil http://www.w5dxp.com

2358. Re: Isolation of guy wires

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 03:04:42 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <5574v25tgqjguq2fr2lj4sgm5tmicbbtuf@4ax.com>
Source record: 45022

On Fri, 09 Mar 2007 12:56:12 -0800, Roy Lewallen <w7el@eznec.com> wrote:

>Ralph Mowery wrote:
>> Has anyone thought of trying to use some of the ferrite beads to isolate the
>> guy wires of a tower for RF so the tower could be shunt fed ? Along the same
>> lines could the beads be used to electrically brake up the wires into non
>> resonate lengths ?
>
>It would require multiple beads at each point, and at multiple points.
>While it could be made to work, it would be heavy and expensive. That's
>why egg insulators or non-conductive guys are used instead.
>
>Roy Lewallen, W7EL

Yes Ralph, beads could be used to achieve what you want. I refer you to a paper that will appear in Reflections 3 as Chapter 21A, which is a continuation of Chapter 21 in Reflections 1 and 2. Chapter 21 tells of the need for a balun, and how the beads perform as a balun.

However, Chapter 21A describes how I developed the idea for using beads for the W2DU balun. The idea came as a spin-off from a method I used during radiation-pattern measurements for the antennas that flew on TIROS weather satellites. The downlead for the signal received from the antennas on the satellite was reradiating EM energy, and distorting the radiation patterns. I reasoned that placing a bead every quarterwavelength along the downlead would breakup the current on the lead, which it did. I then transformed the idea into the W2DU balun, which is described in all editions of the ARRL Handbook since around 1985. Chapter 21 is a repeat of my article in QST for March 1983.

Chapters 21 and 21A can be found for downloading on my web page at www.w2du.com. Click separately on 'View Chapters from Reflections 2' for Chapter 21, and click on 'Preview Chapters from Reflections 3' for Chapter 21A.

Hope this helps.

Walt, W2DU

2359. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 03:04:43 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <fm74v29jmrdsrp678iaa69c0m589di21a8@4ax.com>
Source record: 45023

On 09 Mar 2007 19:32:20 GMT, Ed <Huckleberry_REMOVE_@bigvalley.net>
wrote:

> mobile.exe is a rather neat little DOS program located on the CD in
>the back of newer ARRL antenna books, I believe.... maybe in the Handbook
>too, I'm not sure on that.

Hi Ed,

Doesn't sound worth the clock cycles to run it when a Magic 8-Ball
would be just as accurate.

You can get better results from the free version of EZNEC because you
know what you've put in and what relationship it has to the whole. If
you belly up to the bar and buy the full-blown version, then you can
design a model of your antenna, RV, ladder and frame.

73's
Richard Clark, KB7QHC

2360. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 03:15:41 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <est7s6$5mm$1@nnrp.linuxfan.it>
Source record: 45024

jimp@specsol.spam.sux.com wrote:

> ...

Jim:

I do believe much of higher academia, and the subjects which drives it,
is above you, and confuses you--frankly, I think it all or most appears
as BS to you ...

That is too bad man. Perhaps a group centered around appliance usage
would better suit you ...

JS
--
http://assemblywizard.tekcities.com

2361. Re: Antenna optimizers

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 03:20:58 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <est861$5mm$2@nnrp.linuxfan.it>
Source record: 45025

jimp@specsol.spam.sux.com wrote:

> ...

Dweeb? Jim, are you looking in a mirror while typing your posts?

Definitions of "scientific theory" on the Web:

* An explanation of why and how a specific natural phenomenon
occurs. A lot of hypotheses are based on theories. In turn, theories may
be redefined as new hypotheses are tested. Examples of theories:
Newtoni¿½s Theory of Gravitation, Darwini¿½s Theory of Evolution, Mendeli¿½s
theory of Inheritance, Einsteini¿½s Theory of Relativity.
www.ncsu.edu/labwrite/res/res-glossary.html

* A hypothesis that is widely accepted by the scientific community.
www.ametsoc.org/amsedu/WES/glossary.html

* a statement that postulates ordered relationships among natural
phenomena.
farahsouth.cgu.edu/dictionary/

* The most logical explanation of why things work the way they do.
A theory is a former hypothesis that has been tested with repeated
experiments and observations and found always to work.
jmsscienceweb.tripod.com/vocabulary.htm

* A body of knowledge using controlled-variable experimental
methods to construct a formal and mathematically structured system. It
studies the character of natural reality. Scientific Management (6).
System of management popular in the first decades of the 20th c.
Proponants sought to transform industry, government and society through
greater efficiency. Utilizes top-down approach.
www.udmercy.edu/faculty_pages/staudenmaier_sj/ethics/glossary.html

* a theory that explains scientific observations; "scientific
theories must be falsifiable"
wordnet.princeton.edu/perl/webwn

* The word theory has a number distinct meanings depending on the
context.
en.wikipedia.org/wiki/Scientific_theory

JS
--
http://assemblywizard.tekcities.com

2362. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 04:47:00 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <estd7a$6u4$1@registered.motzarella.org>
Source record: 44876

Cecil Moore wrote:
> John Smith I wrote:
>> Really? I am going to have to see that one to believe it (not saying
>> it is incorrect though), a "something" with no mass--kinda like a
>> "ghost particle!"
>
> It's old hat knowledge, John, and one of the reasons
> why standing wave energy doesn't just stand there or
> just "slosh around" as one guru asserted. If a photon
> is slowed to zero velocity, its mass vanishes and
> ...

Cecil:

One more thing ... On those those frisky, frolicking photons.

What would you attribute the fact the "photons" in HF behave much
differently then then the photons of VHF/UHF/SHF/LIGHT to?

JS

2363. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 05:05:30 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns98EED6B9E3620spectrumhogstarbandn@198.186.192.196>
Source record: 44877

Richard Clark <kb7qhc@comcast.net> wrote in
news:fm74v29jmrdsrp678iaa69c0m589di21a8@4ax.com:

> On 09 Mar 2007 19:32:20 GMT, Ed <Huckleberry_REMOVE_@bigvalley.net>
> wrote:
>
>> mobile.exe is a rather neat little DOS program located on the CD in
>>the back of newer ARRL antenna books, I believe.... maybe in the
>>Handbook too, I'm not sure on that.
>
> Hi Ed,
>
> Doesn't sound worth the clock cycles to run it when a Magic 8-Ball
> would be just as accurate.
>
> You can get better results from the free version of EZNEC because you
> know what you've put in and what relationship it has to the whole. If
> you belly up to the bar and buy the full-blown version, then you can
> design a model of your antenna, RV, ladder and frame.
>
> 73's
> Richard Clark, KB7QHC
>

Didn't realize there was a free version. I had been thinking of biting
the bullet and buying it, but wasn't sure if I would like the program. A
freebie access to it will allow me to decide.

. . . off to download....

Ed

2364. Re: mobile antenna ground loss

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 05:54:15 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <guh4v2tb5oblg16hagrk7kebfdvqv43d53@4ax.com>
Source record: 44878

On 10 Mar 2007 05:05:30 GMT, Ed <Huckleberry_REMOVE_@bigvalley.net>
wrote:

> . . . off to download....

Hi Ed,

You are about to discover there are more questions than answers...

That's what keeps it interesting.

73's
Richard Clark, KB7QHC

2365. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 06:13:07 UTC
From: davis@space.mit.edu
Message-ID: <slrnev4j3i.cd7.davis@aluche.mit.edu>
Source record: 44879

On Fri, 09 Mar 2007 16:45:31 GMT, Dave <noone@nowhere.com>
wrote:
>Gauss' Law is for static electric charges and fields.

It is usually used for problems in electrostatics, but it is not
confined to such problems. The differential form of it is just one of
the Maxwell equations:

div E(x,t) = 4\pi\rho(x,t)

Integrate it over a fixed surface and you get the integral form, which
is Gauss's law. It is valid with time-dependent charge densities and
time-dependent electric fields.

--John

2366. APRS with Microsoft Streets or AutoRoute

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 07:50:00 UTC
From: "hxc98@yahoo.com" <hxc98@yahoo.com>
Message-ID: <1173513000.839045.129870@8g2000cwh.googlegroups.com>
Source record: 44880

If you have Microsoft Streets or AutoRoute, you have all you need for live APRS tracking. Now you can take advantage of the superior maps that comes with it and use it with APRSPoint. We have update the installation process of APRSPoint so that it now supports Streets or AutoRoute. You can visit http://www.aprspoint.com for a free download and trial.

2367. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 09:33:46 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <jUwqwHH6tn8FFAqQ@ifwtech.co.uk>
Source record: 44881

John Smith I wrote:
>Cecil Moore wrote:
>> John Smith I wrote:
>>> Really? I am going to have to see that one to believe it (not
>>>saying it is incorrect though), a "something" with no mass--kinda
>>>like a "ghost particle!"
>> It's old hat knowledge, John, and one of the reasons
>> why standing wave energy doesn't just stand there or
>> just "slosh around" as one guru asserted. If a photon
>> is slowed to zero velocity, its mass vanishes and
>> ...
>
>Cecil:
>
>One more thing ... On those those frisky, frolicking photons.
>
>What would you attribute the fact the "photons" in HF behave much
>differently then then the photons of VHF/UHF/SHF/LIGHT to?

That isn't quite true. The big gap is between anything we'd normally call "light", and anything we'd normally call "RF".

Long explanation coming up... Executive Summary: at normal radio frequencies, quantum theory is totally irrelevant.

Quantum theory describes electromagnetic energy as being divided into a series of packets called photons, so (total energy in a stream of photons) = (number of photons/second) x (energy of individual photons).

This also means that EM energy doesn't exist in pure sine-waves - the waveform is actually built up in steps, very much like digitized audio. The step size is the energy content of one quantum.

The question is: are those steps noticeable enough to be important?

For light and shorter wavelengths, the answer is often Yes. Quantum theory was developed to explain observations like some kinds of light being emitted in a series of sharp spectral lines, which cannot be explained by a wave-only theory. Instead, it has to be thought of as being built up of individual photons/quanta which can only have certain "allowed" energy levels.

It turned out that the energy content of a single photon is uniquely related to the wavelength of the radiation. Any given wavelength has only one quantum energy. More energy can only be made up from larger numbers of the same identical quanta. That unique quantum energy is

inversely proportional to the wavelength, and directly proportional to the frequency:

E = hf

where
E is the energy content of a single quantum/photon (joules),
f is in Hz
h is Planck's constant which has a value of 6.6 x 10^-34 joule seconds.

This applies to all forms of EM energy, so let's calculate the 'step size' in an RF waveform at 10MHz. That will be the energy content of a single quantum, which turns out to be 0.000 000 000 000 000 000 000 000 0066 joules - which is unimaginably small.

It means that an RF waveform must be quantized into unimaginably large numbers of tiny steps. Those steps will NEVER be observable, and there will NEVER be any noticeable quantum effects at RF.

That holds true for all frequencies up to at least 100 gigahertz (millimetre wavelengths), where quantum effects just begin to be noticeable in precision measurements of very low noise levels - but even way up there, quantum effects are still only a small correction.

So after all that, we come back to the plain fact that normal RF radiation behaves purely as waves, just like we always thought it did. The only new information from quantum theory is to *confirm* that classical EM theory is all you'll ever need.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

2368. Re: Isolation of guy wires

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 09:45:01 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <45f27e1f$0$817$4fafbaef@reader5.news.tin.it>
Source record: 44882

> It would require multiple beads at each point, and at multiple points. While
> it could be made to work, it would be heavy and expensive. That's why egg
> insulators or non-conductive guys are used instead.

While in a balun a reactance of say 1000 ohm would be more than adequate for the purpose of avoiding radiation (or reception) by common-mode currents, in the proposed application (guy-wires) a much higher reactance would be required. As a matter of fact at the top of the tower, where there is a voltage peak, the impedance is very high, and the guy-wire insulator (either an egg or ferrite beads) should then show a very high reactance value (probably in the region of tens of thousands of ohm) not to disturb the antenna.

I never played with ferrite beads, but I have a rather strong feeling that such high reactance values are hard to obtain at 3.5 MHz just using beads.

73

Tony I0JX

2369. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 10:44:16 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45f2882c$0$18906$4c368faf@roadrunner.com>
Source record: 44883

"art" <aunwin@insightbb.com> wrote in message
news:1173448470.576093.34390@q40g2000cwq.googlegroups.com...
> On 9 Mar, 02:33, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
>> "art" <aun...@insightbb.com> wrote in message
>>
>> news:1173413632.124883.126230@j27g2000cwj.googlegroups.com...
>>
>> > Gentlemen from outside of America. Gauss's law with respect to statics
>> > is quite specific and easy to understand. What is so wrong in
>> > mathematical terms by adding the metric of time to the law so that
>> > curl can be accomodated? i.e. change from a conservative field where
>> > all vectors have zero length,
>> > to a electro magnetic equation by adding the words " the addition of
>> > time" which by providing a three dimensional field has the true
>> > inclusion of curl i.e. all vectors have value in length and direction.
>> > America denies the feasability of such an addition to an existing law
>> > which in essence is regarded as a new law without basis on this side
>> > of the pond.Are all countries of this mentallity?
>> > Art
>>
>> Because a static field does not produce an EM field(curl) only if that
>> static charge is in motion. Motion would even include taking a charged
>> body,
>> say a pith ball and waving it back and forth. Electrons have a static
>> charge
>> but when they are in motion in a conductor they produce fields(curl).
>> Electrons moving about an atom also produces fields but the net result of
>> all the aoms moving about is zero. PLEASE REFERENCE THE GUASSIAN LAW ON
>> STATICS. I still think you are confusing static with statistics.
>
> But Jimmie my friend, now you have an understanding of Gaussian law
> what is preventing you adding the metric of time or a length of time
> to the statics law? What is it that frightens you and other Americans
> about that
> little step? Start off my looking at it in pure mathematical terms and
> determine if the intent of the law is still not violated. Don't go
> beyond that at this time just consider the mathematics and get
> comfortable with it
> Art
>

Because it is meaningless

2370. Re: Mininec antenna computor programs and Gaussian arrays

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 11:51:21 UTC
From: bluey <blueyhi5s@yahoo.com.au>
Message-ID: <1173527481.242352.304040@s48g2000cws.googlegroups.com>
Source record: 44884

On Mar 8, 11:37 am, Richard Clark <kb7...@comcast.net> wrote:
> On Thu, 08 Mar 2007 11:18:23 -0800, Richard Clark <kb7...@comcast.net>
> wrote

As I see it there are three items in question,(1) Gauss's law (2) Nec
programs
(3)Gaussian arrays. Demolish the claim for the addition of time to
Gauss's law and the remaining questions fall away.
Therefore the question is, can Gauss's law be altered to accommodate
the addition of time in relation to antenna's?.

Regards Derek

2371. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 13:08:39 UTC
From: Dave <noone@nowhere.com>
Message-ID: <r5yIh.74$S06.14@trndny08>
Source record: 44885

"John E. Davis" <davis@space.mit.edu> wrote in message
news:slrnev4j3i.cd7.davis@aluche.mit.edu...
> On Fri, 09 Mar 2007 16:45:31 GMT, Dave <noone@nowhere.com>
> wrote:
>>Gauss' Law is for static electric charges and fields.
>
> It is usually used for problems in electrostatics, but it is not
> confined to such problems. The differential form of it is just one of
> the Maxwell equations:
>
> div E(x,t) = 4\pi\rho(x,t)
>
> Integrate it over a fixed surface and you get the integral form, which
> is Gauss's law. It is valid with time-dependent charge densities and
> time-dependent electric fields.
>
no, i'm afraid you can't just put a 't' on each side and have it make sense
in the general case. time varying charge implies a current, a current
implies a magnetic field, then you have to include Ampere's law and add
curl(E)=-dB/dt to the mix. while you may be able to constrain the changes
in rho(t) to some short time or constant current and eliminate the dB/dt
part of the problem, that would only apply in specific conditions, not to
the general case.

2372. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 13:20:29 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <xgylh.2884$uo3.1978@newssvr14.news.prodigy.net>
Source record: 44886

John Smith I wrote:
> What would you attribute the fact the "photons" in HF behave much
> differently then then the photons of VHF/UHF/SHF/LIGHT to?

In a free space vacuum, they all behave
essentially the same way. Their different
quantum energy levels causes them to interact
differently with the atomic structure of matter.

At 1 MHz, a photon has an energy level of
4x10^-9 eV while a gamma ray photon might have
an energy level of 4x10^+9 eV or higher.
--
73, Cecil http://www.w5dxp.com

2373. Re: Antenna optimizers

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 13:21:19 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <thylh.1522$L_2.147@newsfe12.lga>
Source record: 44887

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:F1pIh.9068$jx3.404@newssvr25.news.prodigy.net...
> Peter wrote:
>> Just what the Global Warming Paranoia brigade are doing these days
>> with their climatic change modelling software!!!
>
> Wonder what caused the Global Warming trend that
> began 140,000 years ago and eventually resulted
> in temperatures a lot higher than today?
>
> Wonder what triggered the present Global Warming
> trend that started 20,000 years ago? Caveman
> campfires?
> --
> 73, Cecil http://www.w5dxp.com

Algore and socialist liberal leaches looking for new "crisis" so they can justify and fool sheeple into submitting to crazy measures and spending money.

Any ham knows that we are on the mercy of Ol Sun which supplies us with warmth and light and has its moods, periods and we can't do a shing about it.

Hey Algore! See the temperature differences day/night, summer/winter? What causes it? CO2 or Sun's generosity?

Global Scam of all times. Not even antenna optimizers or Gausian gizmos can do a thing about it. As soon as Algore got his Ossskar, God blew wave of cold to show him who is in charge :-)

73 and keep breathing out CO2 and step on the gas of your SUV, plants love it!

Yuri, K3BU.us

2374. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 13:47:44 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <4Gylh.2891$uo3.366@newssvr14.news.prodigy.net>
Source record: 44888

Ian White GM3SEK wrote:
> This applies to all forms of EM energy, so let's calculate the 'step
> size' in an RF waveform at 10MHz. That will be the energy content of a
> single quantum, which turns out to be 0.000 000 000 000 000 000 000 000
> 0066 joules - which is unimaginably small.

Maybe 40 nano-eV is more imaginable? :-)
For me, it is a lot easier to visualize a cloud
of photons leaving an antenna than it is to visualize
the field lines closing upon themselves (like a soap
bubble) and breaking free of the antenna.

Incidentally, your above number is off by 0.3% :-)
--
73, Cecil http://www.w5dxp.com

2375. Re: Antenna optimizers

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 13:55:19 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <bNylh.2892$uo3.1598@newssvr14.news.prodigy.net>
Source record: 44889

Yuri Blanarovich wrote:
> Any ham knows that we are on the mercy of Ol Sun which supplies us with
> warmth and light and has its moods, periods and we can't do a shing about
> it.

Apparently the Martians also have too many SUVs
since the Martian polar cap is shrinking.
--
73, Cecil http://www.w5dxp.com

2376. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 14:41:44 UTC
From: Dave <noone@nowhere.com>
Message-ID: <lszIh.553$8o1.152@trndny01>
Source record: 44890

"art" <aunwin@insightbb.com> wrote in message
news:1173536474.279414.183650@c51g2000cwc.googlegroups.com...
> On 9 Mar, 22:13, d...@space.mit.edu (John E. Davis) wrote:
>> On Fri, 09 Mar 2007 16:45:31 GMT, Dave <n...@nowhere.com>
>> wrote:
>>
>> >Gauss' Law is for static electric charges and fields.
>>
>> It is usually used for problems in electrostatics, but it is not
>> confined to such problems. The differential form of it is just one of
>> the Maxwell equations:
>>
>> div E(x,t) = 4\pi\rho(x,t)
>>
>> Integrate it over a fixed surface and you get the integral form, which
>> is Gauss's law. It is valid with time-dependent charge densities and
>> time-dependent electric fields.
>>
>> --John
>
> John, you have hit it on the nose. It is the logic that is important
> and that logic applies for a resonant array in situ
> inside a closed border whether time is variant or otherwise.
> The importantant point of the underlying logic that all inside the
> arbitary border must be in equilibrium at the cessation of time
> because the issue is not the static particles but of the flux. Period
> Thus the very reason for a conservative field in that
> it is able to project static particles in terms of time if time was
> added. For static particles time is not involved therefore
> ALL vectors are of ZERO length and direction is an asumption based on
> the action if and when time is added.
> John, you included time but did not mention time variant, was this for
> a reason? I have specifically use time variance since that enclosed
> within the border is an array in equilibrium
> from which the conservative field is drawn from.
> I am so pleased that some one came along that concentrated on the
> logic and not the retoric and abuse.
> Art
>
he may have hit what you believe correctly.. but unfortunately it is not a
valid generalization. as i stated in my other message:

no, i'm afraid you can't just put a 't' on each side and have it make sense
in the general case. time varying charge implies a current, a current

implies a magnetic field, then you have to include Ampere's law and add curl(E)=-dB/dt to the mix. while you may be able to constrain the changes in rho(t) to some short time or constant current and eliminate the dB/dt part of the problem, that would only apply in specific conditions, not to the general case.

2377. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 15:41:49 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <esujj5$9sp$1@nnrp.linuxfan.it>
Source record: 44891

Cecil Moore wrote:

> ...
> At 1 MHz, a photon has an energy level of
> 4x10^-9 eV while a gamma ray photon might have
> an energy level of 4x10^+9 eV or higher.

So, do I get you right here?

Like a high power hunting rifle, the energy that the photon is "shot"
from the antenna at guarantees a far and straight course of projection
(at vhf+ freqs)--as opposed to the lowly bb gun where the bb with low
energy is forced to fall to the forces of gravity (on in the photons
case, the earths magnetosphere) and come to earth much sooner?

JS
--
http://assemblywizard.tekcities.com

2378. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 15:51:55 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <esuk63bgd1@nnrp.linuxfan.it>
Source record: 44892

John Smith I wrote:
> Cecil Moore wrote:
>
> > ...
>> At 1 MHz, a photon has an energy level of
>> 4x10^-9 eV while a gamma ray photon might have
>> an energy level of 4x10^+9 eV or higher.
>
> So, do I get you right here?
>
> Like a high power hunting rifle, the energy that the photon is "shot"
> from the antenna at guarantees a far and straight course of projection
> (at vhf+ freqs)--as opposed to the lowly bb gun where the bb with low
> energy is forced to fall to the forces of gravity (on in the photons
> case, the earths magnetosphere) and come to earth much sooner?
>
> JS

The above is meant to be a bit "humorous", but you are stating HF is
much more prone to obey magnetic forces in the magnetosphere as opposed
to high freqs where photons are endowed with much more "kinetic energy"
in the form of the voltage(E) charge they have?

Since the law of conservation of energy exists, I am assuming you
consider some relationship of E/I to have changed in the VHF photon as
opposed to the HF photon--since there is no way for the 5 watts HF to
have different power levels than 5 watts VHF?

JS
--
http://assemblywizard.tekcities.com

2379. Re: Antenna computor programs and pitfalls

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 15:54:20 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1173542059.989711.213430@p10g2000cwp.googlegroups.com>
Source record: 44893

On 9 Mar, 13:06, Roy Lewallen <w...@eznec.com> wrote:
> Thanks for the kind words, something too seldom seen here lately.
>
> Long ago, I told Art that I and some others wouldn't pay much attention
> to his conjectures unless he posted some quantitative results showing
> how his antenna creations were better than any others. He interpreted
> this as an attack, and that slowly turned to the hatred you now see. He
> dislikes EZNEC, I believe, simply because it's my program. I've
> eventually become the personification of the cartel which is out to
> belittle and deride him, preventing him from achieving the recognition
> he believes he deserves for his revolutionary insights. I'm in no way a
> qualified psychologist, but I see a number of similarities between this
> and the behavior shown some time ago by Nathan "Chip" Cohen
> (Fractenna"), who also considers me to be evil incarnate for much the
> same reason. As far as I know, these are the only two people in the
> entire world who dislike me this much. I'm afraid that by saying
> complimentary things about me, you -- and by association, your program
> -- will be joining me on Art's hate list.
>
> I'm sorry to see that some of my postings and comments about EZNEC are
> regarded by anyone as advertising, since I don't believe that
> advertising is appropriate here. I do naturally use EZNEC as an example
> or suggestion when giving an example of how to model something or to
> illustrate a point and frequently recommend the free demo, but I don't
> believe I've ever suggested that anyone buy EZNEC or that it's
> necessarily superior to any other program. In fact, I often give tips on
> using NEC-2. I also post corrections when someone says something about
> EZNEC's capabilities which isn't true, and to answer questions about it.
> I invite anyone who considers what I say about EZNEC to be out of line
> to comment -- I'll certainly try to change my level of commentary if
> there's general agreement that I've been advertising.
>
> Roy Lewallen, W7EL
>
>
>
> 4nec2 wrote:
> > Just out of curiosity, but can anybody inform me what's the problem
> > between Art and Roy. In every posting of Art, Roy's name (or EZnec)
> > shows up. Why not mention NecWin+ or Supernec or others ?
>
> > I don't know Roy, but when reading his postings I sure think he is a
> > nice guy. When supplying answers on questions posted in this group,
> > it's expectable he does some EZnec advertising, because it's a

> > commercial product. Mostly he also takes the time to tell that there
> > are other productys around with similar capabilities...
>
> > It's a pitty I was not aware of EZnec first few months after I
> > stumbled over the Nec2 program.
>
> > :-(
>
> > Arie.- Hide quoted text -
>
> - Show quoted text -

Roy, Be assured that I do not hate anybody. That sort of emotion
is of no use. What I do abhor is disrespect and arrogance even though
my actions seam to invite it and apparently I have little control over
because of my personal circumstance. However as the
perceived leader of this group what you may see as a mild rebuke
is instantly latched onto by Richard who with his cfontinuing carping
spreads his arrogance and disrespect to others and it becomes
infectious to where I have no option to return in kind.
True one person scolded him for what he was doing and I thank him
(There for the grace of God go I, was the theme)
I am an Englishman and we don't run away from a fight if one is to
start. But now a new person has arrived on the scene who has an
understanding of what I have failed to project, thus you have a
different person to approach other than I for a deeper understanding
to your satisfaction. Hopefully this will put all the mutual
disrespect and abuse behind us and allow us to enjoy a new day.
I ask all to have respect for this new person for having the courage
to come forward inspite of what appeared as a hostile audience. I too
hope to learn from what he has to say as we now push the past aside.
Let me assure you that this is a new day for amature antennas and if
you wish to pursue then get hiold of AO or AOP from Brian Beasely
possibly being sent via the net. It is the only form that I am
presently aware of that allows pursuit of this subject and it is very
reasonably priced if he decides to re release it. Perhaps Brian will
come up on this thread and give details of contact issues
Regards
Art Unwin XG

2380. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 15:58:50 UTC
From: Dave <noone@nowhere.com>
Message-ID: <_AAIh.724$0W5.319@trndny05>
Source record: 44894

"art" <aunwin@insightbb.com> wrote in message
news:1173539338.839772.48800@8g2000cwh.googlegroups.com...
> On 10 Mar, 06:41, "Dave" <n...@nowhere.com> wrote:
>> "art" <aun...@insightbb.com> wrote in message
>>
>> news:1173536474.279414.183650@c51g2000cwc.googlegroups.com...
>>
>>
>>
>> > On 9 Mar, 22:13, d...@space.mit.edu (John E. Davis) wrote:
>> >> On Fri, 09 Mar 2007 16:45:31 GMT, Dave <n...@nowhere.com>
>> >> wrote:
>>
>> >> >Gauss' Law is for static electric charges and fields.
>>
>> >> It is usually used for problems in electrostatics, but it is not
>> >> confined to such problems. The differential form of it is just one of
>> >> the Maxwell equations:
>>
>> >> div E(x,t) = 4\pi\rho(x,t)
>>
>> >> Integrate it over a fixed surface and you get the integral form, which
>> >> is Gauss's law. It is valid with time-dependent charge densities and
>> >> time-dependent electric fields.
>>
>> >> --John
>>
>> > John, you have hit it on the nose. It is the logic that is important
>> > and that logic applies for a resonant array in situ
>> > inside a closed border whether time is variant or otherwise.
>> > The importantant point of the underlying logic that all inside the
>> > arbitary border must be in equilibrium at the cessation of time
>> > because the issue is not the static particles but of the flux. Period
>> > Thus the very reason for a conservative field in that
>> > it is able to project static particles in terms of time if time was
>> > added. For static particles time is not involved therefore
>> > ALL vectors are of ZERO length and direction is an asumption based on
>> > the action if and when time is added.
>> > John, you included time but did not mention time variant, was this for
>> > a reason? I have specifically use time variance since that enclosed
>> > within the border is an array in equilibrium
>> > from which the conservative field is drawn from.
>> > I am so pleased that some one came along that concentrated on the
>> > logic and not the retoric and abuse.

>> > Art
>>
>> he may have hit what you believe correctly.. but unfortunately it is not
>> a
>> valid generalization. as i stated in my other message:
>>
>> no, i'm afraid you can't just put a 't' on each side and have it make
>> sense
>> in the general case. time varying charge implies a current, a current
>> implies a magnetic field, then you have to include Ampere's law and add
>> curl(E)=-dB/dt to the mix. while you may be able to constrain the
>> changes
>> in rho(t) to some short time or constant current and eliminate the dB/dt
>> part of the problem, that would only apply in specific conditions, not to
>> the general case.- Hide quoted text -
>>
>> - Show quoted text -
>
> Thats O.K. David,
> The appeal made for this thread was for people outside of America
> since eamericans were more interested in other things and I am
> assuming the Gentleman is from outside America. This discussion in the
> past has been bedeviled with arraogance and abuse to the neglect of
> logic, this has been the mode of this group for a very long time. If
> there was not such derision you could have looked up Gaussian law on
> the web where you would have found the mathematics behind the logic.
> If you had done this you would have found that curl is a part of the
> mathematical underpinning that in the event of time that part of the
> equation is zero. If time was part o0f the logic then you insert the
> value of curl in the equation, look up curl for your self and place it
> in the original equation which you are not changing i.e. concentrate
> on the mathematics and the underlying logic and the result becomes
> apparent.(and I have stated as such in past threads)
>

you obviously have not read and understood my recent posts. when you do
curl of electric fields you get ampere's law which takes into account the
time varying electric field... but of course also brings in the magnetic
field that is related to it. unless you add that part into the equation you
are ignoring half of the effects and will never get the proper understanding
of the equations. simply adding time to gauss's equation, written either in
differential or integral form simply ignores the magnetic field part and the
effects of curl and the resulting field and wave propagation effects that
must be taken into account when you start talking about time varying fields.

2381. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 16:43:58 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <ifBIh.9399$re4.2747@newssvr12.news.prodigy.net>
Source record: 44895

John Smith I wrote:
> Like a high power hunting rifle, the energy that the photon is "shot"
> from the antenna at guarantees a far and straight course of projection
> (at vhf+ freqs)--as opposed to the lowly bb gun where the bb with low
> energy is forced to fall to the forces of gravity (on in the photons
> case, the earths magnetosphere) and come to earth much sooner?

Not exactly. All photons, regardless of energy content,
travel at the speed of light (modified by VF, of course).
Your above example assumes most of the difference in energy
level is associated with the square of different velocities.
--
73, Cecil http://www.w5dxp.com

2382. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 17:03:02 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <axBIh.9409$re4.7343@newssvr12.news.prodigy.net>
Source record: 44896

John Smith I wrote:
> Since the law of conservation of energy exists, I am assuming you
> consider some relationship of E/I to have changed in the VHF photon as
> opposed to the HF photon--since there is no way for the 5 watts HF to
> have different power levels than 5 watts VHF?

Five joules of HF (10 MHz) requires ten times as many
photons as five joules of VHF (100 MHz). What HF photons
lack in energy, they make up for in quantity.

I get ~7.553x10^28 photons in 5 joules of 10 MHz RF
energy and ~7.553x10^27 photons in 5 joules of 100
MHz RF energy.

The E-field/B-field ratio is the same for both in
free space.
--
73, Cecil http://www.w5dxp.com

2383. Re: Mininec antenna computor programs and Gaussian arrays

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 17:11:01 UTC
From: nm5k@wt.net
Message-ID: <1173546660.847658.253860@c51g2000cwc.googlegroups.com>
Source record: 44897

On Mar 8, 12:37 pm, "art" <aun...@insightbb.com> wrote:

> As an Englishman I am going to keep this subject in the public eye
> until events allow me to unlock these bulldog jaws, I certainly am not
> going
> to run away in the face of derision.
> Art

Jibber jabber, jibber jabber... Why don't you just build one and test
it..
Why do you need to prove anything to us? Myself, I have no interest
in such an antenna, and almost surely never will. So unless you build
one and test it, it's unlikely to ever get done around these parts.
Well, unless you can talk some poor sucker into doing the work for
you.
This is starting to remind me of an old TV show called "Peyton
Place"..
Maybe it's time for a new 2007 version called "Gaussian Place"... :(
In the new updated program, all cats have mittens.
MK

2384. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 17:12:12 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <esuosj$n02$1@nnrp.linuxfan.it>
Source record: 44898

Cecil Moore wrote:

> ...
> Five joules of HF (10 MHz) requires ten times as many
> photons as five joules of VHF (100 MHz). What HF photons
> lack in energy, they make up for in quantity.
> ...

Like I said, my original post in response to you was just "a joke", of course the velocity of all photons is assumed constant.

However, the fact we fire a shotguy (HF) or a single bullet (VHF) makes the photons in HF assume different charastistics than that of the fewer photons of VHF?

I mean, I may be rather dense here, but I am attempting to put the model you are presenting here together--obviously, I am missing something ...

Regards,
JS
--
http://assemblywizard.tekcities.com

2385. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 17:25:10 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <esupksoao1@nnrp.linuxfan.it>
Source record: 44899

John Smith I wrote:

> ...
> However, the fact we fire a shotguy (HF) or a single bullet (VHF) makes
> ...

Of course, in the above, "shotguy" = shotgun!

JS
--
http://assemblywizard.tekcities.com

2386. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 17:28:54 UTC
From: davis@space.mit.edu
Message-ID: <slrnev5qm7.l26.davis@aluche.mit.edu>
Source record: 44900

On Sat, 10 Mar 2007 13:08:39 GMT, Dave <noone@nowhere.com>
wrote:
>no, i'm afraid you can't just put a 't' on each side and have it make sense
>in the general case. time varying charge implies a current, a current
>implies a magnetic field, then you have to include Ampere's law and add
>curl(E)=-dB/dt to the mix. while you may be able to constrain the changes
>in rho(t) to some short time or constant current and eliminate the dB/dt
>part of the problem, that would only apply in specific conditions, not to
>the general case.

I encourage you to review the Maxwell equations in a book on
electrodynamics. I personally like the book by Jackson, which is
oriented more towards physicists. In any case, the equation that I
wrote is one of the 4 Maxwell equations. It is valid for arbitrary
time-dependent electric fields. All it says is that the divergence of
the electric field at a point is proportional to the charge density at
that point:

div E(x,t) = 4\pi\rho(x,t) (Gaussian Units)

If you integrate this over a closed surface, and then use the
divergence theorem you get

\integral dA.E(x,t) = 4\pi \integral dV \rho(x,t)

The integral on the right-hand side is 4\pi times the total
(time-varying) charge enclosed by the surface. The other equations
are also valid, including the one you wrote.

Coincidently earlier this morning I was reviewing the derivation of
the energy loss of a heavy charged particle as it passes through
matter. The derivation made use of a very long cylinder with the
charged particle traveling along the axis of the cylinder. One point
in the calculation required the integral of the normal component
electric field (dA.E) produced by the charged particle over the
surface of the cylinder. That is, the left hand side of the above
equation. The answer is given by the right hand side of the above
equation. In this case, the charge density \rho(x,t) was created by
the moving charged particle.

--John

2387. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 17:34:36 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <M_BIh.5566$iw4.1103@newssvr23.news.prodigy.net>
Source record: 44901

John Smith I wrote:
> --obviously, I am missing something ...

Maybe cause and effect? Cause and effect is indeed
missing in a lot of QED stuff. Not only do some
virtual particles move faster than the speed of
light but also apparently necessarily jump
backwards in time.
--
73, Cecil http://www.w5dxp.com

2388. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 18:05:57 UTC
From: davis@space.mit.edu
Message-ID: <slrnev5so3.l74.davis@aluche.mit.edu>
Source record: 44902

On Sat, 10 Mar 2007 11:34:36 -0600, Cecil Moore <mycall@hotmail.com>
wrote:
>Maybe cause and effect? Cause and effect is indeed
>missing in a lot of QED stuff. Not only do some
>virtual particles move faster than the speed of
>light but also apparently necessarily jump
>backwards in time.

So-called Feynman diagrams represent antimatter particles (positrons,
anti-quarks, etc) as the corresponding "matter" particles going
backward in time. Of course no physicist actually takes this
interpretation seriously. Nor do I believe particle theorists take
virtual particles seriously. They are just a convenient
representation of the terms in a perturbation expansion. It is unclear
to me that virtual particles play a role in non-perturbative theories.

--John

2389. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 18:38:08 UTC
From: Dave <noone@nowhere.com>
Message-ID: <kWCIh.645$8o1.346@trndny01>
Source record: 44903

"John E. Davis" <davis@space.mit.edu> wrote in message
news:slrnev5qm7.l26.davis@aluche.mit.edu...
> On Sat, 10 Mar 2007 13:08:39 GMT, Dave <noone@nowhere.com>
> wrote:
>>no, i'm afraid you can't just put a 't' on each side and have it make
>>sense
>>in the general case. time varying charge implies a current, a current
>>implies a magnetic field, then you have to include Ampere's law and add
>>curl(E)=-dB/dt to the mix. while you may be able to constrain the changes
>>in rho(t) to some short time or constant current and eliminate the dB/dt
>>part of the problem, that would only apply in specific conditions, not to
>>the general case.
>
> I encourage you to review the Maxwell equations in a book on
> electrodynamics. I personally like the book by Jackson, which is
> oriented more towards physicists. In any case, the equation that I
> wrote is one of the 4 Maxwell equations. It is valid for arbitrary
> time-dependent electric fields. All it says is that the divergence of
> the electric field at a point is proportional to the charge density at
> that point:
>
> div E(x,t) = 4\pi\rho(x,t) (Gaussian Units)
>
> If you integrate this over a closed surface, and then use the
> divergence theorem you get
>
> \integral dA.E(x,t) = 4\pi \integral dV \rho(x,t)
>
> The integral on the right-hand side is 4\pi times the total
> (time-varying) charge enclosed by the surface. The other equations
> are also valid, including the one you wrote.
>
> Coincidently earlier this morning I was reviewing the derivation of
> the energy loss of a heavy charged particle as it passes through
> matter. The derivation made use of a very long cylinder with the
> charged particle traveling along the axis of the cylinder. One point
> in the calculation required the integral of the normal component
> electric field (dA.E) produced by the charged particle over the
> surface of the cylinder. That is, the left hand side of the above
> equation. The answer is given by the right hand side of the above
> equation. In this case, the charge density \rho(x,t) was created by
> the moving charged particle.
>
> --John

Gauss's law in Jackson's 'Classical Electrodynamics' 2nd edition, ppg 30-32,33 has NO 't'. nor does it in Ramo-Whinnery-VanDuzer 'Fields and Waves in Communications Electronics' ppg 70-72(differential form), 75-76(integral form)

your final statement means that you are obviously outside the applicability of Gauss's law since you have a moving charged particle, which can not be described by a static field. i would guess that whatever derivation you are looking at placed some other restrictions on the conditions such that you could approximate the field by that type of equation. possibly a small velocity or short distance or very short time period.

2390. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 19:07:10 UTC
From: davis@space.mit.edu
Message-ID: <slrnev60et.m1t.davis@aluche.mit.edu>
Source record: 44904

On Sat, 10 Mar 2007 18:38:08 GMT, Dave <noone@nowhere.com>
wrote:
>Gauss's law in Jackson's 'Classical Electrodynamics' 2nd edition, ppg
>30-32,33 has NO 't'. nor does it in Ramo-Whinnery-VanDuzer 'Fields and
>Waves in Communications Electronics' ppg 70-72(differential form),
>75-76(integral form)

This is not surprising since that chapter in Jackson deals with
electrostatics. Look at section 1.5 on page 17. The section states:

The Maxwell equations are differential equations applying locally
at each point in space-time (x,t). By means of the divergence
theorem and Stoke's theorem they can be cast in integral form. [...
a few sentences later...] Then the divergence theorem applied to
the first and last [Maxwell] equations yields the integral
statements... The first is just Gauss's law...

--John

2391. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 19:55:36 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <X2EIh.3433$tv6.2845@newssvr19.news.prodigy.net>
Source record: 44905

John E. Davis wrote:
> It is unclear
> to me that virtual particles play a role in non-perturbative theories.

How about the static magnetic field from a permanent
magnet?
--
73, Cecil http://www.w5dxp.com

2392. Re: Isolation of guy wires

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 19:59:16 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12v63gm4523t28e@corp.supernews.com>
Source record: 44906

Actually, you can't get a lot of reactance from ferrite cores at HF. You can get a considerable amount of impedance, but for the ferrite types which provide it, the impedance is largely resistive, not reactive. The most common material, Fair-Rite type 43 and equivalents, has a Q of 1 (R = X) at a frequency of a few MHz, and is increasingly resistive above that. But even with the highest impedance materials, you'll likely need quite a few cores with substantial cross section at each location. Anyone interested in ferrite impedance properties can visit the Fair-Rite web site to learn more.

A choke at a high-impedance point doesn't do much, since there's no substantial current at that location to block. You should put the choke about a quarter wavelength from there where the current is nominally high. The presence of the choke can move the locations of high and low voltage and current points, so you'll need a choke at least about every quarter wavelength to make sure there's no point where substantial current can occur.

Others have pointed out that ferrite chokes might be a viable way of effecting RF isolation on conductors carrying low frequency AC, such as power lines. But I maintain that it's not a good solution for guy wires, which was the subject of the original posting.

Roy Lewallen, W7EL

Antonio Vernucci wrote:
>> It would require multiple beads at each point, and at multiple points.
>> While it could be made to work, it would be heavy and expensive.
>> That's why egg insulators or non-conductive guys are used instead.
>
> While in a balun a reactance of say 1000 ohm would be more than adequate
> for the purpose of avoiding radiation (or reception) by common-mode
> currents, in the proposed application (guy-wires) a much higher
> reactance would be required. As a matter of fact at the top of the
> tower, where there is a voltage peak, the impedance is very high, and
> the guy-wire insulator (either an egg or ferrite beads) should then show
> a very high reactance value (probably in the region of tens of thousands
> of ohm) not to disturb the antenna.
>
> I never played with ferrite beads, but I have a rather strong feeling
> that such high reactance values are hard to obtain at 3.5 MHz just using
> beads.
>
> 73
>

> Tony I0JX
>

2393. Nominal Impedance of Loop Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 20:41:56 UTC
From: Al <ABurzynski@nojunk.satx.rr.com>
Message-ID: <45f31814$0$28146$4c368faf@roadrunner.com>
Source record: 44907

Is there a nominal impedance or approximate impedance for a loop antenna? For example, a dipole is considered 72-ohm, a bevarage 450-ohm. What is a nominal loops Z?

I have a 4-1/2 foot diameter loop antenna with 12 turns paralled by a capacitor for the antenna and one additional turn for the pickup coil. The loop is for the 200 - 500kHz band. About how much is the impedance of such an antenna? Thanks.

Al

2394. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 20:47:05 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <m006v2l7na861fjroiqfi5i21q1s6743dl@4ax.com>
Source record: 44908

On Sat, 10 Mar 2007 09:33:46 +0000, Ian White GM3SEK
<gm3sek@ifwtech.co.uk> wrote:

>Quantum theory describes electromagnetic energy as being divided into a
>series of packets called photons, so (total energy in a stream of
>photons) = (number of photons/second) x (energy of individual photons).

Energy is not expressed with a time in the denominator. The standard
quantum theory expression for energy is eV - time is wholly absent as
it should be.

>This also means that EM energy doesn't exist in pure sine-waves

EM theory does not exclude the classic description of pure sine waves.
This is not a neither/nor situation.

> - the
>waveform is actually built up in steps, very much like digitized audio.

This appears to be the beginnings of a description about to fall off
the edge. What waveform? This is a conceit of time.

>The step size is the energy content of one quantum.

No, the step size as you describe is the potential difference of
quantization, an engineering term, not a quantum mechanics term. It
is quantisizing an amplitude to construct the wave in a time domain.
Quanta is the complete wave in a frequency domain.

The transform from one domain to the other is classic Fourier. His
analysis revealed that one unique energy (a single frequency) can be
decimated into many components (amplitudes over time). The
transformation is fully reversible (many amplitudes over time turned
back into one single frequency) without any information loss.

Mixing the two as being one analysis, corrupts it. Time is not a
factor in energy and cannot be drawn into its discussion through
transforms that mix topics.

>The question is: are those steps noticeable enough to be important?
>
>For light and shorter wavelengths, the answer is often Yes. Quantum
>theory was developed to explain observations like some kinds of light
>being emitted in a series of sharp spectral lines, which cannot be
>explained by a wave-only theory. Instead, it has to be thought of as
>being built up of individual photons/quanta which can only have certain
>"allowed" energy levels.

There is absolutely no distinction between "allowed" energy levels and resonance which allows only certain frequencies. Resonance has been historically correlated with circularity, and every instance you site above is found in the change of orbitals - circular, harmonic motion.

A photon is emitted in the cM band when an electron orbiting a Hydrogen atom flips its magnetic pole. This event is vastly below the short wavelengths you describe by a million-fold. A good number of correspondents here are fully capable of detecting this event with commercial gear already suitable for the Ham market. They could have done it 50 years ago too.

This is a quantum event, it is expressed with a classic quantum energy, and it is resolvable as being important (insofar as "importance" is a subjective, not quantitative quality). It is certainly noticeable and is not artificially constrained by scale.

73's
Richard Clark, KB7QHC

2395. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 20:59:59 UTC
From: Dave <noone@nowhere.com>
Message-ID: <j%Elh.744$vV3.250@trndny09>
Source record: 44909

"John E. Davis" <davis@space.mit.edu> wrote in message
news:slrnev60et.m1t.davis@aluche.mit.edu...
> On Sat, 10 Mar 2007 18:38:08 GMT, Dave <noone@nowhere.com>
> wrote:
>>Gauss's law in Jackson's 'Classical Electrodynamics' 2nd edition, ppg
>>30-32,33 has NO 't'. nor does it in Ramo-Whinnery-VanDuzer 'Fields and
>>Waves in Communications Electronics' ppg 70-72(differential form),
>>75-76(integral form)
>
> This is not surprising since that chapter in Jackson deals with
> electrostatics. Look at section 1.5 on page 17. The section states:
>
> The Maxwell equations are differential equations applying locally
> at each point in space-time (x,t). By means of the divergence
> theorem and Stoke's theorem they can be cast in integral form. [...
> a few sentences later...] Then the divergence theorem applied to
> the first and last [Maxwell] equations yields the integral
> statements... The first is just Gauss's law...
>
> --John

yes, referring to all 4 Maxwell equations you do have a 't' dependency.
however, even equations 1.13 and 1.14 referred to by your quote have NO time
dependency in them. the equations on the next page,1.15 and 1.16 have the
time dependency that the 't' in your quote refers to. remember, those
integrals are NOT integrals over time, they are over the surface or volume.

2396. Re: Nominal Impedance of Loop Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 21:02:49 UTC
From: Dave <noone@nowhere.com>
Message-ID: <Z1FIh.651$S06.83@trndny08>
Source record: 44910

"Al" <ABurzynski@nojunk.satx.rr.com> wrote in message
news:45f31814$0$28146$4c368faf@roadrunner.com...
> Is there a nominal impedance or approximate impedance for a loop antenna?
> For example, a dipole is considered 72-ohm, a bevarage 450-ohm. What is a
> nominal loops Z?
>
> I have a 4-1/2 foot diameter loop antenna with 12 turns paralled by a
> capacitor for the antenna and one additional turn for the pickup coil. The
> loop is for the 200 - 500kHz band. About how much is the impedance of such
> an antenna? Thanks.
>
> Al
>
>

probably a few tenths of an ohm. a full wave single turn loop is about 100
ohms, but very small loops have very small impedances. the reason for the
pickup coil was probably to act as a transformer to bring the impedance seen
by the receiver to a reasonable level.

2397. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 21:11:39 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <esv6tg$6nm$1@registered.motzarella.org>
Source record: 44911

Richard Clark wrote:

> ...
> 73's
> Richard Clark, KB7QHC

I don't know ...

A digitized/stepped wave sorta' makes sense.

If you have an "amplitude" of one photon, then you add another, and yet another, etc. it would tend to look "stepped" at some point--and, since no one really knows, let's reserve the final determination ...

Right now, "quantums" are kinda like "nauga hide" (or, naugahyde) to me ...

You DO know about naugas' right?

My couch and chair and covered with their hides ... <grin>

Regards,
JS

2398. Re: Mininec antenna computor programs and Gaussian arrays

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 21:14:03 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <cj66v2lk4vl4apo3n0b1et4as1lrj4ot1m@4ax.com>
Source record: 44913

On 10 Mar 2007 03:51:21 -0800, "bluey" <blueyhi5s@yahoo.com.au> wrote:

>Therefore the question is, can Gauss's law be altered to accommodate
>the addition of time in relation to antenna's?.

Hi Derek,

Actually, that question has to be parsed for Art's sake for
immortality. Gauss's laws were altered to accommodate the addition of
time.

Gauss didn't do it, so Art is smarter than Gauss (because Gauss is
dead).

Maxwell took Gauss's work (and some dead Brit's) and did it, but he
didn't think of it in relation to antennas (there were none). So Art
is smarter than Maxwell (because Maxwell and some Brit are dead).

Marconi took Maxwell's addition of time to Gauss's (and some dead
Brit's) work and put it to antennas, but he didn't write a book about
it. So Art is smarter than Marconi (because Marconi is dead).

Bellini and Tosi took Marconi's work derived from Maxwell (and some
dead Brit) and Gauss's and did it, and wrote a book about it. Art can
ignore that because it is in an American book. So Art is smarter than
Bellini and Tosi (because, they too are dead).

He still has a lot more to rush into the grave. He is beginning to
stack them like cord wood. Did you bring your own head stone?

73's
Richard Clark, KB7QHC

2399. Re: Nominal Impedance of Loop Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 21:15:09 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F053F141A6nonenowhere@61.9.191.5>
Source record: 44912

"Al" <ABurzynski@nojunk.satx.rr.com> wrote in
news:45f31814$0$28146$4c368faf@roadrunner.com:

> Is there a nominal impedance or approximate impedance for a loop
> antenna? For example, a dipole is considered 72-ohm, a bevarage
> 450-ohm. What is a nominal loops Z?
>
> I have a 4-1/2 foot diameter loop antenna with 12 turns paralled by a
> capacitor for the antenna and one additional turn for the pickup coil.
> The loop is for the 200 - 500kHz band. About how much is the impedance
> of such an antenna? Thanks.

Al,

What is a nominal loop?

Though there will no doubt be some instant answers to your question, the information you have provided does not allow calculation, anything else is a guess.

The impedance (if you need to know it) is probably easiest found by measurement, and it will probably vary with frequency even though you resonate it at each frequency (assuming the capacitor you describe is variable).

Owen

2400. Re: Antenna computor programs and pitfalls

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 21:27:00 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <5v76v2t4mpnkcmm0e37452m45opfroju4m@4ax.com>
Source record: 44914

On 10 Mar 2007 07:54:20 -0800, "art" <aunwin@insightbb.com> wrote:

>Richard who with his cfontinuing carping

Hi Art,

If you are suffering from dehydration, it will have been from all the spitting on me. ;-)

Is it that painful for you to explain how identical radiators you describe as all being resonant at 200 MHz exhibit nearly 20:1 variation in drive point Z? This is something that doesn't require a book, a theory, or a new computor to test. It can be done with a transmitter and a SWR meter - if you have them.

If curling can't explain this, would it shame Gauss to have to go to the bench?

>Perhaps Brian will come up on this thread

Parched lips will be his blessing.

73's
Richard Clark, KB7QHC

2401. Re: Mininec antenna computor programs and Gaussian arrays

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 21:36:52 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <FjTTNnO0Ty8FFA8O@ifwtech.co.uk>
Source record: 44915

Richard Clark wrote:
> So Art is smarter than Maxwell (because Maxwell and some Brit are
>dead).

James Clerk Maxwell is buried not far from here. Most of the county gets its electric power from Maxwell turning in his grave - so please, everybody, keep those postings coming.

--

73 from Ian GM3SEK

2402. Re: Antenna computor programs and pitfalls

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 21:48:43 UTC
From: 4nec2 <4nec2@gmx.net>
Message-ID: <1173563323.529903.165060@n33g2000cwc.googlegroups.com>
Source record: 44916

On 9 mrt, 22:06, Roy Lewallen <w...@eznec.com> wrote:

> I'm sorry to see that some of my postings and comments about EZNEC are
> regarded by anyone as advertising, since I don't believe that
> advertising is appropriate here.

Oh no that's not what I had in mind to say. Maybe I wrote it a bit
clumsy
because english is not my mother language. Many excuses for the
misunderstanding. I think you do a great job answering most of the
antenna related questions in this group. Most answers also provide me
with new information and/or insights.

Concerning Art's antenne, I am afraid I got lost somehow. Did Art
deliver
me a model and/or AO results. I am not sure anymore, because I
consult
this newsgroup only once each few days.
Art could send me his *.ant model file and let lme know what (good and/
or
wrong) resutls he got with AO and I'll let him know if I got similar
results or not.

Arie.

2403. Re: Isolation of guy wires

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 21:49:52 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F059D454851nonenowhere@61.9.191.5>
Source record: 44917

Roy Lewallen <w7el@eznec.com> wrote in
news:12v63gm4523t28e@corp.supernews.com:

...
> A choke at a high-impedance point doesn't do much, since there's no
> substantial current at that location to block. You should put the
> choke about a quarter wavelength from there where the current is
> nominally high. The presence of the choke can move the locations of
> high and low voltage and current points, so you'll need a choke at
> least about every quarter wavelength to make sure there's no point
> where substantial current can occur.

Roy, NEC models suggest that lossy chokes (eg suppression sleeves or cores where Q is very small) don't modify the current distribution much unless they are of sufficiently large impedance, and that introduction of low Z chokes just introduces another loss without much impact on the current distribution or resultant antenna pattern.

The magnitude of Z needed to be effective in forcing a current minimum at a point might be quite impractical to implement using suppression sleeves, so the time honoured insulator looks the better solution.

Owen

2404. Re: Antenna grounding help

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 21:59:16 UTC
From: scooterspal <tfg1@mindspring.com>
Message-ID: <USFIh.9462$re4.5587@newssvr12.news.prodigy.net>
Source record: 44918

Hello Jim:

I appreciate the detailed reply and I have printed out the Low Voltage Handbook and will read it over this weekend.

When I started doing research I found this web site for dish installations. Can you comment on what it describes as the "5 suitable grounding locations". They seem to indicate that you can use an electrical panel and or the "raceway" as a ground. I'm confused.

<http://www.dbsinstall.com/whatis/Whatisgood-5.htm>

Also, why is there a mention for separate grounding of the mast and the coax?

Do I need to provide one ground for the mounting pipe (mast) that secures the base of the antenna (the aluminum sleeve that contains the connector at the base) to the brick wall and a second ground to the grounding lug on the inline gas discharge unit?

Thanks for the help on this. I want to get this right!

2405. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 22:09:29 UTC
From: davis@space.mit.edu
Message-ID: <slrnev6b4n.o7r.davis@aluche.mit.edu>
Source record: 44919

On Sat, 10 Mar 2007 20:59:59 GMT, Dave <noone@nowhere.com>
wrote:
>yes, referring to all 4 Maxwell equations you do have a 't' dependency.
>however, even equations 1.13 and 1.14 referred to by your quote have NO time
>dependency in them. the equations on the next page,1.15 and 1.16 have the
>time dependency that the 't' in your quote refers to. remember, those
>integrals are NOT integrals over time, they are over the surface or volume.

As I stated before, this chapter deals with electrostatics so the time
dependence has been dropped. However, the fact remains that Gauss's
law is the integral form of the first Maxwell equation, which holds
for an arbitrary space-time point. Unless you reject the first
equation, namely

div E(x,t) = 4 \pi \rho(x,t)

or the divergence thereom, you have to accept the fact that

\integral_S E(x,t).dA = 4 \pi \integral_V dV \rho(x,t)

which is Gauss's theorem.

This is my last post regarding this subject.
--John

2406. Re: Antenna computor programs and pitfalls

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 22:10:39 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <c8a6v25rcte7oq6bf4qrau5eg6a5usttda@4ax.com>
Source record: 44920

On Fri, 09 Mar 2007 13:06:09 -0800, Roy Lewallen <w7el@eznec.com> wrote:

>Thanks for the kind words, something too seldom seen here lately.
>
>Long ago, I told Art that I and some others wouldn't pay much attention
>to his conjectures unless he posted some quantitative results showing
>how his antenna creations were better than any others. He interpreted
>this as an attack, and that slowly turned to the hatred you now see. He
>dislikes EZNEC, I believe, simply because it's my program. I've
>eventually become the personification of the cartel which is out to
>belittle and deride him, preventing him from achieving the recognition
>he believes he deserves for his revolutionary insights. I'm in no way a
>qualified psychologist, but I see a number of similarities between this
>and the behavior shown some time ago by Nathan "Chip" Cohen
>(Fractenna"), who also considers me to be evil incarnate for much the
>same reason. As far as I know, these are the only two people in the
>entire world who dislike me this much. I'm afraid that by saying
>complimentary things about me, you -- and by association, your program
>-- will be joining me on Art's hate list.
>
>I'm sorry to see that some of my postings and comments about EZNEC are
>regarded by anyone as advertising, since I don't believe that
>advertising is appropriate here. I do naturally use EZNEC as an example
>or suggestion when giving an example of how to model something or to
>illustrate a point and frequently recommend the free demo, but I don't
>believe I've ever suggested that anyone buy EZNEC or that it's
>necessarily superior to any other program. In fact, I often give tips on
>using NEC-2. I also post corrections when someone says something about
>EZNEC's capabilities which isn't true, and to answer questions about it.
>I invite anyone who considers what I say about EZNEC to be out of line
>to comment -- I'll certainly try to change my level of commentary if
>there's general agreement that I've been advertising.
>
>Roy Lewallen, W7EL

I'm dismayed at the attitude shown toward Roy on this newsgroup. I've had the pleasure and privilege of knowing him personally for many years. At one time, while visiting me in my home in Florida, he personally installed EZNEC on my computer. After knowing him for this long time I find Roy to be one of the most helpful, honest, respectful, and friendly persons I've ever known.

IMO, we're fortunate to have him participate on this NG, as he's been a prolific tutor on the subject, and many have learned from his knowledgeable presentations and answers to questions many have asked.

Here's cheers to Roy!

Walt, W2DU

2407. Re: Antenna computor programs and pitfalls

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 22:17:14 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F05E77E3F29nonenowhere@61.9.191.5>
Source record: 44921

Walter Maxwell <walt@w2du.com> wrote in
news:c8a6v25rcte7oq6bf4qrau5eg6a5usttda@4ax.com:

> IMO, we're fortunate to have him participate on this NG, as he's been
> a prolific tutor on the subject, and many have learned from his
> knowledgeable presentations and answers to questions many have asked.
>
> Here's cheers to Roy!

Agreed.

Owen

2408. Re: Nominal Impedance of Loop Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 22:25:44 UTC
From: Bryan <bryan.swadenerNOSPAM@comcast.net>
Message-ID: <s-udnXI3x-VHrW7YnZ2dnUVZ_r-onZ2d@giganews.com>
Source record: 44922

Al wrote:
> Is there a nominal impedance or approximate impedance for a loop antenna?
> For example, a dipole is considered 72-ohm, a bevarage 450-ohm. What is a
> nominal loops Z?
>
> I have a 4-1/2 foot diameter loop antenna with 12 turns paralled by a
> capacitor for the antenna and one additional turn for the pickup coil. The
> loop is for the 200 - 500kHz band. About how much is the impedance of such
> an antenna? Thanks.
>
> Al

Hi Al,

You've described what SWLers call a "box loop" antenna. Its notable characteristics are deep nulls in the radiation pattern that are 180° apart, and excellent selectivity. The multiturn loop coupled to a loop with much fewer turn(s) of wire provides the high Q. Treat the two loops as a transformer. A one-turn secondary might seem to indicate a very low output impedance but, in theory, the parallel resonant primary winding appears as an infinite impedance. Practically speaking, it will be some high value. However, the feedpoint impedance will be a function of the square of the turns ratio. In this case, 12^2 or 144:1. Not knowing the electrical characteristics of the primary loop, it would be a crapshoot in determining the feedpoint impedance.

There are stand-alone antenna analyzers available for a few hundred dollars US. If you have a general coverage receiver, a noise or antenna bridge may be usable and cost much less. MFJ (http://www.mfjenterprises.com/) is one manufacturer. I have used a MFJ202B noise bridge, and find it useful.

Bryan

2409. Re: Isolation of guy wires

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 22:38:00 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12v6cq9skknjf91@corp.supernews.com>
Source record: 44923

Owen Duffy wrote:
>
> Roy, NEC models suggest that lossy chokes (eg suppression sleeves or cores
> where Q is very small) don't modify the current distribution much unless
> they are of sufficiently large impedance, and that introduction of low Z
> chokes just introduces another loss without much impact on the current
> distribution or resultant antenna pattern.
>
> The magnitude of Z needed to be effective in forcing a current minimum at a
> point might be quite impractical to implement using suppression sleeves, so
> the time honoured insulator looks the better solution.

Yes, that's exactly the point I've been trying, apparently unsuccessfully, to make. It is practical to use ferrite sleeves for suppression of current at a single point or a couple of points, as Walt Maxwell pointed out some time ago. Often called the "W2DU balun", it's done by putting a lot of cores -- typical several tens of cores -- over the line. But you wouldn't want to do this at a dozen or two points on guy wires. I personally prefer to use multiple turns on a single core, because ten turns on one core gives the same impedance a single pass through 100 cores. But then I don't run so much power that I need to use RG-8 or larger size cable or go to heroic efforts to insulate the turns on a single core.

The guy wire requirements would be about the same as for a "current balun" (common mode choke) -- somewhere around 500 - 1000 ohms is typically necessary. At that impedance level, it makes no difference whether the impedance is reactive or resistive from the standpoint of effectiveness in choking current or in terms of dB loss. But there can still be enough power dissipated to overheat the cores if they're resistive and the power level is very high. Then you're stuck with using ferrites which are more reactive and less resistive (e.g., Fair-Rite 60 series), but they also give you a lot less impedance per core so you need more cores yet. That makes the ferrite solution even less attractive.

Roy Lewallen, W7EL

2410. Re: Isolation of guy wires

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 23:04:32 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F0667CF75AEnonenowhere@61.9.191.5>
Source record: 44924

Roy Lewallen <w7el@eznec.com> wrote in
news:12v6cq9skknjf91@corp.supernews.com:

> The guy wire requirements would be about the same as for a "current
> balun" (common mode choke) -- somewhere around 500 - 1000 ohms is
> typically necessary. At that impedance level, it makes no difference
> whether the impedance is reactive or resistive from the standpoint of
> effectiveness in choking current or in terms of dB loss. But there can
> still be enough power dissipated to overheat the cores if they're
> resistive and the power level is very high. Then you're stuck with
> using ferrites which are more reactive and less resistive (e.g.,
> Fair-Rite 60 series), but they also give you a lot less impedance per
> core so you need more cores yet. That makes the ferrite solution even
> less attractive.

Roy,

I have attempted to model the famous Carolina Windom. It takes some guessing since it contains proprietary (ie secret) components, namely the "balun" and the "isolator". My flat top is at 10m height.

Since they argue that the vertical feedline is an effective radiator, I make the assumption that the balun is a "voltage" balun, and that it is transparent to common mode current, so I have modelled the feedline as a wire attached to (as it happens) the inner end of the short leg of the flat top.

The "isolator" is argued to prevent the current flowing on the line above itself from flowing on the line below itself. It is a naive notion, since there is mutual coupling... but lets guess that it is a bunch of supression sleeves on coax.

At 7.2MHz, the isolator is subject to appreciable current, and it does not effectively force a current minimum until it is well over 1000+j1000. (BTW, about half the power is dissipated in a 1000+j1000 isolator.) 2000 +j2000 is becoming reasonably effective.

I know there is a proposition that chokes such as the W2DU balun need only have choke impedance about 10 times the nominal Zo to be effective. I think that design constraint is effective in limiting the extent to which such a balun unbalances the load by its own shunt impedance dropped accross one load leg for a load~=Zo, but I think the criteria has nothing to do with the choke's influence in forcing a current minimum in the region of itself. It is the difference between a bench test criteria for insertion VSWR, and what is needed when plugged into an NEC model where the intention is to force a current minimum.

Thoughts?

Owen

2411. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 23:21:35 UTC
From: Dave <noone@nowhere.com>
Message-ID: <34HIh.660$S06.319@trndny08>
Source record: 44776

"John E. Davis" <davis@space.mit.edu> wrote in message
news:slrnev6b4n.o7r.davis@aluche.mit.edu...
> On Sat, 10 Mar 2007 20:59:59 GMT, Dave <noone@nowhere.com>
> wrote:
>>yes, referring to all 4 Maxwell equations you do have a 't' dependency.
>>however, even equations 1.13 and 1.14 referred to by your quote have NO
>>time
>>dependency in them. the equations on the next page,1.15 and 1.16 have the
>>time dependency that the 't' in your quote refers to. remember, those
>>integrals are NOT integrals over time, they are over the surface or
>>volume.
>
> As I stated before, this chapter deals with electrostatics so the time
> dependence has been dropped. However, the fact remains that Gauss's
> law is the integral form of the first Maxwell equation, which holds
> for an arbitrary space-time point. Unless you reject the first
> equation, namely
>
> div E(x,t) = 4 \pi \rho(x,t)
>
> or the divergence thereom, you have to accept the fact that
>
> \integral_S E(x,t).dA = 4 \pi \integral_V dV \rho(x,t)
>
> which is Gauss's theorem.
>
> This is my last post regarding this subject.
> --John

the later chapter i quoted first is not based on electrostatics, and the
formula for gauss's law is always the same. it is not dependent on time in
any form. thank you for not continuing to prolong the misinformation in
this thread.

2412. Re: Isolation of guy wires

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 23:21:43 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <esvehb$f2v$1@registered.motzarella.org>
Source record: 44925

Owen Duffy wrote:

> ...
> (BTW, about half the power is dissipated in a 1000+j1000 isolator.) 2000
> +j2000 is becoming reasonably effective.
> ...

I have a 4:1 hybrid balun (4:1 voltage balun coupled up with a 1:1
current balun). Now and then I run the full california-kilowatt to it,
I have NEVER seen the thing REAL WARM unless running into a high
standing wave, but NEVER what I would call REAL HOT.

500+ watts would shortly make it so hot it would burn fingers and smoke
even the high temp thermaleze enamel off the windings (if the balun was
forced to dissipate that power!)

I don't see where half the power could have ever been "sunk" into the
balun, no matter what freq it has been operated at, 2-30. The windings
all look in excellent shape and the core in good condition ...

Or, perhaps I misunderstood your previous post.

JS

2413. Re: Isolation of guy wires

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 23:30:50 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F06AF2317E5nonenowhere@61.9.191.5>
Source record: 44777

John Smith I <assemblywizard@gmail.com> wrote in news:esvehb$f2v$1
@registered.motzarella.org:

> Owen Duffy wrote:
>
> > ...
>> (BTW, about half the power is dissipated in a 1000+j1000 isolator.)
2000
>> +j2000 is becoming reasonably effective.
> > ...
>
> I have a 4:1 hybrid balun (4:1 voltage balun coupled up with a 1:1
> current balun). Now and then I run the full california-kilowatt to it,
> I have NEVER seen the thing REAL WARM unless running into a high
> standing wave, but NEVER what I would call REAL HOT.
>
> 500+ watts would shortly make it so hot it would burn fingers and smoke
> even the high temp thermaleze enamel off the windings (if the balun was
> forced to dissipate that power!)
>
> I don't see where half the power could have ever been "sunk" into the
> balun, no matter what freq it has been operated at, 2-30. The windings
> all look in excellent shape and the core in good condition ...
>
> Or, perhaps I misunderstood your previous post.

Perhaps.

I don't understand the term "California Kilowatt".

I don't know if you are describing the same thing I modelled, I don't
think so.

It is often overlooked that the power of an SSB telephony signal averaged
over a longish time (but not accounting for the duty cycle of "overs") is
around 15dB (a little less for speech processing), so the heating effect
of 500W PEP telephony might be more like 15W.

Owen

2414. Re: Isolation of guy wires

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 23:32:28 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F06B393673Enonenowhere@61.9.191.5>
Source record: 44778

Owen Duffy <none@no.where> wrote in
news:Xns98F06AF2317E5nonenowhere@61.9.191.5:

> John Smith I <assemblywizard@gmail.com> wrote in news:esvehb$f2v$1
> @registered.motzarella.org:
>
>> Owen Duffy wrote:
> It is often overlooked that the power of an SSB telephony signal
> averaged over a longish time (but not accounting for the duty cycle of
> "overs") is around 15dB (a little less for speech processing), so the
> heating effect of 500W PEP telephony might be more like 15W.

Duh, guess who left a minus sign out, should read:

It is often overlooked that the power of an SSB telephony signal
averaged over a longish time (but not accounting for the duty cycle of
"overs") is around -15dB (a little less for speech processing), so the
heating effect of 500W PEP telephony might be more like 15W.

Owen

2415. Re: Isolation of guy wires

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 23:36:19 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <ShHIh.6718$P47.6033@newssvr22.news.prodigy.net>
Source record: 44779

Owen Duffy wrote:
> I know there is a proposition that chokes such as the W2DU balun need
> only have choke impedance about 10 times the nominal Zo to be effective.

I believe that rule of thumb applies only to matched lines,
i.e. Z0 loads. The other rule of thumb that I have heard
is 5x the antenna feedpoint impedance.
--
73, Cecil http://www.w5dxp.com

2416. Re: Isolation of guy wires

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 23:48:17 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F06DE796706nonenowhere@61.9.191.5>
Source record: 44780

Cecil Moore <mycall@hotmail.com> wrote in
news:ShHIh.6718$P47.6033@newssvr22.news.prodigy.net:

> Owen Duffy wrote:
>> I know there is a proposition that chokes such as the W2DU balun need
>> only have choke impedance about 10 times the nominal Zo to be
>> effective.
>
> I believe that rule of thumb applies only to matched lines,
> i.e. Z0 loads. The other rule of thumb that I have heard
> is 5x the antenna feedpoint impedance.

Ah Rules of Thumb (ROT) abound.

The first ROT relates to what is happening inside the coax at the choke location (or is it somewhere else), and the choke is on the outside of the coax.

The second ROT relates to the antenna impedance, wherever that is (perhaps it assumed feedpoint adjacent to the choke), and again relates to the differential mode Z (or some transformation) whereas the choke acts on common mode current.

Take for example the use of a common mode choke at the junction between open wire line and coax in a G5RV, its behaviour seems to me to be quite unrelated to the differential mode Z at that point, or at the dipole centre, or anywhere else.

Owen

2417. Re: Isolation of guy wires

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-10 23:56:07 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <esvghr$h44$1@registered.motzarella.org>
Source record: 44781

Owen Duffy wrote:

> ...
> It is often overlooked that the power of an SSB telephony signal
> averaged over a longish time (but not accounting for the duty cycle of
> "overs") is around -15dB (a little less for speech processing), so the
> heating effect of 500W PEP telephony might be more like 15W.
>
> Owen

Hmmm, I just may pull that balun down and run a full KW into it hooked to a dummy load to look at some temp readings over a range of bands/over a time span ... maybe the thing has been dumping more heat than I am aware of, time anyway to check out the system ...

JS

2418. Re: Isolation of guy wires

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 00:21:52 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <AYHIh.9175$jx3.3240@newssvr25.news.prodigy.net>
Source record: 44782

Owen Duffy wrote:
> The second ROT relates to the antenna impedance, wherever that is
> (perhaps it assumed feedpoint adjacent to the choke), and again relates
> to the differential mode Z (or some transformation) whereas the choke
> acts on common mode current.

The second ROT is of course for cases where the choke is
installed at the antenna feedpoint. The main function of
such a choke is to choke off *conducted* common-mode current.
The effect of the choke on inducted common-mode current is
usually unknown unless measured.

> Take for example the use of a common mode choke at the junction between
> open wire line and coax in a G5RV, its behaviour seems to me to be quite
> unrelated to the differential mode Z at that point, or at the dipole
> centre, or anywhere else.

Again, the G5RV choke is trying to prevent *conducted* common-
mode currents and only has a chance of success on certain
bands where the differential impedance is relatively low at
the junction point. The effect of the choke on inducted common-
mode current is hard to quantify without measurements.
--
73, Cecil http://www.w5dxp.com

2419. Re: Isolation of guy wires

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 01:08:00 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12v6ljhtkm8ma7d@corp.supernews.com>
Source record: 44783

Here are some characteristics of off-center fed dipoles which I've observed in doing careful measurements:

1. The feepoint balun is commonly a voltage balun, which may have the nominal claimed impedance transformation ratio over most of the HF range when terminated with 50 + j0 ohms times the tranformation ratio. However, the antenna doesn't have this impedance at hardly any frequency, and can be very different at some frequencies. When presented with load impedances typical of the antenna, the transformation ratio is way off and becomes complex, and the balun adds considerable shunt and series reactance.

2. Whenever a voltage balun is used to feed an asymmetrical antenna, it creates an imbalance current in its attempt to equalize the voltages at the two halves relative to the "cold" side of the input. This imbalance current flows down the feedline as a common mode current.

3. Additional common mode current results from the unequal mutual coupling between the feedline and unequal antenna halves.

4. It takes very concentrated efforts to reduce the common mode current to a low level on all bands. Multiple current baluns (probably what the CW calls and "isolator") are required, and even then it might also require feedline length adjustments to get low common mode current on all bands.

5. Without being able to quantify what the feedpoint balun will do in terms of transformation, reactance, and common mode current generation, it's impossible to build a model of one of these antennas with any confidence, even if the feedline is included in the model. The best efforts I made to measure a real antenna and its balun and build a model based on the measurements led to generally poor agreement between the measured and model impedance. Consequently I'm extremely skeptical of any model that purports to predict anything about OCF dipole performance.

Roy Lewallen, W7EL

Owen Duffy wrote:
> Roy Lewallen <w7el@eznec.com> wrote in
> news:12v6cq9skknjf91@corp.supernews.com:
>
>> The guy wire requirements would be about the same as for a "current
>> balun" (common mode choke) -- somewhere around 500 - 1000 ohms is
>> typically necessary. At that impedance level, it makes no difference
>> whether the impedance is reactive or resistive from the standpoint of
>> effectiveness in choking current or in terms of dB loss. But there can

>> still be enough power dissipated to overheat the cores if they're
>> resistive and the power level is very high. Then you're stuck with
>> using ferrites which are more reactive and less resistive (e.g.,
>> Fair-Rite 60 series), but they also give you a lot less impedance per
>> core so you need more cores yet. That makes the ferrite solution even
>> less attractive.
>
> Roy,
>
> I have attempted to model the famous Carolina Windom. It takes some
> guessing since it contains proprietary (ie secret) components, namely the
> "balun" and the "isolator". My flat top is at 10m height.
>
> Since they argue that the vertical feedline is an effective radiator, I
> make the assumption that the balun is a "voltage" balun, and that it is
> transparent to common mode current, so I have modelled the feedline as a
> wire attached to (as it happens) the inner end of the short leg of the
> flat top.
>
> The "isolator" is argued to prevent the current flowing on the line above
> itself from flowing on the line below itself. It is a naive notion, since
> there is mutual coupling... but lets guess that it is a bunch of
> supression sleeves on coax.
>
> At 7.2MHz, the isolator is subject to appreciable current, and it does
> not effectively force a current minimum until it is well over 1000+j1000.
> (BTW, about half the power is dissipated in a 1000+j1000 isolator.) 2000
> +j2000 is becoming reasonably effective.
>
> I know there is a proposition that chokes such as the W2DU balun need
> only have choke impedance about 10 times the nominal Zo to be effective.
> I think that design constraint is effective in limiting the extent to
> which such a balun unbalances the load by its own shunt impedance dropped
> accross one load leg for a load~=Zo, but I think the criteria has nothing
> to do with the choke's influence in forcing a current minimum in the
> region of itself. It is the difference between a bench test criteria for
> insertion VSWR, and what is needed when plugged into an NEC model where
> the intention is to force a current minimum.
>
> Thoughts?
>
> Owen

2420. Re: Antenna computor programs and pitfalls

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 01:44:41 UTC
From: Danny Richardson <n_group@k6mhe.com>
Message-ID: <3jn6v2t527npkvn68o8f4o657kr3qut0oa@4ax.com>
Source record: 44784

On Sat, 10 Mar 2007 22:10:39 GMT, Walter Maxwell <walt@w2du.com>
wrote:
>
>I'm dismayed at the attitude shown toward Roy on this newsgroup. I've had the
>pleasure and privilege of knowing him personally for many years. At one time,
>while visiting me in my home in Florida, he personally installed EZNEC on my
>computer. After knowing him for this long time I find Roy to be one of the most
>helpful, honest, respectful, and friendly persons I've ever known.
>
>IMO, we're fortunate to have him participate on this NG, as he's been a prolific
>tutor on the subject, and many have learned from his knowledgeable presentations
>and answers to questions many have asked.
>
>Here's cheers to Roy!
>
>Walt, W2DU

I'll second that Walt! I too have known Roy for some time and found
him to be one of the most helpful individuals I have ever known.

Danny, K6MHE

2421. Re: Isolation of guy wires

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 02:20:15 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <zHJIh.8660$PL.3539@newsread4.news.pas.earthlink.net>
Source record: 44785

"Walter Maxwell" <walt@w2du.com> wrote in message
news:5574v25tgqjguq2fr2lj4sgm5tmicbbtuf@4ax.com...
> On Fri, 09 Mar 2007 12:56:12 -0800, Roy Lewallen <w7el@eznec.com> wrote:
>
>>Ralph Mowery wrote:
>>> Has anyone thought of trying to use some of the ferrite beads to isolate
>>> the
>>> guy wires of a tower for RF so the tower could be shunt fed ? Along the
>>> same
>>> lines could the beads be used to electrically brake up the wires into
>>> non
>>> resonate lengths ?
>>
>>It would require multiple beads at each point, and at multiple points.
>>While it could be made to work, it would be heavy and expensive. That's
>>why egg insulators or non-conductive guys are used instead.
>>
>>Roy Lewallen, W7EL
>
> Yes Ralph, beads could be used to achieve what you want. I refer you to a
> paper
> that will appear in Reflections 3 as Chapter 21A, which is a continuation
> of
> Chapter 21 in Reflections 1 and 2. Chapter 21 tells of the need for a
> balun, and
> how the beads perform as a balun.
>
> However, Chapter 21A describes how I developed the idea for using beads
> for the
> W2DU balun. The idea came as a spin-off from a method I used during
> radiation-pattern measurements for the antennas that flew on TIROS weather
> satellites. The downlead for the signal received from the antennas on the
> satellite was reradiating EM energy, and distorting the radiation
> patterns. I
> reasoned that placing a bead every quarterwavelength along the downlead
> would
> breakup the current on the lead, which it did. I then transformed the idea
> into
> the W2DU balun, which is described in all editions of the ARRL Handbook
> since
> around 1985. Chapter 21 is a repeat of my article in QST for March 1983.
>
> Chapters 21 and 21A can be found for downloading on my web page at
> www.w2du.com.

> Click separately on 'View Chapters from Reflections 2' for Chapter 21, and
> click
> on 'Preview Chapters from Reflections 3' for Chapter 21A.
>
> Hope this helps.
>
> Walt, W2DU

Walt I have seen some of your work in the handbooks and it makes for good reading. I do use a current balun on a triband beam I have up.

I just have not seen any beads used on guy wires and did not know if it had been tried. I agree it probably would be beter to just use the insulators on the guy wires, but not sure how the price of them and the clamps would compair to the beads. With the guy wires already in place it may just be easier to place some clamp on beads on the guy wires if it would work.

73 de KU4PT

2422. Re: Antenna computor programs and pitfalls

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 02:55:56 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <g5r6v2tei76ltf6mucagj5igir5vghtv27@4ax.com>
Source record: 44786

On 10 Mar 2007 13:48:43 -0800, "4nec2" <4nec2@gmx.net> wrote:

>Concerning Art's antenne, I am afraid I got lost somehow. Did Art
>deliver
>me a model and/or AO results. I am not sure anymore, because I
>consult
>this newsgroup only once each few days.

Hi Arie,

As always, Art has a choice of what to discuss, and it is rarely
technical.

>Art could send me his *.ant model file

The world waits in wonder.

Hi Art,

You asked for:
1. Modeling help;
2. Foreign (unamerican) aid;
3. A friendly response;
4. More optimization.

WWAD? (what would Art do?)

Hi Arie,

If you don't confirm his design is the best, then the mist you feel on
your face will not be the fresh Spring dew of early morning. Art may
have to appeal to extra-terrestrials for proof.

73's
Richard Clark, KB7QHC

2423. Re: Isolation of guy wires

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 03:48:28 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <eiu6v2d3vnekq3oj1atmc2fbebaoiocpus@4ax.com>
Source record: 44787

On Sat, 10 Mar 2007 14:38:00 -0800, Roy Lewallen <w7el@eznec.com> wrote:

>Owen Duffy wrote:
>>
>> Roy, NEC models suggest that lossy chokes (eg suppression sleeves or cores
>> where Q is very small) don't modify the current distribution much unless
>> they are of sufficiently large impedance, and that introduction of low Z
>> chokes just introduces another loss without much impact on the current
>> distribution or resultant antenna pattern.
>>
>> The magnitude of Z needed to be effective in forcing a current minimum at a
>> point might be quite impractical to implement using suppression sleeves, so
>> the time honoured insulator looks the better solution.
>
>Yes, that's exactly the point I've been trying, apparently
>unsuccessfully, to make. It is practical to use ferrite sleeves for
>suppression of current at a single point or a couple of points, as Walt
>Maxwell pointed out some time ago. Often called the "W2DU balun", it's
>done by putting a lot of cores -- typical several tens of cores -- over
>the line. But you wouldn't want to do this at a dozen or two points on
>guy wires. I personally prefer to use multiple turns on a single core,
>because ten turns on one core gives the same impedance a single pass
>through 100 cores. But then I don't run so much power that I need to use
>RG-8 or larger size cable or go to heroic efforts to insulate the turns
>on a single core.
>
>The guy wire requirements would be about the same as for a "current
>balun" (common mode choke) -- somewhere around 500 - 1000 ohms is
>typically necessary. At that impedance level, it makes no difference
>whether the impedance is reactive or resistive from the standpoint of
>effectiveness in choking current or in terms of dB loss. But there can
>still be enough power dissipated to overheat the cores if they're
>resistive and the power level is very high. Then you're stuck with using
>ferrites which are more reactive and less resistive (e.g., Fair-Rite 60
>series), but they also give you a lot less impedance per core so you
>need more cores yet. That makes the ferrite solution even less attractive.
>
>Roy Lewallen, W7EL

Apparently no one on this thread has read my Chapter 21A from my web page at www.w2du.com, where I showed that placing one #43 bead at every 1/4 wl along a feed line eliminated the current flowing on it while immersed in an EM field in the 130 to 150 MHz frequency range. It was the success of this one bead approach during radiation-pattern measurements of spacecraft antennas that led to the development of the W2DU balun with several beads at one location.

Walt, W2DU

2424. Re: Smith chart

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 04:07:33 UTC
From: Craig Buck <k4ia@verizon.net>
Message-ID: <9gLIh.784$I56.276@trnddc06>
Source record: 44788

Wow - Thanks. Now I need about two weeks to try to digest it all. Good
stuff!
--
k4ia
Buck
Fredericksburg, VA

"John Ferrell" <johnferrell@sprintmail.com> wrote in message
news:uvuqu21hn07bl4qjqumn8b9pi3jeversbk@4ax.com...
> On 6 Mar 2007 05:24:27 -0800, Craig.Kinney@Blueyonder.co.uk wrote:
>
>>Does anyone have any smith chart tutorials that are easy to follow as
>>i have some technicians who require some study aids, most of the
>>tutorials around are a bit over burdened with math.
>>
>>cheers
>
> Here are my bookmarks on the subject:
>
> http://education.tm.agilent.com/index.cgi?CONTENT_ID=5
> http://www.scott-inc.com/html/smith.htm
> http://www.maxim-ic.com/appnotes.cfm/appnote_number/742
> http://www.rfcafe.com/business/software/smith_chart_for_excel/smith_chart_for_excel.htm
> http://en.wikipedia.org/wiki/Smith_chart
>
> John Ferrell W8CCW

2425. Re: Antenna computor programs and pitfalls

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 04:24:06 UTC
From: Craig Buck <k4ia@verizon.net>
Message-ID: <GvLIh.787$I56.713@trnddc06>
Source record: 44789

Thnak you Roy for a great program and for being the gentleman you are. I will not forget your kind words to me at Dayton and your resupplying me with your program after I stupidly lost it in a compuer malfunction.

Roy is "the best" and only an idiot would attack him personally. Roy- don't pay any attention to this garbage.
--
k4ia
Buck
Fredericksburg, VA

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:12v3j22hbmj3g4c@corp.supernews.com...
> Thanks for the kind words, something too seldom seen here lately.
>
> Long ago, I told Art that I and some others wouldn't pay much attention
> to his conjectures unless he posted some quantitative results showing
> how his antenna creations were better than any others. He interpreted
> this as an attack, and that slowly turned to the hatred you now see. He
> dislikes EZNEC, I believe, simply because it's my program. I've
> eventually become the personification of the cartel which is out to
> belittle and deride him, preventing him from achieving the recognition
> he believes he deserves for his revolutionary insights. I'm in no way a
> qualified psychologist, but I see a number of similarities between this
> and the behavior shown some time ago by Nathan "Chip" Cohen
> (Fractenna"), who also considers me to be evil incarnate for much the
> same reason. As far as I know, these are the only two people in the
> entire world who dislike me this much. I'm afraid that by saying
> complimentary things about me, you -- and by association, your program
> -- will be joining me on Art's hate list.
>
> I'm sorry to see that some of my postings and comments about EZNEC are
> regarded by anyone as advertising, since I don't believe that
> advertising is appropriate here. I do naturally use EZNEC as an example
> or suggestion when giving an example of how to model something or to
> illustrate a point and frequently recommend the free demo, but I don't
> believe I've ever suggested that anyone buy EZNEC or that it's
> necessarily superior to any other program. In fact, I often give tips on
> using NEC-2. I also post corrections when someone says something about
> EZNEC's capabilities which isn't true, and to answer questions about it.
> I invite anyone who considers what I say about EZNEC to be out of line
> to comment -- I'll certainly try to change my level of commentary if
> there's general agreement that I've been advertising.
>
> Roy Lewallen, W7EL

>
> 4nec2 wrote:
>> Just out of curiosity, but can anybody inform me what's the problem
>> between Art and Roy. In every posting of Art, Roy's name (or EZnec) shows
>> up. Why not mention NecWin+ or Supernec or others ?
>>
>> I don't know Roy, but when reading his postings I sure think he is a
>> nice guy. When supplying answers on questions posted in this group,
>> it's expectable he does some EZnec advertising, because it's a
>> commercial product. Mostly he also takes the time to tell that there
>> are other productys around with similar capabilities...
>>
>> It's a pitty I was not aware of EZnec first few months after I stumbled
>> over the Nec2 program.
>>
>> :-(
>>
>> Arie.
>>

2426. WANTED: SGC SG-230 or SG-237 Antenna Tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 04:28:18 UTC
From: 73w7gsa@gmail.com
Message-ID: <1173587298.077203.168790@p10g2000cwp.googlegroups.com>
Source record: 44790

Hello,

I am looking for a good used SG-230 or SG-237 antenna tuner.

Please contact me if you have one available.

Thanks,

Bill
73w7gsa@gmail.com

2427. Best way to clean elements before assembly?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 04:41:12 UTC
From: Tehrasha Darkon <darkon@netins.net>
Message-ID: <et0198$9nb$1@news.netins.net>
Source record: 44791

I have become the new owner of a KT-34XA which has never been deployed.

Original owner bought it 3 years ago, and it has lay on the floor of his car port ever since. So it has been subjected to rain, bird poo and mice. The main elements (mainly the boom) show the signs weathering. Very dull gray and an almost dusty texture.

What would be the best thing to use to clean the elements, before grease and assembly?

--Teh

2428. Re: Antenna computor programs and pitfalls

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 05:31:40 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <et0471ojr1@nnrp.linuxfan.it>
Source record: 44792

Craig Buck wrote:
> Thnak you Roy for a great program and for being the gentleman you are. I
> will not forget your kind words to me at Dayton and your resupplying me with
> your program after I stupidly lost it in a compuer malfunction.
>
> Roy is "the best" and only an idiot would attack him personally. Roy- don't
> pay any attention to this garbage.

Well, by that logic, just leave us a list of everyone you like--I am
sure we all would be idiots not to like them ...

Ya just gotta love a guy who implements logic as such an art ...

JS
--
http://assemblywizard.tekcities.com

2429. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 06:00:27 UTC
From: davis@space.mit.edu
Message-ID: <slrnev76nq.u0e.davis@aluche.mit.edu>
Source record: 44793

On Sat, 10 Mar 2007 23:21:35 GMT, Dave <noone@nowhere.com>
wrote:
>the later chapter i quoted first is not based on electrostatics, and the
>formula for gauss's law is always the same. it is not dependent on time in
>any form.

I will make one last effort to to set the record straight. In volume
II of the Feynman Lectures on Physics, the title of chapter 15,
section 6 is "What is true for statics is false for dynamics". The
5th paragraph of that section states "Gauss' law, [eq omitted]
remains...". Also in that section, he has a table (Table 15-1) that
contains two columns:

FALSE IN GENERAL | TRUE ALWAYS
(true only for statics) |

Coulomb's Law | Gauss' law
[...] | [...]

Then in chapter 18, section 1 paragraph 3 you will find the statement:

"In dynamic as well as static fields, Gauss' law is always valid".

I do not think I can make it any more clear than this.

> thank you for not continuing to prolong the misinformation in this
> thread.

Do you also accuse Feynman of spreading misinformation? Unfortunately
he died a few years ago.

--John

2430. Re: Isolation of guy wires

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 06:51:48 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <e697v2993uha0h9i9gba6iouqc23armqok@4ax.com>
Source record: 44794

On Sun, 11 Mar 2007 03:48:28 GMT, Walter Maxwell <walt@w2du.com>
wrote:

>Apparently no one on this thread has read my Chapter 21A from my web page at
>www.w2du.com, where I showed that placing one #43 bead at every 1/4 wl along a
>feed line eliminated the current flowing on it while immersed in an EM field in
>the 130 to 150 MHz frequency range.

Hi Walt,

A prophet is not recognized in his own country. If Art could write as
clearly as you (and to some practical purpose) perhaps his cries would
have merit.

However, as to the content of your Chapter 21A. It seems to me I had
come across this treatment some time ago. It inspired me to use your
W2DU balun specification, and spread the beads along a 20 feet length
of cable for exactly the reasons that initially motivated your first
use of them. If every quarterwave can be snubbed by one bead, then
certainly every 40th of a wave can be snubbed even more by the same
resistance. As I saw it, it was the same investment in beads, and the
same bulk resistance even if Kirchoff would point out that their
spread injected significant wavelength into this to invalidate his
lumped circuit analysis of total resistance. Be that as it may,
conceptually, the shorter element's smaller radiation resistance in
relation to the single bead sees a significantly higher port isolation
through the bead.

As for the practicality of a retro-fit, now that's another question.

73's
Richard Clark, KB7QHC

2431. Re: Best way to clean elements before assembly?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 06:53:36 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3q97v29d09merrivljp7i6ldr5o5c3qc93@4ax.com>
Source record: 44795

On Sun, 11 Mar 2007 04:41:12 +0000 (UTC), Tehrasha Darkon
<darkon@netins.net> wrote:

>What would be the best thing to use to clean the elements

Wire brush mating connections and assemble quickly - forget the rest.

73's
Richard Clark, KB7QHC

2432. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 07:38:04 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <tma7v2dqk0b3vpt1udkgcv3j3i21lk8ulb@4ax.com>
Source record: 44796

On Sun, 11 Mar 2007 06:00:27 +0000 (UTC), davis@space.mit.edu (John E. Davis) wrote:

>On Sat, 10 Mar 2007 23:21:35 GMT, Dave <noone@nowhere.com>
>wrote:
>>the later chapter i quoted first is not based on electrostatics, and the
>>formula for gauss's law is always the same. it is not dependent on time in
>>any form.
>
>I will make one last effort to to set the record straight. In volume
>II of the Feynman Lectures on Physics, the title of chapter 15,
>section 6 is "What is true for statics is false for dynamics". The
>5th paragraph of that section states "Gauss' law, [eq omitted]
>remains...". Also in that section, he has a table (Table 15-1) that
>contains two columns:
>
> FALSE IN GENERAL | TRUE ALWAYS
> (true only for statics) |
> ---
> Coulomb's Law | Gauss' law
> [...] | [...]

At the bottom of that Table is a footnote explaining the bold arrow of your Gauss' law. It reads:
"The equations marked by an arrow (-ï¿½) are Maxwell's equations."

The table equation, and the one you reference in the text are both Maxwell's.

>Then in chapter 18, section 1 paragraph 3 you will find the statement:
>
> "In dynamic as well as static fields, Gauss' law is always valid".

That chapter, too, clearly defines the same equation you are making an appeal to as "Maxwell's equations." Observe Table 18-1 "Classical Physics"

It is explicitly derived from the treatment as equation 4.1 - also denoted Maxwell's equations.

"All charges are permanently fixed in space, or if they do move, they move as a steady flow in the circuit (so rho and j are constant in time). In these circumstances, all of the terms in the Maxwell equations which are time derivatives of the field are zero."

Equations 4.6 and 4.8, the cross and dot products resolve to zero.

If you crank up the clock, Feynman concludes
"Only when there are sufficiently rapid changes, so that the time derivatives in Maxwell's equations become significant, will E and B depend on each other."

We will, of course, recognize this EB relationship as the field of radiation and further recognize there is no field of radiation without a significant time factor.

The grad operator, an inverted, enbolded del, is discussed by Feynman in Chapter 2-4 is a significant element of these equations. The grad operator obeys the same convention as the derivative notation.

Feynman's instruction clearly shows that Maxwell's treatment (actually Heaviside's work before him) is a generalization of Gauss to include time (sorry Art, he got there two centuries ago) and hence describes Gauss equations as special (zero-time) instances of the generality.

73's
Richard Clark, KB7QHC

2433. Re: Isolation of guy wires

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 07:45:35 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <8oc7v21pb99tv9oficoa39iekhjgd63pfr@4ax.com>
Source record: 44797

On Sat, 10 Mar 2007 22:51:48 -0800, Richard Clark <kb7qhc@comcast.net>
wrote:

>the shorter element's smaller radiation resistance in
>relation to the single bead sees a significantly higher port isolation
>through the bead.

As Reggie might have observed, the distributed resistance would
conform to the analogy of distributed inductance and capacitance whose
total contribution would be an extremely lossy transmission line.

73's
Richard Clark, KB7QHC

2434. Re: Antenna computor programs and pitfalls

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 10:13:05 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12v7lhjtb6ja925@corp.supernews.com>
Source record: 44798

Craig Buck wrote:
>. . .Roy- don't
> pay any attention to this garbage.

Not to worry. I do care what my family, friends, and people I respect think of me. But the opinions of people like Art and Chip don't matter to me in the least. It's their knickers which are knotted, not mine. I'm glad to be able to serve the function of providing a focus for whatever demons are tormenting Art, so maybe he'll go a little easier on other folks.

Roy Lewallen, W7EL

2435. Tower design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 14:44:30 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1173624269.884477.154000@n33g2000cwc.googlegroups.com>
Source record: 44799

I am trying to find information on build your own tower. As retirement nears I plan on having a lot more time for doing things like this and will have a few acres I can devote to an antenna farm. I wouldnt mind learning to design them from scratch but would prefer a computer program if one is available. I know to some building your own tower may not seem practical but my wife and I inherited a lot of the basic materials when her father passed away. I am especialy interested in building tubular foldover mast 50 to 70 ft tall. It seems like years ago I came across a magazine article on this that also had associated design software. Any help would be greatly appreciated.

Jimmie

2436. Crosstalk from ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 15:45:02 UTC
From: Ceriel Nosforit <ceriel@gmail.com>
Message-ID: <pan.2007.03.11.15.45.02.678831@gmail.com>
Source record: 44800

Hi,

I just noticed that when I disconnect the ground from my 180
meters long beverage antenna signal levels drop a whole lot, but crosstalk
from a local broadcaster that would cover all of the MW band and a lot
both above and below almost completely disappears. I don't remember
reading about anything like this anywhere. What's going on?

The ground is just a iron rod that I drove half a meter into wet ground
about where I connect the antenna to the coaxial. I connect it directly to
the shield of the BNC connector about a meter above ground. Not elegant,
but that shouldn't cause crosstalk, should it?

My receiver is an Icom-R5 handheld scanner, 0.150 to 1300MHz continuous.

2437. Re: Isolation of guy wires

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 15:55:05 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <de98v25imr1krj5co177n7rn17jft43du6@4ax.com>
Source record: 44801

On Sat, 10 Mar 2007 23:45:35 -0800, Richard Clark <kb7qhc@comcast.net> wrote:

>On Sat, 10 Mar 2007 22:51:48 -0800, Richard Clark <kb7qhc@comcast.net>
>wrote:
>
>>the shorter element's smaller radiation resistance in
>>relation to the single bead sees a significantly higher port isolation
>>through the bead.
>
>As Reggie might have observed, the distributed resistance would
>conform to the analogy of distributed inductance and capacitance whose
>total contribution would be an extremely lossy transmission line.
>
>73's
>Richard Clark, KB7QHC

Exactly!

Walt, W2DU

2438. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 16:01:28 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <CJVIh.69$ps.23@newsfe12.lga>
Source record: 44802

"art" <aunwin@insightbb.com> wrote
>
> John
> I thank you for your input and continued attempts to overcome the
> barriers placed before you. I don't know what Country you come from
> but I apologise that the baggage associated with me was then dumped
> upon you and I fully understand your action of withdrawal.
> Thanks again for your efforts and I trust that you will not see
> this as sign of a new America emerging. It is certainly not the
> America I envisaged some forty years ago when I arrived. I think it is
> best that I to withdraw . Sometime it takes a hundred years
> before science is permitted to move on. A similar thing happened to
> George Green of Nottingham U.K. and only reemerged in full by the
> presentation by some body else who received the acreditation.
> Best regards
> Art Unwin KB9MZ...XG

Yo XG man!

While most of us sympatize with your condition, but your drivell is getting beyong pathetic, you dumping on America is picture of your messed up judgement and your "evaluation" of people here is just reflection of who is messed up.

If you can't get over losing your colonies, or superiority of colonist inbreds, you are free to go back, Eurabia is waiting for you and will undoubtly recognize your genius (of calling reflector - director, and having patent to prove it) and award you cross of the empire or something.

Just what the heck is your "Gausian" contraption suppose to get me that all other known antennas or my designs don't? Lousy pattern with three lobes over perfect ground and 6 dB F/B at 200 MHz??? Whopeeeee!!!

God bless America, the last bastion of freedom and the greatest country on Earth!
Love it, or leave it!

73, cut the crap and get well!

Yuri, ex OK3BU

2439. Re: Crosstalk from ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 16:04:28 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <rMVIh.70$ps.52@newsfe12.lga>
Source record: 44803

"Ceriel Nosforit" <ceriel@gmail.com> wrote in message
news:pan.2007.03.11.15.45.02.678831@gmail.com...
> Hi,
>
> I just noticed that when I disconnect the ground from my 180
> meters long beverage antenna signal levels drop a whole lot, but crosstalk
> from a local broadcaster that would cover all of the MW band and a lot
> both above and below almost completely disappears. I don't remember
> reading about anything like this anywhere. What's going on?
>
> The ground is just a iron rod that I drove half a meter into wet ground
> about where I connect the antenna to the coaxial. I connect it directly to
> the shield of the BNC connector about a meter above ground. Not elegant,
> but that shouldn't cause crosstalk, should it?
>
> My receiver is an Icom-R5 handheld scanner, 0.150 to 1300MHz continuous.
>
>

You could have some rectification and creation of intermods going on at some
bad, corroded junction. Check the connections.

Yuri, K3BU.us

2440. Re: Crosstalk from ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 17:06:00 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <YFWIh.9248$jx3.7332@newssvr25.news.prodigy.net>
Source record: 44804

Yuri Blanarovich wrote:
> "Ceriel Nosforit" <ceriel@gmail.com> wrote:
>> My receiver is an Icom-R5 handheld scanner, 0.150 to 1300MHz continuous.
>
> You could have some rectification and creation of intermods going on at some
> bad, corroded junction. Check the connections.

That front end is so broad-banded that there is probably
no corrosion needed to generate intermod. I had an ICOM
2m handheld that was useless in downtown Phoenix while
mobile on a dual band mobile antenna. I suspect a notch
filter would be the way to go to reduce the intermod
while keeping full functionality of the Beverage.
--
73, Cecil http://www.w5dxp.com

2441. Re: Crosstalk from ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 17:18:24 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1173633504.659465.21750@t69g2000cwt.googlegroups.com>
Source record: 44805

On Mar 11, 11:45 am, Ceriel Nosforit <cer...@gmail.com> wrote:
> Hi,
>
> I just noticed that when I disconnect the ground from my 180
> meters long beverage antenna signal levels drop a whole lot, but crosstalk
> from a local broadcaster that would cover all of the MW band and a lot
> both above and below almost completely disappears. I don't remember
> reading about anything like this anywhere. What's going on?
>
> The ground is just a iron rod that I drove half a meter into wet ground
> about where I connect the antenna to the coaxial. I connect it directly to
> the shield of the BNC connector about a meter above ground. Not elegant,
> but that shouldn't cause crosstalk, should it?
>
> My receiver is an Icom-R5 handheld scanner, 0.150 to 1300MHz continuous.

2442. Re: Crosstalk from ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 17:30:53 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1173634253.745708.168970@h3g2000cwc.googlegroups.com>
Source record: 44806

On Mar 11, 11:45 am, Ceriel Nosforit <cer...@gmail.com> wrote:
> Hi,
>
> I just noticed that when I disconnect the ground from my 180
> meters long beverage antenna signal levels drop a whole lot, but crosstalk
> from a local broadcaster that would cover all of the MW band and a lot
> both above and below almost completely disappears. I don't remember
> reading about anything like this anywhere. What's going on?
>
> The ground is just a iron rod that I drove half a meter into wet ground
> about where I connect the antenna to the coaxial. I connect it directly to
> the shield of the BNC connector about a meter above ground. Not elegant,
> but that shouldn't cause crosstalk, should it?
>
> My receiver is an Icom-R5 handheld scanner, 0.150 to 1300MHz continuous.

You are probably getting intermod from the local station. Obviously
removing the ground made the antenna perform poorer for the desire as
well as the undesired frequencies. My guess is that there was a
considerable change in impedance of the antenna. Assuminng the radio
was a reasonable match for the antenna with the ground stake connected
the radio may well look like a short tot the antenna now.

2443. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 18:12:16 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <cp87AAMAaE9FFA2j@ifwtech.co.uk>
Source record: 44808

Cecil Moore wrote:
>Ian White GM3SEK wrote:
>> This applies to all forms of EM energy, so let's calculate the 'step
>>size' in an RF waveform at 10MHz. That will be the energy content of a
>>single quantum, which turns out to be 0.000 000 000 000 000 000 000
>>000 0066 joules - which is unimaginably small.
>
>Maybe 40 nano-eV is more imaginable? :-)
>For me, it is a lot easier to visualize a cloud
>of photons leaving an antenna than it is to visualize
>the field lines closing upon themselves (like a soap
>bubble) and breaking free of the antenna.
>

Each to his own imagination. I'd find it hard to keep track of all
10^(30) photons emitted from here this weekend... though some of them
will probably send postcards :-)

>Incidentally, your above number is off by 0.3% :-)

Well, imagine that!

--

73 from Ian GM3SEK

2444. Re: Crosstalk from ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 18:17:52 UTC
From: Ceriel Nosforit <ceriel@gmail.com>
Message-ID: <pan.2007.03.11.18.17.48.508614@gmail.com>
Source record: 44807

On Sun, 11 Mar 2007 10:30:53 -0700, JIMMIE wrote:

> On Mar 11, 11:45 am, Ceriel Nosforit <cer...@gmail.com> wrote:
>> Hi,
>>
>> I just noticed that when I disconnect the ground from my 180
>> meters long beverage antenna signal levels drop a whole lot, but crosstalk
>> from a local broadcaster that would cover all of the MW band and a lot
>> both above and below almost completely disappears. I don't remember
>> reading about anything like this anywhere. What's going on?
>>
>> The ground is just a iron rod that I drove half a meter into wet ground
>> about where I connect the antenna to the coaxial. I connect it directly to
>> the shield of the BNC connector about a meter above ground. Not elegant,
>> but that shouldn't cause crosstalk, should it?
>>
>> My receiver is an Icom-R5 handheld scanner, 0.150 to 1300MHz continuous.
>
> You are probably getting intermod from the local station. Obviously
> removing the ground made the antenna perform poorer for the desire as
> well as the undesired frequencies. My guess is that there was a
> considerable change in impedance of the antenna. Assuminng the radio
> was a reasonable match for the antenna with the ground stake connected
> the radio may well look like a short tot the antenna now.

Ah, alright. I gotta look into that now that I know what I'm looking for.
I've got some ideas about what the problem could be too. Thanks a bundle! =)

--
Nos

2445. Re: Crosstalk from ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 18:30:34 UTC
From: Ceriel Nosforit <ceriel@gmail.com>
Message-ID: <pan.2007.03.11.18.30.33.824723@gmail.com>
Source record: 44809

On Sun, 11 Mar 2007 17:06:00 +0000, Cecil Moore wrote:

> Yuri Blanarovich wrote:
>> "Ceriel Nosforit" <ceriel@gmail.com> wrote:
>>> My receiver is an Icom-R5 handheld scanner, 0.150 to 1300MHz continuous.
>>
>> You could have some rectification and creation of intermods going on at some
>> bad, corroded junction. Check the connections.
>
> That front end is so broad-banded that there is probably
> no corrosion needed to generate intermod. I had an ICOM
> 2m handheld that was useless in downtown Phoenix while
> mobile on a dual band mobile antenna. I suspect a notch
> filter would be the way to go to reduce the intermod
> while keeping full functionality of the Beverage.

The entire ground rod is covered with rust. I checked that there was a
connection with a multimeter, but it could be that's not enough of a check.

I don't think I could make enough band-stop filters to cover all crosstalk
I'm hearing. I'd fill up the greenhouse, for sure!

The R5 has an attenuation function that sometimes is a bit of help...
Maybe the entire receiver is getting overloaded, causing some sort of
overmodulation? The signals are pretty strong after all...

Thanks for the replies!

--
Nos

2446. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 19:24:17 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <et1l06$5ai$1@nnrp.linuxfan.it>
Source record: 44810

Cecil Moore wrote:
> Ian White GM3SEK wrote:
>> This applies to all forms of EM energy, so let's calculate the 'step
>> size' in an RF waveform at 10MHz. That will be the energy content of a
>> single quantum, which turns out to be 0.000 000 000 000 000 000 000
>> 000 0066 joules - which is unimaginably small.
>
> Maybe 40 nano-eV is more imaginable? :-)
> For me, it is a lot easier to visualize a cloud
> of photons leaving an antenna than it is to visualize
> the field lines closing upon themselves (like a soap
> bubble) and breaking free of the antenna.
>
> Incidentally, your above number is off by 0.3% :-)

Well, I am just sitting here with this 120,000 gauss magnet in my hand
and a magnifying glass in the other--attempting to see the photons
shooting from one side of the magnet to the other ... I'd at least think
the dern photons excite the gas and would light up the neon bulb I am
holding next to one side!

JS
--
http://assemblywizard.tekcities.com

2447. Wire span design tool

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 19:37:23 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F1435DC9F33nonenowhere@61.9.191.5>
Source record: 44811

I have knocked up a web based calculator to assist in design of simple wire spans given the design wind speed, mass per unit length of the wire, wire diameter and Gross Breaking Strength of the wire.

The draft calculator is at http://www.vk1od.net/rigging/awcc.php .

Constructive comments appreciated.

Owen

2448. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 20:38:04 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F14DA739909nonenowhere@61.9.191.5>
Source record: 44813

"J. Mc Laughlin" <jcm@power-net.net> wrote in
news:3MudndNjbN2FwWnYnZ2dnUVZ_uejnZ2d@bright.net:

> ... and many other things exist to frustrate accurate computing.
> Long, long ago when translating antenna modeling (written in FORTRAN)
> that had given reasonable results on a 60 bit/word CDC computer to an
> IBM 32 bit/word computer, I found the code for one antenna type to be
> unsalvageable. No matter what was done with concatenating words
> together, garbage resulted. A close look found that the algorithms
> used were much too sensitive to significant figures.

Though the 60 bit CDC machines were regarded as the ants pants by engineers and scientists, the IBM 370 machines (and later) using double precision were better. The tricky bit was (IIRC) that the representation of reals on CDC machines used a base of 2 for the exponent, whereas the IBM format used 2^16, and obviously the two macines allocated a different number of bits to the mantissa and exponent. It was hard to state the extent of improvmenet in precision in the IBM format due to the use of the larger number for the exponent base.

On occasions, this gave rise to different results from programs ported from on to other. It might have seemed like splitting hairs, but it showed how close to the wind some of the programs ran in terms of numerical stability.

I recall in the early days of Excel (V2???) when Microsoft first allowed user developed add-ins (DLL only, they hadn't thought of VBA), I wrote a function library for Erlang functions (and some other traffic funcitons). A chap I was doing some work for asked for a spreadsheet to resemble a set of printed Erlang tables, and he went through checking them.

When challenged about small differences, I offered "well see, the engineer who probably developed that set of tables as a major project, probably used a CDC machine with a mere 60 bit real representation (which was thought to be the ducks guts in its heyday), but I have used the Intel 80 bit reals inside the routines, and although Excel only uses 64 bit reals, accumulated rounding errors inside the function library are reduced (Erlang is an iteritive calculation, but can be optimised to reduce effects of rounding and overflow)". He was convinced, but I think somewhat dissapointed to see a low cost desktop computer providing a more accurate solution than the iconic CDC.

Our mobile phones have probably got more powerful processors now than the 386/SX16 that I used to develop that library!

Owen

2449. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 20:44:20 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <3MudndNjbN2FwWnYnZ2dnUVZ_uejnZ2d@bright.net>
Source record: 44812

... and many other things exist to frustrate accurate computing. Long,
long ago when translating antenna modeling (written in FORTRAN) that had
given reasonable results on a 60 bit/word CDC computer to an IBM 32 bit/word
computer, I found the code for one antenna type to be unsalvageable. No
matter what was done with concatenating words together, garbage resulted. A
close look found that the algorithms used were much too sensitive to
significant figures.
I experienced another case where supposedly identical IBM computers
produced different results using the same code.
I echo: work reasonable examples by hand and compare their results to
what the computer produces.

Believable engineering programs earn respect just as people do.

73, Mac N8TT
P.S. My ISP has been having conniptions with their news server, so I have
missed a lot.
--
J. Mc Laughlin; Michigan U.S.A.
Home: JCM@Power-Net.Net

2450. Re: EZNEC and Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 20:46:18 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F14F0CDB069nonenowhere@61.9.191.5>
Source record: 44815

Owen Duffy <none@no.where> wrote in
news:Xns98F14DA739909nonenowhere@61.9.191.5:

Ah the clarity after the send button is pressed:

> exponent, whereas the IBM format used 2^16, and obviously the two

should be

exponent, whereas the IBM format used 2^4 (16), and obviously the two

2451. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 20:47:32 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <EVZIh.3685$tv6.104@newssvr19.news.prodigy.net>
Source record: 44814

John Smith I wrote:
> Well, I am just sitting here with this 120,000 gauss magnet in my hand
> and a magnifying glass in the other--attempting to see the photons
> shooting from one side of the magnet to the other ... I'd at least think
> the dern photons excite the gas and would light up the neon bulb I am
> holding next to one side!

Maybe a quote from "Optics", by Hecht is in order:
"Virtual photons can never escape to be detected
directly by some instrument." Sorry about that.
--
73, Cecil http://www.w5dxp.com

2452. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 21:23:28 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <$qIDARPQNH9FFAj6@ifwtech.co.uk>
Source record: 44816

Richard Clark wrote:
>On Sat, 10 Mar 2007 09:33:46 +0000, Ian White GM3SEK
><gm3sek@ifwtech.co.uk> wrote:
>
>>Quantum theory describes electromagnetic energy as being divided into a
>>series of packets called photons, so (total energy in a stream of
>>photons) = (number of photons/second) x (energy of individual photons).
>
>Energy is not expressed with a time in the denominator. The standard
>quantum theory expression for energy is eV - time is wholly absent as
>it should be.
>

Sorry, that was an editing mistake: obviously it's power that includes
the time dimension, energy does not.

>>This also means that EM energy doesn't exist in pure sine-waves
>
>EM theory does not exclude the classic description of pure sine waves.
>This is not a neither/nor situation.
>
>> - the
>>waveform is actually built up in steps, very much like digitized audio.
>
>This appears to be the beginnings of a description about to fall off
>the edge. What waveform? This is a conceit of time.
>
>>The step size is the energy content of one quantum.
>
>No, the step size as you describe is the potential difference of
>quantization, an engineering term, not a quantum mechanics term. It
>is quantisizing an amplitude to construct the wave in a time domain.
>Quanta is the complete wave in a frequency domain.
>

Richard is right about that. Please ignore my remarks about quantization
within the waveform itself. The quantization only affects the total
quantity of energy; or the power level if you wish to consider the rate
of energy transfer.

However, that doesn't affect the main point: at normal radio
frequencies, RF energy is composed of unimaginably small packets, in
unimaginably large numbers. This means that quantization effects in
energy or power levels are utterly negligible, and we can always think
of RF energy or power as a continuous stream.

It's rather similar to being aware that electric current is actually made up of individual electrons - it's interesting information, but electronic engineering very rarely needs to acknowledge the existence of individual electrons. Even less does antenna engineering need to acknowledge the existence of individual RF photons.

As I said in the previous posting, the energy of EM photons is proportional to the frequency, so quantization effects only begin to be noticeable at frequencies of hundreds of gigahertz, and still only as a small correction in measurements of the very lowest power levels we can detect.

Richard cited the following as a claimed exception:

>A photon is emitted in the cM band when an electron orbiting a
>Hydrogen atom flips its magnetic pole. This event is vastly below the
>short wavelengths you describe by a million-fold. A good number of
>correspondents here are fully capable of detecting this event with
>commercial gear already suitable for the Ham market. They could have
>done it 50 years ago too.
>
That is an example of a quantum effect determining the *frequency* of an RF emission... but the origin of the RF energy doesn't change its character. If a signal generator is tuned to that frequency, it will produce exactly the same kind of RF energy - a torrent of quanta so tiny that their individual existence is irrelevant.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

2453. Re: Crosstalk from ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 22:31:19 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12v90poo8r51h43@corp.supernews.com>
Source record: 44817

Most handheld receivers are designed to be used with a very short duckie antenna. The front end is totally overwhelmed if connected to an antenna of reasonable size. Besides having a whole lot of extra gain to accommodate the short antenna, compromises have to be made in the front end filtering because of the unit's small physical size. Keeping the power consumption low further limits the dynamic range of the stages.

I have an Icom R1 and it's full of crossmod birdies even with its own antenna. When connected to a real antenna, it's totally unusable, the front end being overloaded and blocked by just about anything. I have to use a 20 or more dB pad if I ever connect it to a decent antenna. I'll bet a substantial attenuation pad would do wonders for yours.

Roy Lewallen, W7EL

Ceriel Nosforit wrote:
> . . .
> The R5 has an attenuation function that sometimes is a bit of help...
> Maybe the entire receiver is getting overloaded, causing some sort of
> overmodulation? The signals are pretty strong after all...
>
> Thanks for the replies!
>

2454. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-11 22:37:10 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <et209o$uc0$1@nnrp.linuxfan.it>
Source record: 44818

Cecil Moore wrote:

> ...
> Maybe a quote from "Optics", by Hecht is in order:
> "Virtual photons can never escape to be detected
> directly by some instrument." Sorry about that.

Cecil:

You know me by now, I jest.

If we knew as much (in quantity) as we DON'T know--we'd know enough to
be of importance ... :(

JS
--
http://assemblywizard.tekcities.com

2455. Re: Tower design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 00:29:10 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <dZKdnVPmJMFXDWnYnZ2dnUVZ_oCmnZ2d@bright.net>
Source record: 44819

Dear Jimmie (no call sign given):

Even towers as short, and as relatively simple as what you say you are considering, involve safety of life issues! Very expensive computer programs exist that will analyze a tower, however no professional trusts them until comparing what the program exports with what is calculated using a hand-calculator and fundamental concepts.

Textbooks on (mechanical) statics and strength-of-materials would be appropriate places to start. Even a spread sheet can be used to develop computational tools, though a real HP calculator can be a great aid. A good mechanical engineering handbook (Mark's ?) might have the information, but might be more difficult to read. Schaum's Outline series might be better than some textbooks. Of course, you may have this sort of background already.

If you stay below 70 feet and have trees/buildings all around, wind loading calculations are relatively simple. (The standard (222G) on calculating serious wind loads cost about $400.)

Give the group more of an idea of the "boundary conditions" for your proposal. How wonderful to be able to contemplate having time for such a project in retirement.

Regards, Mac N8TT
--
J. Mc Laughlin; Michigan U.S.A.
Home: JCM@Power-Net.Net
"JIMMIE" <JIMMIEDEE123@YAHOO.COM> wrote in message
news:1173624269.884477.154000@n33g2000cwc.googlegroups.com...
> I am trying to find information on build your own tower. As retirement
> nears I plan on having a lot more time for doing things like this and
> will have a few acres I can devote to an antenna farm. I wouldnt mind
> learning to design them from scratch but would prefer a computer
> program if one is available. I know to some building your own tower
> may not seem practical but my wife and I inherited a lot of the basic
> materials when her father passed away. I am especialy interested in
> building tubular foldover mast 50 to 70 ft tall. It seems like years
> ago I came across a magazine article on this that also had associated
> design software. Any help would be greatly appreciated.
>
> Jimmie
>

2456. VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 01:08:29 UTC
From: billcalley <billcalley@yahoo.com>
Message-ID: <1173661709.309774.178770@q40g2000cwq.googlegroups.com>
Source record: 44821
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

We are all told that VSWR doesn't matter when using low loss transmission lines, since the RF energy will travel from the transmitter up to the mismatched antenna, where a certain amount of this RF energy will reflect back towards the transmitter; after which the RF will then reflect back up to the antenna -- where the energy is eventually radiated after bouncing back and forth between the transmitter and antenna. I understand the concept, but what I don't quite understand is why the reflected RF energy isn't simply absorbed by the 50 ohm output of the transmitter after the first reflection? For the RF to bounce back and forth, wouldn't the transmitter's impedance have to be very, very high (or low) when the reflected RF energy hit its output stages? I know I'm missing something vital here...

Thanks!

-Bill

2457. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 01:25:00 UTC
From: Tim Wescott <tim@seemywebsite.com>
Message-ID: <9YWdne4BB_I_NmnYnZ2dnUVZ_uKknZ2d@web-ster.com>
Source record: 44822
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

billcalley wrote:

> We are all told that VSWR doesn't matter when using low loss
> transmission lines, since the RF energy will travel from the
> transmitter up to the mismatched antenna, where a certain amount of
> this RF energy will reflect back towards the transmitter; after which
> the RF will then reflect back up to the antenna -- where the energy is
> eventually radiated after bouncing back and forth between the
> transmitter and antenna. I understand the concept, but what I don't
> quite understand is why the reflected RF energy isn't simply absorbed
> by the 50 ohm output of the transmitter after the first reflection?
> For the RF to bounce back and forth, wouldn't the transmitter's
> impedance have to be very, very high (or low) when the reflected RF
> energy hit its output stages? I know I'm missing something vital
> here...
>
That's assuming you use an antenna tuner. The tuner will transform the transmitter's output impedance* just as it transforms the line. Were the transmitter output impedance actually at 50 ohms, on the other side of the tuner it would have the same VSWR as the line when everything was tuned up.

Having said that, the VSWR _does_ matter somewhat when using low loss lines, both because the line loss is low but not zero, and the tuner loss will tend to go up as you correct for higher and higher VSWR.

* I am _not_ going to start the Big Transmitter Output Impedance Debate. sed denizens -- just don't comment on what a transmitter's "actual" output impedance may be, lest you start a flame war.

--

Tim Wescott
Wescott Design Services
http://www.wescottdesign.com

Posting from Google? See http://cfaj.freeshell.org/google/

"Applied Control Theory for Embedded Systems" came out in April.
See details at http://www.wescottdesign.com/actfes/actfes.html

2458. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 01:25:43 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <1j79v2d5216kg6q84su06u1insqc6nu68i@4ax.com>
Source record: 44820

On Sun, 11 Mar 2007 21:23:28 +0000, Ian White GM3SEK
<gm3sek@ifwtech.co.uk> wrote:

>Richard cited the following as a claimed exception:
>
>>A photon is emitted in the cM band when an electron orbiting a
>>Hydrogen atom flips its magnetic pole. This event is vastly below the
>>short wavelengths you describe by a million-fold. A good number of
>>correspondents here are fully capable of detecting this event with
>>commercial gear already suitable for the Ham market. They could have
>>done it 50 years ago too.
>>
>That is an example of a quantum effect determining the *frequency* of an
>RF emission... but the origin of the RF energy doesn't change its
>character. If a signal generator is tuned to that frequency, it will
>produce exactly the same kind of RF energy - a torrent of quanta so tiny
>that their individual existence is irrelevant.

Hi Ian

Determining the *frequency*? That has to be the most obscure
contribution I've ever seen.

The origin in fact does change its character - that is the whole point
and it is an elemental point of sub-atomic physics at that. Can you
offer a counter-example or any example of Photon generation that
leaves no trace of change? I can offer one that doesn't, I can offer
one that does leave a trace (already done), and examples where the
photon originates from non-electron interaction.

For this last, they too inhabit wavelengths that are orders of
magnitude below the visible. Phononic-Photonic interactions may not
fill library shelves, but their several volumes that do fill at least
one shelf are quite thick. Beyond their contributions we find those
from Excitons, Polarons, Polaritons, Plasmons and so on down the
energy band into the less than milli-eV range. Such photon generation
is in a continuum of wavelengths that challenges the simple Lyman
series of discrete resonances (much less all the other series) you
alluded to previously. That continuum extends over great swaths of
the RF spectrum. To your credit, you allude to this spectrum but
underplay the consequences:
>noticeable at frequencies of hundreds of gigahertz, and still only as a
>small correction in measurements of the very lowest power levels we can
>detect.
The effects are not marginally detectable and are the basis of a new
industry called Nanotechnology.

As for a torrent of quanta so tiny that their individual existence is irrelevant, this distinction could be as easily lost on sunshine, much less HF wavelengths. One can certainly find a power density from an HF antenna that equals that of sunshine. The scale of comparing the number of photons would be the difference between drinking out of a firehose or a tidal wave. Clearly both have long escaped the magnitudes of a gulp and to a drowning man, the comparison would be ironically trivial.

73's
Richard Clark, KB7QHC

2459. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 01:42:59 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <De2Jh.2701$JZ3.268@newssvr13.news.prodigy.net>
Source record: 44823
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

billcalley wrote:
> ... I understand the concept, but what I don't
> quite understand is why the reflected RF energy isn't simply absorbed
> by the 50 ohm output of the transmitter after the first reflection?
> For the RF to bounce back and forth, wouldn't the transmitter's
> impedance have to be very, very high (or low) when the reflected RF
> energy hit its output stages? I know I'm missing something vital
> here...

Yep, you are missing the "total destructive interference"
happening toward the source caused by a Z0-match. Here's
an article that might help:

http://www.w5dxp.com/energy.htm

A Z0-match eliminates reflected energy from reaching
the source.
--
73, Cecil http://www.w5dxp.com

2460. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 01:45:49 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <hh2Jh.2703$JZ3.2318@newssvr13.news.prodigy.net>
Source record: 44824

Richard Clark wrote:
> Determining the *frequency*? That has to be the most obscure
> contribution I've ever seen.

Richard, do you understand that free electrons can
emit photons of any frequency? i.e. no orbital change
necessary?
--
73, Cecil http://www.w5dxp.com

2461. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 01:48:09 UTC
From: mpm <mpmillard@aol.com>
Message-ID: <1173664089.547131.272490@s48g2000cws.googlegroups.com>
Source record: 44825
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

On Mar 11, 8:08ï¿½pm, "billcalley" <billcal...@yahoo.com> wrote:
>   We are all told that VSWR doesn't matter when using low loss
> transmission lines...

Well, I was never taught that -- which is a good thing because it is
not true.

The most intuitive way to prove this (antenna tuner or not), is to
simply supply more and more power to the load. You will eventually
burn it up.

Now, had the VSWR been better (ie. a better network Return Loss), it
would have taken even more power to achieve the same "charcoal"
results. So VSWR matters.

-mpm

2462. Re: Antenna computor programs and pitfalls

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 02:00:02 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <Cu2Jh.2708$JZ3.1273@newssvr13.news.prodigy.net>
Source record: 44826

Walter Maxwell wrote:
> I'm dismayed at the attitude shown toward Roy on this newsgroup.

With all due respect to Roy and his accomplishments,
he did call your own concepts of reflected power by the
name of "gobbledegook" not too long ago. As I remember,
he said the reflected energy just "sloshes around"
between standing wave nodes rather than propagating
as described in your book, "Reflections".
--
73, Cecil http://www.w5dxp.com

2463. Re: Tower design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 03:38:33 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45f4c764$0$4865$4c368faf@roadrunner.com>
Source record: 44827

"J. Mc Laughlin" <jcm@power-net.net> wrote in message
news:dZKdnVPmJMFXDWnYnZ2dnUVZ_oCmnZ2d@bright.net...
> Dear Jimmie (no call sign given):
>
> Even towers as short, and as relatively simple as what you say you are
> considering, involve safety of life issues! Very expensive computer
> programs exist that will analyze a tower, however no professional trusts
> them until comparing what the program exports with what is calculated
> using
> a hand-calculator and fundamental concepts.
>
> Textbooks on (mechanical) statics and strength-of-materials would be
> appropriate places to start. Even a spread sheet can be used to develop
> computational tools, though a real HP calculator can be a great aid. A
> good
> mechanical engineering handbook (Mark's ?) might have the information, but
> might be more difficult to read. Schaum's Outline series might be better
> than some textbooks. Of course, you may have this sort of background
> already.
>
> If you stay below 70 feet and have trees/buildings all around, wind
> loading calculations are relatively simple. (The standard (222G) on
> calculating serious wind loads cost about $400.)
>
> Give the group more of an idea of the "boundary conditions" for your
> proposal. How wonderful to be able to contemplate having time for such a
> project in retirement.
>
> Regards, Mac N8TT
> --
> J. Mc Laughlin; Michigan U.S.A.
> Home: JCM@Power-Net.Net
> "JIMMIE" <JIMMIEDEE123@YAHOO.COM> wrote in message
> news:1173624269.884477.154000@n33g2000cwc.googlegroups.com...
>> I am trying to find information on build your own tower. As retirement
>> nears I plan on having a lot more time for doing things like this and
>> will have a few acres I can devote to an antenna farm. I wouldnt mind
>> learning to design them from scratch but would prefer a computer
>> program if one is available. I know to some building your own tower
>> may not seem practical but my wife and I inherited a lot of the basic
>> materials when her father passed away. I am especialy interested in
>> building tubular foldover mast 50 to 70 ft tall. It seems like years
>> ago I came across a magazine article on this that also had associated
>> design software. Any help would be greatly appreciated.

>>
>> Jimmie
>>
>
>
Antenna will have to be tall enough to clear the current canopy of oaks that cover the property. Materials I have on had are way more heavy duty than what you see towers normaly built of. such as several sections of galvanised sign post The heavy U shaped stuf with the flange, dont know what you call it but there is probably 300 to 400 ft of this stuff, lots of rebar. I could easily build something similar to a Rohn tower with this. Also have a MIG and Stick welder. There is maybe 2000ft of oil well drilling pipe piled up out there. Wife pretty much mandated that I do something with it or get rid of it. She has her ticket too so she is sympathetic to the cause. Ther is also a neighbor who works on heavy equipment and he has a crane. Wonder what a few steaks and beers will get me. First I would like to get up my VHF/UHF stuff. Nothing elaborate here just some stacked Yagi on 2M and 432 and a 5 elemnt Yagi for 6M. The is also a lot of tublar steel some about 6 inches in daimeter. with inch thick walls, I think he was making TVRO mast out of this stuff at one time. Hopefully once I get the place cleaned up I might start a second career, there is a big 30 x 60 ft shop on the property that should be good for something. Oh, yes I do have a 50ft Rohn tower i was thinking about tempoaraly erecting thi as a scafold to work off of. Just a thought.

With the oil well pipe I was planning on making a base from three pieces of it the screw on three pieces and weld bracing on as I go up it then add on three more pieces and keep going up. I figure I should easily build a 65 ft tower this way, maybe more. There are also some really tall southern long leaf pines about 30 years old on the prperty that might be good for something. These are some of the taler trees and I was thinking about stringinging soem 75/80M dipoles of of these.

If I had some design info I might could start figuring out how to make the best use of some of this junk and get a head start on the game.

Jimmie

2464. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 03:39:46 UTC
From: Bob <bob9@mailinator.com>
Message-ID: <1173670786.270375.270780@64g2000cwx.googlegroups.com>
Source record: 44828
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

On Mar 12, 1:08 am, "billcalley" <billcal...@yahoo.com> wrote:
> We are all told that VSWR doesn't matter when using low loss
> transmission lines,

No, we are not all told that.

>since the RF energy will travel from the
> transmitter up to the mismatched antenna, where a certain amount of
> this RF energy will reflect back towards the transmitter; after which
> the RF will then reflect back up to the antenna -- where the energy is
> eventually radiated after bouncing back and forth between the
> transmitter and antenna. I understand the concept, but what I don't
> quite understand is why the reflected RF energy isn't simply absorbed
> by the 50 ohm output of the transmitter after the first reflection?

The active part of the transmitter output isn't 50 ohm.
That would cause half the power to be lost as heat in
the output stage. It's only 50ohm once it becomes a moving
wave in the transmission line.

Bob9

2465. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 04:56:29 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <aom9v2ls0fvqin4k782an5d0i8l0ibcldn@4ax.com>
Source record: 44829
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

On 11 Mar 2007 20:39:46 -0700, "Bob" <bob9@mailinator.com> wrote:

>The active part of the transmitter output isn't 50 ohm.
>That would cause half the power to be lost as heat in
>the output stage.

Hi Bob,

Well, aside from the initial misunderstanding of how power gets to the load (much less back, and then to the load again); I will put to you a question that has NEVER been answered by those who know what the transmitter output Z ISN'T:
"What Z is it?"

73's
Richard Clark, KB7QHC

2466. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 06:09:26 UTC
From: Tim Williams <tmoranwms@charter.net>
Message-ID: <Ax5Jh.119$dZ5.80@newsfe04.lga>
Source record: 44830
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Triode or pentode? ;o)

Tim

--
Deep Fryer: A very philosophical monk.
Website @ http://webpages.charter.net/dawill/tmoranwms

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:aom9v2ls0fvqin4k782an5d0i8l0ibcldn@4ax.com...
> On 11 Mar 2007 20:39:46 -0700, "Bob" <bob9@mailinator.com> wrote:
>
> >The active part of the transmitter output isn't 50 ohm.
> >That would cause half the power to be lost as heat in
> >the output stage.
>
> Hi Bob,
>
> Well, aside from the initial misunderstanding of how power gets to the
> load (much less back, and then to the load again); I will put to you
> a question that has NEVER been answered by those who know what the
> transmitter output Z ISN'T:
> "What Z is it?"
>
> 73's
> Richard Clark, KB7QHC

2467. Re: Wire span design tool

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 07:29:09 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F1BC0A3EFD2nonenowhere@61.9.191.5>
Source record: 44832

Owen Duffy <none@no.where> wrote in
news:Xns98F1435DC9F33nonenowhere@61.9.191.5:

An email correspondent suggested that there was no use for such a thing. If your antenna didn't blow down last season, then it wasn't big enough!

Well, you could use the calculator to remove most of the uncertainty and be quite confident it *will* blow down. To do so, use a safety factor well less than 1, say 0.5 should be reliable, and use a low wind speed, so that you don't need to wait long for the event.

Owen

2468. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 07:36:25 UTC
From: don@manx.misty.com
Message-ID: <slrneva0no.m7j.don@manx.misty.com>
Source record: 44833
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

In <1173661709.309774.178770@q40g2000cwq.googlegroups.com>, billcalley said:
> We are all told that VSWR doesn't matter when using low loss
>transmission lines, since the RF energy will travel from the
>transmitter up to the mismatched antenna, where a certain amount of
>this RF energy will reflect back towards the transmitter; after which
>the RF will then reflect back up to the antenna -- where the energy is
>eventually radiated after bouncing back and forth between the
>transmitter and antenna. I understand the concept, but what I don't
>quite understand is why the reflected RF energy isn't simply absorbed
>by the 50 ohm output of the transmitter after the first reflection?

Two problems:

1) The transmitter may well have output impedance matching the
characteristic impedance of the transmission line. RF power reflected
back in this case gets converted to heat in the output stage of the
transmitter, in addition to whatever heat the output stage already has to
dissipate.

1a) The reflection may increase requirement of the output
tubes/transistors to both drop voltage and dissipate power. This can be a
problem for many transistors, especially a lot of bipolar ones. It is not
necessarily sufficient to stay within power, current, voltage and thermal
ratings. Many bipolar transistors have reduced capability to safely
dissipate power at voltages that are higher but within their ratings -
sometimes even at voltages as low as 35-50 volts. This problem tends to
be worse with bipolar transistors that are faster and/or better for use
with higher frequencies. The keyphrase here is "forward bias second
breakdown", a problem of uneven current distribution within the die at
higher voltage drop.

2) It appears to me that transmitters can have output stage output
impedance differing from the intended load impedance.
An analog is common practice with audio amplifiers - output impedance is
often ideally as close to zero as possible, as opposed to matching the
load impedance.

If zero output impedance is achieved in an RF output stage, I see a
possible benefit - reflections do not increase output stage heating but
get reflected back towards the antenna. Then again, the impedance of the
input end of the transmission line could be low or significantly reactive
depending on how the load is mismatched and how many wavelengths long the
transmission line is, and that can increase heating of the output stage.
In a few cases transmitted power can also increase.

Not only is increased output stage heating possible and maybe fairly likely, high VSWR also causes a high chance of the output stage seeing a partially reactive load. RF bipolar transistors often do not like those due to increased need to dissipate power with higher voltage drop. As I said above, RF bipolar transistors are likely to really dislike simultaneous higher voltage drop and higher power dissipation.

- Don Klipstein (don@misty.com)

2469. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 07:37:39 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <no0av2laco0mlsb18m9n63esbq0d5ik61v@4ax.com>
Source record: 44831
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

On Mon, 12 Mar 2007 00:09:26 -0600, "Tim Williams"
<tmoranwms@charter.net> wrote:

>Triode or pentode? ;o)

For you, cascode, push-pull triodes.

73's
Richard Clark, KB7QHC

2470. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 08:47:06 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12va4sbqseqpea2@corp.supernews.com>
Source record: 44834
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Sigh

The same misconceptions keep coming up, as they have countless times on this newsgroup and I'm sure they will for decades or perhaps centuries to come. After one of the many previous discussions, I wrote a little tutorial on the topic. Originally in the form of plain text files, I've combined it into a pdf file for easier viewing. You can find it at http://eznec.com/misc/Food_for_thought.pdf.

On page 8 you'll find the statement "THE REVERSE POWER IS NOT DISSIPATED IN OR ABSORBED BY THE SOURCE RESISTANCE". Above it is a chart of several examples which clearly show that there's no relationship between the "reverse power" and the source dissipation. The remainder of the tutorial explains why.

Any theory about "forward" and "reverse" power, what they do, and their interaction with the source, will have to explain the values in the example chart on page 8. Does yours?

Roy Lewallen, W7EL

Don Klipstein wrote:
> In <1173661709.309774.178770@q40g2000cwq.googlegroups.com>, billcalley said:
>> We are all told that VSWR doesn't matter when using low loss
>> transmission lines, since the RF energy will travel from the
>> transmitter up to the mismatched antenna, where a certain amount of
>> this RF energy will reflect back towards the transmitter; after which
>> the RF will then reflect back up to the antenna -- where the energy is
>> eventually radiated after bouncing back and forth between the
>> transmitter and antenna. I understand the concept, but what I don't
>> quite understand is why the reflected RF energy isn't simply absorbed
>> by the 50 ohm output of the transmitter after the first reflection?
>
> Two problems:
>
> 1) The transmitter may well have output impedance matching the
> characteristic impedance of the transmission line. RF power reflected
> back in this case gets converted to heat in the output stage of the
> transmitter, in addition to whatever heat the output stage already has to
> dissipate.
>
> 1a) The reflection may increase requirement of the output
> tubes/transistors to both drop voltage and dissipate power. This can be a
> problem for many transistors, especially a lot of bipolar ones. It is not
> necessarily sufficient to stay within power, current, voltage and thermal

> ratings. Many bipolar transistors have reduced capability to safely
> dissipate power at voltages that are higher but within their ratings -
> sometimes even at voltages as low as 35-50 volts. This problem tends to
> be worse with bipolar transistors that are faster and/or better for use
> with higher frequencies. The keyphrase here is "forward bias second
> breakdown", a problem of uneven current distribution within the die at
> higher voltage drop.
>
> 2) It appears to me that transmitters can have output stage output
> impedance differing from the intended load impedance.
> An analog is common practice with audio amplifiers - output impedance is
> often ideally as close to zero as possible, as opposed to matching the
> load impedance.
>
> If zero output impedance is achieved in an RF output stage, I see a
> possible benefit - reflections do not increase output stage heating but
> get reflected back towards the antenna. Then again, the impedance of the
> input end of the transmission line could be low or significantly reactive
> depending on how the load is mismatched and how many wavelengths long the
> transmission line is, and that can increase heating of the output stage.
> In a few cases transmitted power can also increase.
>
> Not only is increased output stage heating possible and maybe fairly
> likely, high VSWR also causes a high chance of the output stage seeing a
> partially reactive load. RF bipolar transistors often do not like those
> due to increased need to dissipate power with higher voltage drop. As I
> said above, RF bipolar transistors are likely to really dislike
> simultaneous higher voltage drop and higher power dissipation.
>
> - Don Klipstein (don@misty.com)

2471. Re: Wire span design tool

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 10:17:05 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <fm9av29sfhqofla3kupspbeslpaq5d1a6b@4ax.com>
Source record: 44835

On Mon, 12 Mar 2007 07:29:09 GMT, Owen Duffy <none@no.where> wrote:

>Owen Duffy <none@no.where> wrote in
>news:Xns98F1435DC9F33nonenowhere@61.9.191.5:
>
>An email correspondent suggested that there was no use for such a thing. If
>your antenna didn't blow down last season, then it wasn't big enough!
>
>Well, you could use the calculator to remove most of the uncertainty and be
>quite confident it *will* blow down. To do so, use a safety factor well
>less than 1, say 0.5 should be reliable, and use a low wind speed, so that
>you don't need to wait long for the event.
>
>Owen

Hi Owen,

Classic work includes wind load, ice load, and temperature, with
comined loads usually expressed in pounds per foot lengths. It is a
tedious translation to check your page though. Try researching Pender
and Thomson.

73's
Richard Clark, KB7QHC

2472. Re: Antenna computor programs and pitfalls

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 10:39:36 UTC
From: bluey <blueyhi5s@yahoo.com.au>
Message-ID: <1173695975.999474.150090@v33g2000cwv.googlegroups.com>
Source record: 44836

On Mar 11, 7:00 pm, Cecil Moore <myc...@hotmail.com> wrote

damn,
another Saint bites the dust.

Derek.

2473. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 10:55:11 UTC
From: bluey <blueyhi5s@yahoo.com.au>
Message-ID: <1173696910.938179.267990@8g2000cwh.googlegroups.com>
Source record: 44837

On Mar 11, 12:38 am, Richard Clark <kb7...@comcast.net> wrote:
> On Sun, 11 Mar 2007 06:00:27 +0000 (UTC), d...@space.mit.edu (John E.
>

> Davis) wrote:
> >On Sat, 10 Mar 2007 23:21:35 GMT, Dave <n...@nowhere.com>
> >wrote:
>
>
> >I will make one last effort to to set the record straight. In volume
> >II of the Feynman Lectures on Physics, the title of chapter 15,
> >section 6 is "What is true for statics is false for dynamics". The
> >5th paragraph of that section states "Gauss' law, [eq omitted]
> >remains...". Also in that section, he has a table (Table 15-1) that
> >contains two columns:
>
> > FALSE IN GENERAL | TRUE ALWAYS
> > (true only for statics) |
> > ----------
> > Coulomb's Law | Gauss' law
> > [...] | [...]
>
> At the bottom of that Table is a footnote explaining the bold arrow of
> your Gauss' law. It reads:
> "The equations marked by an arrow (-») are Maxwell's equations."
>
> The table equation, and the one you reference in the text are both
> Maxwell's.
>
> >Then in chapter 18, section 1 paragraph 3 you will find the statement:
>
> > "In dynamic as well as static fields, Gauss' law is always valid".
>
> That chapter, too, clearly defines the same equation you are making an
> appeal to as "Maxwell's equations." Observe Table 18-1 "Classical
> Physics"
>
> It is explicitly derived from the treatment as equation 4.1 - also
> denoted Maxwell's equations.
>
> "All charges are permanently fixed in space, or if they do move,
> they move as a steady flow in the circuit (so rho and j are
> constant in time). In these circumstances, all of the terms in
> the Maxwell equations which are time derivatives of the field are

> zero."
>
> Equations 4.6 and 4.8, the cross and dot products resolve to zero.
>
> If you crank up the clock, Feynman concludes
> "Only when there are sufficiently rapid changes, so that the time
> derivatives in Maxwell's equations become significant, will E and
> B depend on each other."
>
> We will, of course, recognize this EB relationship as the field of
> radiation and further recognize there is no field of radiation without
> a significant time factor.
>
> The grad operator, an inverted, enbolded del, is discussed by Feynman
> in Chapter 2-4 is a significant element of these equations. The grad
> operator obeys the same convention as the derivative notation.
>
> Feynman's instruction clearly shows that Maxwell's treatment (actually
> Heaviside's work before him) is a generalization of Gauss to include
> time (sorry Art, he got there two centuries ago) and hence describes
> Gauss equations as special (zero-time) instances of the generality.
>
> 73's
> Richard Clark, KB7QHC

I'm easily impressed, but none the less I'm still impressed.

Derek.

2474. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 11:00:04 UTC
From: Jan Panteltje <pNaonStpealmtje@yahoo.com>
Message-ID: <et3brs$6ho$1@news.datemas.de>
Source record: 44838
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

On a sunny day (Mon, 12 Mar 2007 07:36:25 +0000 (UTC)) it happened
don@manx.misty.com (Don Klipstein) wrote in
<slrneva0no.m7j.don@manx.misty.com>:

<snipped good stuff>

> Not only is increased output stage heating possible and maybe fairly
>likely, high VSWR also causes a high chance of the output stage seeing a
>partially reactive load. RF bipolar transistors often do not like those
>due to increased need to dissipate power with higher voltage drop. As I
>said above, RF bipolar transistors are likely to really dislike
>simultaneous higher voltage drop and higher power dissipation.
>
> - Don Klipstein (don@misty.com)

All true.
Also normally, there is a pi type filter (to prevent harmonics), between
amplifier and antenna.
This filter _WILL_ match the antenna to the output impedance of the
transmitter, so _even_ if the transmitter output impedance is very
very low (low voltage high current output stage for example), the reflected
power will be nicely converted to match the transmitter, and heat up the
output amp, with its possible destruction as result.

2475. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 11:43:51 UTC
From: Danny Richardson <n_group@k6mhe.com>
Message-ID: <k3fav2hgmbke9ukjdvjh8bjh7orpe0e1o3@4ax.com>
Source record: 44839

On Mon, 12 Mar 2007 11:00:04 GMT, Jan Panteltje
<pNaonStpealmtje@yahoo.com> wrote:

>On a sunny day (Mon, 12 Mar 2007 07:36:25 +0000 (UTC)) it happened
>don@manx.misty.com (Don Klipstein) wrote in
><slrneva0no.m7j.don@manx.misty.com>:
>
><snipped good stuff>
>
>> Not only is increased output stage heating possible and maybe fairly
>>likely, high VSWR also causes a high chance of the output stage seeing a
>>partially reactive load. RF bipolar transistors often do not like those
>>due to increased need to dissipate power with higher voltage drop. As I
>>said above, RF bipolar transistors are likely to really dislike
>>simultaneous higher voltage drop and higher power dissipation.
>>
>> - Don Klipstein (don@misty.com)
>
>All true.
>Also normally, there is a pi type filter (to prevent harmonics), between
>amplifier and antenna.
>This filter _WILL_ match the antenna to the output impedance of the
>transmitter, so _even_ if the transmitter output impedance is very
>very low (low voltage high current output stage for example), the reflected
>power will be nicely converted to match the transmitter, and heat up the
>output amp, with its possible destruction as result.
>
Jan and Don,

Both of you gentlemen really need to read Walter's book Reflections
(any edition) and put that myth to rest once and for all.

Danny, K6MHE

2476. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 12:33:51 UTC
From: Ulrich Bangert <df6jb@ulrich-bangert.de>
Message-ID: <et3hbnnaa03$1@news.t-online.com>
Source record: 44840
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Bill,

an exellent treatment on this question has been published in QEX December 94
under the title "Where does the power go?"

73 de Ulrich, DF6JB

"billcalley" <billcalley@yahoo.com> schrieb im Newsbeitrag
news:1173661709.309774.178770@q40g2000cwq.googlegroups.com...
> We are all told that VSWR doesn't matter when using low loss
> transmission lines, since the RF energy will travel from the
> transmitter up to the mismatched antenna, where a certain amount of
> this RF energy will reflect back towards the transmitter; after which
> the RF will then reflect back up to the antenna -- where the energy is
> eventually radiated after bouncing back and forth between the
> transmitter and antenna. I understand the concept, but what I don't
> quite understand is why the reflected RF energy isn't simply absorbed
> by the 50 ohm output of the transmitter after the first reflection?
> For the RF to bounce back and forth, wouldn't the transmitter's
> impedance have to be very, very high (or low) when the reflected RF
> energy hit its output stages? I know I'm missing something vital
> here...
>
> Thanks!
>
> -Bill
>

2477. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 13:56:44 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <w_cJh.9374$jx3.5104@newssvr25.news.prodigy.net>
Source record: 44841
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Richard Clark wrote:
> I will put to you
> a question that has NEVER been answered by those who know what the
> transmitter output Z ISN'T:
> "What Z is it?"

It really doesn't matter except for overall
efficiency. A 10 ohm source outputting 100 volts
into a local load of R +/- jX sources the same
amount of power as a 100 ohm source outputting
100 volts into the same local load.
--
73, Cecil http://www.w5dxp.com

2478. Re: Smith chart

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 13:58:26 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <6mmav21pimb8tp9ijgl8gmmpvk9c0fj0ml@4ax.com>
Source record: 44842

On Sun, 11 Mar 2007 04:07:33 GMT, "Craig Buck" <k4ia@verizon.net>
wrote:

>Wow - Thanks. Now I need about two weeks to try to digest it all. Good
>stuff!
There are several sample questions available in the question pool for
the Amateur Extra Liscense pool. I am not a big fan of Smith Charts
but I need to keep up with the popular tools!

John Ferrell W8CCW
"Life is easier if you learn to
plow around the stumps"

2479. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 14:01:21 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <R2dJh.9375$jx3.2659@newssvr25.news.prodigy.net>
Source record: 44843
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Don Klipstein wrote:
> If zero output impedance is achieved in an RF output stage, I see a
> possible benefit -

Yep, 100% efficiency would be quite a benefit.
--
73, Cecil http://www.w5dxp.com

2480. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 14:34:54 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <iydJh.2781$Qw.1141@newssvr29.news.prodigy.net>
Source record: 44844
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Roy Lewallen wrote:
> *Sigh*
>
> The same misconceptions keep coming up, as they have countless times on
> this newsgroup and I'm sure they will for decades or perhaps centuries
> to come. After one of the many previous discussions, I wrote a little
> tutorial on the topic. Originally in the form of plain text files, I've
> combined it into a pdf file for easier viewing. You can find it at
> http://eznec.com/misc/Food_for_thought.pdf.
>
> On page 8 you'll find the statement "THE REVERSE POWER IS NOT DISSIPATED
> IN OR ABSORBED BY THE SOURCE RESISTANCE". Above it is a chart of several
> examples which clearly show that there's no relationship between the
> "reverse power" and the source dissipation. The remainder of the
> tutorial explains why.
>
> Any theory about "forward" and "reverse" power, what they do, and their
> interaction with the source, will have to explain the values in the
> example chart on page 8. Does yours?

Mine does. All of your values can be understood by looking
at the destructive and constructive interference and applying
the irradiance (power density) equations from the field of
optics. You see, optical engineers and physicists don't have
the luxury of measuring voltage and current in their EM waves.
All they can measure is power density and interference and
thus their entire body of knowledge of EM waves rests upon
measurements of those quantities. Those power density and
interference theories and equations are directly applicable
and 100% compatible with RF theories and equations. Any
analysis based on power density and interference will yield
identical results to the ones you reported in your "food for
thought" article which includes the following false statement:

"While the nature of the voltage and current waves when
encountering an impedance discontinuity is well understood,
we're lacking a model of what happens to this "reverse power"
we've calculated."

We are not lacking a model of what happens to this
"reverse power" we've calculated. The model is explained
fully in "Optics", by Hecht. When one has standing waves of
light in free space, it is hard to hide the details under
the transmission line rug.

In general, it is just as easy, and sometimes easier, to deal with the energy values and then calculate voltage and current as it is to start with voltage and current and then calculate the power.

All this is explained in my WorldRadio article at:

http://www.w5dxp.com/energy.htm

The great majority of amateur antenna systems are Z0-matched. For such systems, an energy analysis is definitely easier to perform than a voltage analysis. Here's an example:

```
100W------50 ohm---+---Z0>50 ohms-----load
Pfor1=100W--> Pfor2-->
<--Pref1=0W <--Pref2
```

The power reflection coefficient is 0.5 at point '+'.
The power reflection coefficient is 0.5 at the load.

What are the values of Pfor2 and Pref2? What is the physics equation governing what happens to Pref2 at point '+'?
--
73, Cecil http://www.w5dxp.com

2481. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 14:50:04 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <wMdJh.2783$Qw.1247@newssvr29.news.prodigy.net>
Source record: 44845
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Jan Panteltje wrote:
> Also normally, there is a pi type filter (to prevent harmonics), between
> amplifier and antenna.
> This filter _WILL_ match the antenna to the output impedance of the
> transmitter, so _even_ if the transmitter output impedance is very
> very low (low voltage high current output stage for example), the reflected
> power will be nicely converted to match the transmitter, and heat up the
> output amp, with its possible destruction as result.

Some gurus will say that it's the voltage and/or current
that is destroying the final, not the reflected energy.
They have yet to explain how those dangerous voltages
and/or currents can exist without assistance from the
ExH joules/second in the reflected energy wave. Depending
upon phase, the E in the ExH reflected wave is what causes
the overvoltage due to SWR. The H in the ExH reflected
wave is what causes the overcurrent due to SWR.

The impedance seen by the source is

Z = (Vfor+Vref)/(Ifor+Iref)

Where '+' indicates phasor (vector) addition.

The above equation also gives the impedance anywhere
along the transmission line and anywhere along a
standing-wave antenna.
--
73, Cecil http://www.w5dxp.com

2482. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 14:56:16 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <kSdJh.2785$Qw.1748@newssvr29.news.prodigy.net>
Source record: 44846
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Ulrich Bangert wrote:
> an exellent treatment on this question has been published in QEX December 94
> under the title "Where does the power go?"

Unfortunately, that article doesn't explain where the
power does go. A much better treatment of the subject
is in "Optics", by Hecht. To understand where the
power does go, one must understand destructive and
constructive interference. Please see my transmission
line example in another posting.

The energy content of a transmission line during
steady-state is always exactly enough to support
the forward traveling wave and the reverse traveling
wave without which there would be no standing wave.
--
73, Cecil http://www.w5dxp.com

2483. Re: Antenna grounding help

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 15:39:22 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <et3s7agmt1@nntp1.jpl.nasa.gov>
Source record: 44847

scooterspal wrote:
> Hello Jim:
>
> I appreciate the detailed reply and I have printed out the Low Voltage
> Handbook and will read it over this weekend.
>
> When I started doing research I found this web site for dish
> installations. Can you comment on what it describes as the "5
> suitable grounding locations". They seem to indicate that you can use
> an electrical panel and or the "raceway" as a ground. I'm confused.
>
> <http://www.dbsinstall.com/whatis/Whatisgood-5.htm>

You're talking about #2 and #3 in the referenced page?

If the panel provides a designated grounding point that's fine.. but that's the "electrical service panel", not just any old panel in the system.. it's the one where the service entrance is, and where the building grounding system is bonded to the earth ground.

Likewise, that picture of the conduit is most likely the service entrance. As the text says, the "conduit running to the service panel" or "between sub panels". The conduit running between the main panel and sub panels is often used as the main grounding conductor, in which case it would be acceptable.

As far as water pipes go.. in many jurisdictions, the water pipe ground isn't allowed any more (because of the prevalence of plastic pipes and various and sundry electrical isolation joints to prevent galvanic corrosion).

One wants to look at the nice disclaimer at the bottom too.. "your local codes may vary" and that's the real kicker.. what the code says is sort of a starting point.. it's your inspector that makes the difference.

>
> Also, why is there a mention for separate grounding of the mast
> and the coax?

In many cases, one can't guarantee that the coax can serve as an appropriate grounding conductor (i.e. it's not big enough, or there are removable connectors, etc.), so in that case, you need a separate grounding conductor. (You'll notice that the code requires that the bonding conductors essentially be permanently attached. hard to do that with removable connectors, like you usually find on coax)

>
> Do I need to provide one ground for the mounting pipe (mast) that
> secures the base of the antenna (the aluminum sleeve that contains the
> connector at the base) to the brick wall and a second ground to the
> grounding lug on the inline gas discharge unit?

Not necessarily. You can daisy chain to a certain extent, but you
should consider the implications for your overvoltage protection. Too
much running hither and yon will increase the inductance of the
grounding line, and depending on what your equipment is grounded to,
that can actually make things worse. (i.e. if your internal equipment is
grounded to the "green wire ground" in the wall receptacle, and the
transient suppressor is grounded to a different wire following a
different path, then you can have pretty big voltages between the two.)

>
> Thanks for the help on this. I want to get this right!
>

2484. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 16:16:04 UTC
From: don@manx.misty.com
Message-ID: <slrnevav64.3k8.don@manx.misty.com>
Source record: 44848
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

In <R2dJh.9375$jx3.2659@newssvr25.news.prodigy.net>, Cecil Moore wrote:
>Don Klipstein wrote:
>> If zero output impedance is achieved in an RF output stage, I see a
>> possible benefit -
>
>Yep, 100% efficiency would be quite a benefit.

There are audio amplifiers with output impedance around .1 ohm, driving
8 ohm speakers, and having efficiency nowhere near 80/81. The theoretical
limit for efficiency of a class B amp driving a resistive load with a
sinewave is 78.54%.

- Don Klipstein (don@misty.com)

2485. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 16:21:33 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <h6fJh.4682$yW.2048@newssvr11.news.prodigy.net>
Source record: 44849
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Don Klipstein wrote:
> Cecil Moore wrote:
>> Yep, 100% efficiency would be quite a benefit.
>
> There are audio amplifiers with output impedance around .1 ohm, driving
> 8 ohm speakers, and having efficiency nowhere near 80/81. The theoretical
> limit for efficiency of a class B amp driving a resistive load with a
> sinewave is 78.54%.

Of course, that was a tongue-in-cheek posting.
But if you could design a Thevenin equivalent
source with a 0.1 ohm source impedance, wouldn't
the efficiency calculate out to be pretty high?
--
73, Cecil http://www.w5dxp.com

2486. Re: Crosstalk from ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 17:05:27 UTC
From: Ceriel Nosforit <ceriel@gmail.com>
Message-ID: <pan.2007.03.12.17.05.27.814882@gmail.com>
Source record: 44852

On Sun, 11 Mar 2007 15:31:19 -0700, Roy Lewallen wrote:

> Most handheld receivers are designed to be used with a very short duckie
> antenna. The front end is totally overwhelmed if connected to an antenna
> of reasonable size. Besides having a whole lot of extra gain to
> accommodate the short antenna, compromises have to be made in the front
> end filtering because of the unit's small physical size. Keeping the
> power consumption low further limits the dynamic range of the stages.
>
> I have an Icom R1 and it's full of crossmod birdies even with its own
> antenna. When connected to a real antenna, it's totally unusable, the
> front end being overloaded and blocked by just about anything. I have to
> use a 20 or more dB pad if I ever connect it to a decent antenna. I'll
> bet a substantial attenuation pad would do wonders for yours.
>
> Roy Lewallen, W7EL

Hm. I _thought_ it looked kinda funny having such a puny receiver for such
a long antenna...

Thanks for the tip on the attenuator. I'll look into that. =)

--
Nos

2487. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 17:06:43 UTC
From: billcalley <billcalley@yahoo.com>
Message-ID: <1173719203.567932.103930@q40g2000cwq.googlegroups.com>
Source record: 44853
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Thanks guys -- some really great posts here -- it will take me quite a
while to digest all this!!

Thanks Again,

-Bill

2488. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 17:24:25 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <0i2bv25lncbhnghhu5i5h1g9st55ila8g1@4ax.com>
Source record: 44850

On 12 Mar 2007 08:51:57 -0700, "art" <aunwin@insightbb.com> wrote:

>Cecil, you should look up the background of JOHN E DAVIS from MIT that
>the group just dissed. He is not just a nobody, he has credentials
>that should be respected

Hi Art,

Unfortunately John has proven that even (what you assume to be) an MIT Don can get it wrong. He is not (just a software monkey like a lot of us.) His references clearly show in exactly the same areas (chapter and verse) how it is Maxwell's (actually Heavisides') equations that add time to Gauss. In this case Feynman (the winner of the Nobel prize in Physics) clearly states the time relationship introduced by Maxwell two centuries ago.

I am quite sure the very book under your nose says exactly the same thing, using exactly the same equations.

The long and short of it is exactly the same thing you've been told ad infinitum, but have spit on those correspondents. The only thing you've added is shooting sparks (must be related to that spit thing) and pixie sticks.

Haven't you left yet?

73's
Richard Clark, KB7QHC

2489. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 17:37:00 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45f58be7$0$27083$4c368faf@roadrunner.com>
Source record: 44854
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

"billcalley" <billcalley@yahoo.com> wrote in message
news:1173661709.309774.178770@q40g2000cwq.googlegroups.com...
> We are all told that VSWR doesn't matter when using low loss
> transmission lines, since the RF energy will travel from the
> transmitter up to the mismatched antenna, where a certain amount of
> this RF energy will reflect back towards the transmitter; after which
> the RF will then reflect back up to the antenna -- where the energy is
> eventually radiated after bouncing back and forth between the
> transmitter and antenna. I understand the concept, but what I don't
> quite understand is why the reflected RF energy isn't simply absorbed
> by the 50 ohm output of the transmitter after the first reflection?
> For the RF to bounce back and forth, wouldn't the transmitter's
> impedance have to be very, very high (or low) when the reflected RF
> energy hit its output stages? I know I'm missing something vital
> here...
>
> Thanks!
>
> -Bill
>

Your mistake is that you assume the output of the tx is 50 ohms, in the case
you stated the transmitter must be matched to the impedance it sees looking
into the transmission line.

2490. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 17:39:26 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <nd3bv29uq8oe7tutb1rqggt7mbqi737hsg@4ax.com>
Source record: 44851
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

On Mon, 12 Mar 2007 11:00:04 GMT, Jan Panteltje
<pNaonStpealmtje@yahoo.com> wrote:

>Also normally, there is a pi type filter (to prevent harmonics), between
>amplifier and antenna.
>This filter _WILL_ match the antenna to the output impedance of the
>transmitter, so _even_ if the transmitter output impedance is very
>very low (low voltage high current output stage for example), the reflected
>power will be nicely converted to match the transmitter, and heat up the
>output amp, with its possible destruction as result.

Hi Jan,

Actually, there is a transformer there in the typical Ham transmitter
(and probably in every general purpose power source) that typically
transforms the native Z to the output Z. This is a step up for solid
state, and step down for tubes. In the solid state rigs, it is a
literal transformer feeding the 1-2 Ohms through a 5:1 winding ratio
to a switched bank of low pass filters. This stuff is mud ordinary.

As for the reflected energy, depending upon the phase it will either
combine destructively (heat) or constructively (cool) in the extremes.
There are, of course, 179 degrees of variation between these extremes
before they repeat themselves again. Cooling, of course, is something
of a misnomer as nothing useful is happening (poor power transfer) so
perhaps the terms should be destructive through uselessly benign.

73's
Richard Clark, KB7QHC

2491. Re: Best way to clean elements before assembly?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 18:05:13 UTC
From: Hank Zoeller <NoSpamAllowed@NoSpamDomain.com>
Message-ID: <45f5973d$0$32178$c3e8da3@news.astraweb.com>
Source record: 44856

Richard Clark wrote:
> Wire brush mating connections and assemble quickly - forget the rest.

Interesting.

I understand the reason for quick assembly but I'm curious about the clean-up of the oxidised aluminum elements. What kind of wire brush? Steel? Brass? Why not some sort of abrasive paper? Or a Scotch Brite pad?

I'm also curious why you seem to dismiss the use of conductive anti-sieze compounds - Penetrox, for example.

BTW, I'm not trying to be argumentative, I'm truly curious about your thinking on the matter. Last fall, I put up an aluminum tubing vertical and I'm looking forward to taking it down this spring to see how it fared over the winter. Prior to reassembly I planned on cleaning up the mating connections with aluminum oxide paper and using a light coating (wipe on, wipe off, thin film left behind) of Penetrox.

73,
--
HZ

2492. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 18:30:59 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <45f59c65$0$17945$4fafbaef@reader1.news.tin.it>
Source record: 44858
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

> I understand the concept, but what I don't
> quite understand is why the reflected RF energy isn't simply absorbed
> by the 50 ohm output of the transmitter after the first reflection?

In my opinion the simplest way to answer your question is that you are assuming that the transmitter is equivalent to a 50 ohm load, which is not true because the transmitter is instead equivalent to the series of a 50 ohm load and a voltage generator.

A simple DC example grossly clarifies thre issue: connect a 12V battery to the series of a 50-ohm load and another 12V battery. How much current flows through the load? Naught (assuming the correct polarity). So no power is dissipated in it.

73

Tony I0JX

2493. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 18:36:43 UTC
From: Brian Howie <brian@nospam.demon.co.uk>
Message-ID: <IBXb0JB72Z9FFwX3@b-howie.demon.co.uk>
Source record: 44859
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

In message <1173661709.309774.178770@q40g2000cwq.googlegroups.com>,
billcalley <billcalley@yahoo.com> writes
> We are all told that VSWR doesn't matter when using low loss
>transmission lines, since the RF energy will travel from the
>transmitter up to the mismatched antenna, where a certain amount of
>this RF energy will reflect back towards the transmitter; after which
>the RF will then reflect back up to the antenna -- where the energy is
>eventually radiated after bouncing back and forth between the
>transmitter and antenna. I understand the concept, but what I don't
>quite understand is why the reflected RF energy isn't simply absorbed
>by the 50 ohm output of the transmitter after the first reflection?
>For the RF to bounce back and forth, wouldn't the transmitter's
>impedance have to be very, very high (or low) when the reflected RF
>energy hit its output stages? I know I'm missing something vital
>here...

It matters when it changes suddenly, like mine did recently on my 70MHz
beam, when one of the elements came off in a gale.

Brian GM4DIJ
--
Brian Howie

2494. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 18:48:34 UTC
From: Dan Bloomquist <public21@lakeweb.com>
Message-ID: <6ghJh.4761$ya1.2347@news02.roc.ny>
Source record: 44860
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

billcalley wrote:

> We are all told that VSWR doesn't matter when using low loss
> transmission lines, since the RF energy will travel from the
> transmitter up to the mismatched antenna, where a certain amount of
> this RF energy will reflect back towards the transmitter; after which
> the RF will then reflect back up to the antenna -- where the energy is
> eventually radiated after bouncing back and forth between the
> transmitter and antenna.

As pointed out, VSWR does matter. A lot of bouncing means you heat the transmission line with the power instead of radiating the power. 'Doesn't matter', really means it can be tolerated if need be.

> I understand the concept, but what I don't
> quite understand is why the reflected RF energy isn't simply absorbed
> by the 50 ohm output of the transmitter after the first reflection?
> For the RF to bounce back and forth, wouldn't the transmitter's
> impedance have to be very, very high (or low) when the reflected RF
> energy hit its output stages? I know I'm missing something vital
> here...

Here is what you are missing. In the case of the output, (real/resistive component of the transmitter), seeing the reflected wave, it is _not_ reflecting that power back up the transmission line as you think it is. It would go back to that real impedance and heat the transmitter. Here is what is done with a miss match in the real world.

trans-output -> match -> line -> antenna

The 'match' is where the magic happens. All the energy coming down the line that got reflected from the antenna 'sees' the 'trans-output -> match' as a perfect reflector and gets bounced back[*]. On the other side of the match is the trans->output. There the trans->output sees a perfect impedance, (technically, the conjugate of the trans->output), so that all the power travels through the match toward the antenna.

The magic is that when the match is tuned, both of the above conditions are satisfied.

*The reflected wave sees a purely reactive reflector not just because of the network but also because of the output power of the transmitter. Without transmitter power the impedance as seen from the load will dramatically change.

Best, Dan.

2495. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 19:03:44 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ad8bv21rnpi0ij33kssnkscl2k0sqcutt6@4ax.com>
Source record: 44855
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

On Mon, 12 Mar 2007 13:37:00 -0400, "Jimmie D"
<GFENDER@carolina.rr.com> wrote:

>Your mistake is that you assume the output of the tx is 50 ohms,

Hi Jimmie,

At the risk of yet another, non-quantitative reply I will repeat:
>>a question that has NEVER been answered by those who know what the
>>transmitter output Z ISN'T:
>> "What Z is it?"

>in the case
>you stated the transmitter must be matched to the impedance it sees looking
>into the transmission line.

THAT is true, and it brings us to the point of all this energy
sloshing around until the antenna finally dissipates it out into the
ï¿½ther. It is the reflection off the mismatch of the tuner (the
mismatch seen by the antenna as source to the line going back) that
prevents energy from presenting any destructive results to the source
- the whole point of using a tuner in the first place.

73's
Richard Clark, KB7QHC

2496. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 19:12:46 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45f5a258$0$18874$4c368faf@roadrunner.com>
Source record: 44861
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:ad8bv21rnpi0ij33kssnkscl2k0sqcutt6@4ax.com...
> On Mon, 12 Mar 2007 13:37:00 -0400, "Jimmie D"
> <GFENDER@carolina.rr.com> wrote:
>
>>Your mistake is that you assume the output of the tx is 50 ohms,
>
> Hi Jimmie,
>
> At the risk of yet another, non-quantitative reply I will repeat:
>>>a question that has NEVER been answered by those who know what the
>>>transmitter output Z ISN'T:
>>> "What Z is it?"
>
>>in the case
>>you stated the transmitter must be matched to the impedance it sees
>>looking
>>into the transmission line.
>
> THAT is true, and it brings us to the point of all this energy
> sloshing around until the antenna finally dissipates it out into the
> ether. It is the reflection off the mismatch of the tuner (the
> mismatch seen by the antenna as source to the line going back) that
> prevents energy from presenting any destructive results to the source
> - the whole point of using a tuner in the first place.
>
> 73's
> Richard Clark, KB7QHC

Correct but I just want to remember that the purpose of the tuner is to match the impedance of the transmitter to the impedance of the antenna/ transmission line.The standing waves can be viewed as a reflect voltage, a reflect current or as a reflected impedance. Besides I thought there had been enough quanitative analysis of the question and was hoping a simple answer may be enough to turn on the light bulb for the OP. If he still wanted to know more I figure he would ask.

2497. Re: Best way to clean elements before assembly?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 19:22:41 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <p79bv2taaq3dpaq1ak6iuosam8rg5qm462@4ax.com>
Source record: 44857

On Mon, 12 Mar 2007 11:05:13 -0700, Hank Zoeller
<NoSpamAllowed@NoSpamDomain.com> wrote:

>Richard Clark wrote:
>> Wire brush mating connections and assemble quickly - forget the rest.
>
>Interesting.
>
>I understand the reason for quick assembly but I'm curious about the clean-up of
>the oxidised aluminum elements. What kind of wire brush? Steel? Brass?
>Why not some sort of abrasive paper? Or a Scotch Brite pad?

Hi Hank,

I was speaking more to the idea of cleaning what is ultimately a
cosmetic issue - the rest of the elements. Forget that.

As for your choices in abrasive materials, use what comes to hand. By
this time many would have chimed in with their favorites, and
compounded with lengthy technical reasons. Those reasons are usually
all very well and good in the face of neglecting other simple
considerations which I will expand on.
>
>I'm also curious why you seem to dismiss the use of conductive anti-sieze
>compounds - Penetrox, for example.

This is a kind of belts-and-suspenders solution. There is nothing
wrong with it, but you don't have to go out of your way to use this
stuff if you are mating similar metals.

>BTW, I'm not trying to be argumentative,

What a buzz-kill!

>I'm truly curious about your thinking
>on the matter. Last fall, I put up an aluminum tubing vertical and I'm looking
>forward to taking it down this spring to see how it fared over the winter.
>Prior to reassembly I planned on cleaning up the mating connections with
>aluminum oxide paper and using a light coating (wipe on, wipe off, thin film
>left behind) of Penetrox.

Let us know how that fared. Myself, I lay down a layer of tape
(Scotch 3M rubber) that extends above and below the joint. I then add
a layer of clay (the black stuff you can buy for more money to pay for
the trademark) typically found either in a flower shop or at the
plumbing shop. I then wrap that with another layer of tape. The two
layers of tap encapsulate the clay for easy, clean removal only.

Joints are always bright and dry when disassembled and we get enough wet here in Rain City to test that claim. My lawn is now buried in 3 inches of moss. I wish I could kill the grass completely.

I don't suppose many would go to this level of waterproofing of yagi elements (I don't have that luxury to consider at the HF end of the scale, and the VHF/UHF never seem to have any problem with connections that are manufactured to be tight). I do this level of waterproofing with every connector or connection, however.

73's
Richard Clark, KB7QHC

2498. Re: Wire span design tool

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 20:10:10 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F248EC72707nonenowhere@61.9.191.5>
Source record: 44863

Richard Clark <kb7qhc@comcast.net> wrote in
news:fm9av29sfhqofla3kupspbeslpaq5d1a6b@4ax.com:

> On Mon, 12 Mar 2007 07:29:09 GMT, Owen Duffy <none@no.where> wrote:
>
>>Owen Duffy <none@no.where> wrote in
>>news:Xns98F1435DC9F33nonenowhere@61.9.191.5:
...
> Classic work includes wind load, ice load, and temperature, with
> comined loads usually expressed in pounds per foot lengths. It is a
> tedious translation to check your page though. Try researching Pender
> and Thomson.
...

Ok, so it is not for you apparently.

Calculating wind loading of cylindrical wire is problem enough, ice loading might be cylindrical in laboratory tests, but is isn't reliably so in real life. The surface isn't necessarily smooth either (so the assumptions about laminar flow vs turbulent flow are affected). There has been much written on the effects of ice on HV power lines, where they can develop shapes that give them lift, with serious consequences when adjacent lines fly into each other. (Differently to antenna wire spans where wind load dominates the tension, large HV power conductors are so strong and heavy for their diameter, that high winds only marginaly increase tension, ice loaded spans are more affected.)

However, if you want to model ice loading, just increase the weight per unit length of your wire for your chosen ice scenario, and increase the windage diameter, change the GBS if necessary for the lower temperature and run the numbers. I wouldn't propose an example, as I think the results are unreliable.

The calculator probably has its greatest value as a learning tool in individuals exploring scenarios for themselves, they might come to the view that 160m dipole spans made from #16 magnet winding wire are not practical in high winds.

Its not that we design to fail, its that we often fail to design.

Owen

PS: the calculator is metric units only to avoid the complication of comprehensively dealing with imperial units, eg dimensions in decimal inches, fractions, wire diameter in several gauge systems, lbs/mile etc, force in pounds, slugs etc.

2499. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 20:19:04 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <1adbv2tkvfkb1oukh0hd8u4dpmrmh6cpom@4ax.com>
Source record: 44862
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

On Mon, 12 Mar 2007 19:30:59 +0100, "Antonio Vernucci"
<vernucci@tin.it> wrote:

>A simple DC example grossly clarifies thre issue: connect a 12V battery to the
>series of a 50-ohm load and another 12V battery. How much current flows through
>the load? Naught (assuming the correct polarity). So no power is dissipated in
>it.

Hi Tony,

Turn the second battery over. Double the power is dissipated in it.

Phase, you can't live with it, you can't live without it.

73's
Richard Clark, KB7QHC

2500. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 20:24:42 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <45f5b70d$0$17950$4fafbaef@reader1.news.tin.it>
Source record: 44864
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

>>A simple DC example grossly clarifies thre issue: connect a 12V battery to the
>>series of a 50-ohm load and another 12V battery. How much current flows
>>through
>>the load? Naught (assuming the correct polarity). So no power is dissipated in
>>it.
>
> Hi Tony,
>
> Turn the second battery over. Double the power is dissipated in it.
>
> Phase, you can't live with it, you can't live without it.
>
> 73's
> Richard Clark, KB7QHC

Of course. Mine was just a DC example to illustrate things in a simple manner.

When the transmitter is properly tuned, the phase relationship is such that the reflected wave does not get dissipated at all into the 50 ohm output of the transmitter, and is then reflected back to the antenna

Tony I0JX

2501. Re: Best way to clean elements before assembly?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 20:29:36 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <et4d6h$ce6$1@nnrp.linuxfan.it>
Source record: 44865

Hank Zoeller wrote:

How about just going over the connections with a VERY fine sandpaper,
such as the 400 grit wet and dry, then some silicone grease to prevent
oxidation--for a while ...

JS
--
http://assemblywizard.tekcities.com

2502. Re: Nominal Impedance of Loop Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 20:40:25 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1173732025.739087.242830@c51g2000cwc.googlegroups.com>
Source record: 44866

On 10 Mrz., 21:41, "Al" <ABurzyn...@nojunk.satx.rr.com> wrote:
> Is there a nominal impedance or approximate impedance for a loop antenna?
> For example, a dipole is considered 72-ohm, a bevarage 450-ohm. What is a
> nominal loops Z?
>
> I have a 4-1/2 foot diameter loop antenna with 12 turns paralled by a
> capacitor for the antenna and one additional turn for the pickup coil. The
> loop is for the 200 - 500kHz band. About how much is the impedance of such
> an antenna? Thanks.
>
> Al

In the legacy Reg Edwards left is a program that will tell you what to expect from square loops. If you analyze a square loop with the same loop area as your (presumably round) loop, you should be close. The loop alone will look like a low resistance in series with the inductive reactance of the loop; resonated with a capacitor, the impedance will be much higher. The low resistance will most likely be strongly dominated by the resistance of the wire from which the loop is made.

Cheers,
Tom

2503. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 20:43:23 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <et4e0c$ce6$2@nnrp.linuxfan.it>
Source record: 44867
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Bob wrote:
> On Mar 12, 1:08 am, "billcalley" <billcal...@yahoo.com> wrote:
>> We are all told that VSWR doesn't matter when using low loss
>> transmission lines,
>
> No, we are not all told that.
>
>> since the RF energy will travel from the
>> transmitter up to the mismatched antenna, where a certain amount of
>> this RF energy will reflect back towards the transmitter; after which
>> the RF will then reflect back up to the antenna -- where the energy is
>> eventually radiated after bouncing back and forth between the
>> transmitter and antenna. I understand the concept, but what I don't
>> quite understand is why the reflected RF energy isn't simply absorbed
>> by the 50 ohm output of the transmitter after the first reflection?
>
> The active part of the transmitter output isn't 50 ohm.
> That would cause half the power to be lost as heat in
> the output stage. It's only 50ohm once it becomes a moving
> wave in the transmission line.
>
> Bob9
>
>

Kewl, then I'll just run a tap directly to the 5000 ohm plates and start
a long chat up ... what the heck is all those pi matching components in
the way of the rf? Probably some loss there! ROFLOL!!!

JS
--
http://assemblywizard.tekcities.com

2504. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 21:37:29 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F257BA25A70nonenowhere@61.9.191.5>
Source record: 44868

Danny Richardson <n_group@k6mhe.com> wrote in
news:k3fav2hgmbke9ukjdvjh8bjh7orpe0e1o3@4ax.com:

> (any edition) and put that myth to rest once and for all.

Wishful thinking Danny, myths are the stuff of ham radio, aren't they?

Owen

2505. ANOTHER RECALL

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 22:11:11 UTC
From: John Doe <hgorden@adelphia.net>
Message-ID: <x5qdnYbhR8A7UmjYnZ2dnUVZ_tyinZ2d@adelphia.com>
Source record: 44869

Recall -- Firm Press Release

FDA posts press releases and other notices of recalls and market withdrawals from the firms involved as a service to consumers, the media, and other interested parties. FDA does not endorse either the product or the company. This listserv covers mainly Class I (life-threatening) recalls. A complete listing of recalls can be found in the FDA Enforcement Report at: http://www.fda.gov/opacom/Enforce.html

Safeway Recalls Bread in Parts of California and Nevada
Contact:
Teena Massingill, 925-467-3810
Espe Greenwood, 925-467-2212

FOR IMMEDIATE RELEASE -- Pleasanton, Calif., - March 9, 2007 - Safeway Inc. today announced it is voluntarily recalling several of its private label bread products sold at Safeway and Pak 'n Save stores in Northern California and Northwest Nevada. The products may contain wire fragments from production machinery. The recall does not affect products sold at the Company's Vons or Pavilions stores.

The recall affects the following products with "Best Before" dates up to and including March 17, 2007. (Example: Mar 17)

Product
UPC Code #

Pak 'n Save Wheat Bread
113827210002

Safeway Butter Top Wheat Bread
21130-18089

Safeway Butter Top White Bread
21130-18088

Safeway Crushed Wheat Bread
21130-18133

Safeway Super Kids Bread
21130-18336

Safeway Whole Grain Bread
21130-18147

Safeway Premium White Bread
21130-18325

Safeway Premium Wheat Bread
21130-18225

Safeway Oven Joy White Bread
007989305190

Safeway Oven Joy Wheat Bread
007989305191

Safeway Texas Toast Bread
21130-18198

The recall also affects the following products with "Best Before" dates up to and including March 15, 2007. (Example: Mar 15)

Product
UPC Code#

Pak 'n Save White Bread
003827210001

Safeway Premium White Sandwich Bread
21130-18330

Safeway Pan Blanco Bread
007989305010

Safeway French Toasting Bread
21130-18199

Safeway 100% Wheat Bread
21130-18207

The "Best Before" date can be found on the plastic closure. The UPC number can be found on the bottom panel of bread bag. Customers who purchased these products in Northern California or Northwest Nevada can return the bread to their local store for a full refund.

While Safeway has received customer complaints, no injuries have been reported. The production machinery in question has been repaired and the production line cleaned. Safeway values its customers and apologizes for any inconvenience this may have caused.

#####

2506. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 22:27:57 UTC
From: Jim Backus <jhb@nospam.co.uk>
Message-ID: <TpquPuPd0tCd-pn2-Pqoch7UPqiPv@localhost>
Source record: 44870
Cross-posted to: sci.electronics.basics,rec.radio.amateur.antenna,sci.electronics.design

On Mon, 12 Mar 2007 01:25:00 UTC, Tim Wescott <tim@seemywebsite.com>
wrote:

> * I am _not_ going to start the Big Transmitter Output Impedance Debate.
> sed denizens -- just don't comment on what a transmitter's "actual"
> output impedance may be, lest you start a flame war.
>

OK ;-))

--
Jim Backus running OS/2 Warp 3 & 4, Debian Linux and Win98SE
bona fide replies to j <dot> backus <the circle thingy> jita <dot>
demon <dot> co <dot> uk

2507. Antenna Performance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 23:10:39 UTC
From: "gnewsaccount@googlemail.com" <gnewsaccount@googlemail.com>
Message-ID: <1173741039.427539.219390@h3g2000cwc.googlegroups.com>
Source record: 44871

An 868MHz project I am involved with uses a Xemics 1205 Tranceiver taken from a reference design. The output of which is fed to a PCB mounted SMA connector at the end of about 1.5" of PCB trace. The trace was calculated to be 50Ohms but not measured although a transmission test from the point of the reference design and the SMA connector shows a 2db drop.

Unfortunately the whole thing is placed in a metal box with the Antenna passing through the box onto the board. The aerial manufacturer has told us that most energy is emmitted in the box and I guess we also loose receiver sensitivity. Performance wise we set the transmitter to transmit at 15db and get a an ERP of .2mw remote devices with a PCB aerial in plastic cases have an ERP of

We decided to change the SMA connector to a bulk head mounted sma connector, However the range now goes down from a reasonably respectable indoor range of 25m+ (can't get further without passing through a metal wall) to a less inspiring 4 feet. It appear that adding 2-3" of coax with the SMA on the end is enough to do this. We have managed to get about 20Feet if we use a Yagi aerial.

The Xemics part is a direct conversion device and produces IQ signals to monitor. With the extra cable the signals look good with full amplitude at 2 feet but at 4 feet either the I or Q signal vanish but strangely not both as I believe the same input signal is mixed with the local oscillator and a 90 degree phase shifted on to produce the IQ signals.

Could the affects I'm seeing be a reflection of the local oscillator off a poorly matched PCB trace or is there some other strange things I should be looking for, apart from a good RF engineer to work it out for me.

Many thanks for any help or pointers

Paul

2508. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-12 23:21:32 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <eZBX3$e8Be9FFA0U@ifwtech.co.uk>
Source record: 44872

Richard Clark wrote:
>On Sun, 11 Mar 2007 21:23:28 +0000, Ian White GM3SEK
><gm3sek@ifwtech.co.uk> wrote:
>
>>Richard cited the following as a claimed exception:
>>
>>>A photon is emitted in the cM band when an electron orbiting a
>>>Hydrogen atom flips its magnetic pole. This event is vastly below the
>>>short wavelengths you describe by a million-fold. A good number of
>>>correspondents here are fully capable of detecting this event with
>>>commercial gear already suitable for the Ham market. They could have
>>>done it 50 years ago too.
>>>
>>That is an example of a quantum effect determining the *frequency* of an
>>RF emission... but the origin of the RF energy doesn't change its
>>character. If a signal generator is tuned to that frequency, it will
>>produce exactly the same kind of RF energy - a torrent of quanta so tiny
>>that their individual existence is irrelevant.
>
>Hi Ian
>
>Determining the *frequency*? That has to be the most obscure
>contribution I've ever seen.
>
No, it's the simplest. A couple of days ago, I quoted and explained the
most basic equation of quantum mechanics:

E = hf

It means that whenever there is a transition between two energy levels,
a photon is emitted whose frequency is uniquely determined by the
difference between those energy levels.

The case you quoted was the so-called "hydrogen line". A hydrogen atom
can have the spin of its single electron aligned in the same direction
as that of its single proton; or in the opposite direction. The former
state has slightly more energy, and when the spin of one atom flips to
the lower-energy state, one quantum of EM radiation is emitted. The
frequency of that radiation is determined by the difference in energy
levels between the two states, and is 1.42GHz.

The hydrogen line is like any other spectral line, except that the
difference in energy levels is unusually small (optical spectroscopists
would call it "hyperfine splitting") so the energy comes out as
microwaves rather than light.

The point I was making was that 1.42GHz radiation generated in this particular manner has no special properties other than its frequency. It is exactly the same kind of RF energy as you'd get from a signal generator tuned to the same frequency.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

2509. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 00:17:38 UTC
From: Derek <blueyhi5s@yahoo.com.au>
Message-ID: <1173745057.856083.4890@q40g2000cwq.googlegroups.com>
Source record: 44874

On Mar 12, 8:51 am, "art" <aun...@insightbb.com> wrote:
> On 11 Mar, 18:45, Cecil Moore <myc...@hotmail.com> wrote:
>
> > Richard Clark wrote:
> > > Determining the *frequency*? That has to be the most obscure
> > > contribution I've ever seen.
>
> > Richard, do you understand that free electrons can
> > emit photons of any frequency? i.e. no orbital change
> > necessary?
> > --
> > 73, Cecil http://www.w5dxp.com
>
> Cecil, you should look up the background of JOHN E DAVIS from MIT that
> the group just dissed. He is not just a nobody, he has credentials
> that should be respected
> Art

2510. Re: Wire span design tool

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 00:37:10 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <27sbv29kqq7m4os97hlren97pomchg8tsd@4ax.com>
Source record: 44873

On Mon, 12 Mar 2007 20:10:10 GMT, Owen Duffy <none@no.where> wrote:

>Ok, so it is not for you apparently.
>
Hi Owen,

So you found the comments and references unappealing. Does that invalidate them being constructive? As you do not offer the mathematics to appraise, only a calculator to work; what constructive commentary did you expect when someone runs an example? The color of the box or the size of the font?

73's
Richard Clark, KB7QHC

2511. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 00:45:59 UTC
From: Derek <blueyhi5s@yahoo.com.au>
Message-ID: <1173746759.369901.282520@p10g2000cwp.googlegroups.com>
Source record: 44726

So we have this group lining up with space Antenna engineering on the
West Coast against M.I.T. space engineering on the East Coast.
The Patent Office may have to invite the IEEE to adjudicate on Art's
patent or else dig up Gauss's grave.
Looks like this could run a bit longer yet.

Derek

2512. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 01:05:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <hi9hc4-vli.ln1@mail.specsol.com>
Source record: 44727

Richard Clark <kb7qhc@comcast.net> wrote:

<snip>

> My presumption is that "special properties" and "some kinds of light"
> are congruent. Again, it appears to be as tautological as might my
> examples of "extraordinary properties."

> Where does this lead us?

To the conclusion that a photon is a photon.

All photons propagate the same way.

Electromagnetic radiation is electromagnetic radiation.

All electromagnetic radiation propagates the same way.

The interaction of electromagnetic radiation and matter is a function
of the photon energy, which is a function of the photon frequency.

There is no hard and fast dividing line between antennas and optics.

And probably a few more if I thought about it for a while.

--
Jim Pennino

Remove .spam.sux to reply.

2513. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 01:23:54 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <kltbv2dn3d4itlbprg6kbp90hihv2jqs78@4ax.com>
Source record: 44875

On Mon, 12 Mar 2007 23:21:32 +0000, Ian White GM3SEK
<gm3sek@ifwtech.co.uk> wrote:

>The point I was making was that 1.42GHz radiation generated in this
>particular manner has no special properties other than its frequency. It
>is exactly the same kind of RF energy as you'd get from a signal
>generator tuned to the same frequency.

Hi Ian,

So, the photon thus emitted is indistinguishable from any signal
generator's output. Neither of us is surprised, granted.

What distinction are you trying to make that is not already obvious?
>>If a signal generator is tuned to that frequency, it will
>>produce exactly the same kind of RF energy - a torrent of quanta so tiny
>>that their individual existence is irrelevant.
This is nothing more than a tautology. No one is going to be
surprised by this event either.

Can you give us an example of "special properties" that differentiates
a photon from an EM wave? On the face of it, that question is absurd,
but I see nothing distinctive about your comments except in this fine
parsing of "special properties" that seem to vanish (no pun) for
longer wavelengths.

>It means that whenever there is a transition between two energy levels,
>a photon is emitted whose frequency is uniquely determined by the
>difference between those energy levels.

If this is the "special property" and hyperfine are not, then I
suppose it could as easily be called "very special property" to no
less acclaim. The production of photons through a myriad of other
interactions that I offered rather makes this "special property"
rather banal, because those interactions also present harmonic
relationships and are not uniquely determined by transitions - and yet
they remain photons none the less. Would I be overstepping to call
them "extraordinary properties?"

I must presume this casts back to your comment:
>>Quantum
>>theory was developed to explain observations like some kinds of light
>>being emitted in a series of sharp spectral lines, which cannot be
>>explained by a wave-only theory. Instead, it has to be thought of as
>>being built up of individual photons/quanta which can only have certain
>>"allowed" energy levels.
My presumption is that "special properties" and "some kinds of light"

are congruent. Again, it appears to be as tautological as might my examples of "extraordinary properties."

Where does this lead us?

73's
Richard Clark, KB7QHC

2514. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 02:47:46 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45f60cfc$0$27076$4c368faf@roadrunner.com>
Source record: 44728
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

"Dan Bloomquist" <public21@lakeweb.com> wrote in message
news:6ghJh.4761$ya1.2347@news02.roc.ny...
> billcalley wrote:
>
>> We are all told that VSWR doesn't matter when using low loss
>> transmission lines, since the RF energy will travel from the
>> transmitter up to the mismatched antenna, where a certain amount of
>> this RF energy will reflect back towards the transmitter; after which
>> the RF will then reflect back up to the antenna -- where the energy is
>> eventually radiated after bouncing back and forth between the
>> transmitter and antenna.
>
> As pointed out, VSWR does matter. A lot of bouncing means you heat the
> transmission line with the power instead of radiating the power. 'Doesn't
> matter', really means it can be tolerated if need be.
>
>> I understand the concept, but what I don't
>> quite understand is why the reflected RF energy isn't simply absorbed
>> by the 50 ohm output of the transmitter after the first reflection?
>> For the RF to bounce back and forth, wouldn't the transmitter's
>> impedance have to be very, very high (or low) when the reflected RF
>> energy hit its output stages? I know I'm missing something vital
>> here...
>
> Here is what you are missing. In the case of the output, (real/resistive
> component of the transmitter), seeing the reflected wave, it is _not_
> reflecting that power back up the transmission line as you think it is. It
> would go back to that real impedance and heat the transmitter. Here is
> what is done with a miss match in the real world.
>
> trans-output -> match -> line -> antenna
>
> The 'match' is where the magic happens. All the energy coming down the
> line that got reflected from the antenna 'sees' the 'trans-output ->
> match' as a perfect reflector and gets bounced back[*]. On the other side
> of the match is the trans->output. There the trans->output sees a perfect
> impedance, (technically, the conjugate of the trans->output), so that all
> the power travels through the match toward the antenna.
>
> The magic is that when the match is tuned, both of the above conditions
> are satisfied.
>
> *The reflected wave sees a purely reactive reflector not just because of

> the network but also because of the output power of the transmitter.
> Without transmitter power the impedance as seen from the load will
> dramatically change.
>
> Best, Dan.
>

Saying that SWR doesnt matter is a rather broad statement(like saying never or always) but I have know of antenna systems having an SWR of 30:1 and his was normal. The feedline was balanced line made of 1 inch copper. Of course an SWR lie this on coax could be fatal to coax and equipment. A more common example of this is the 1/4 wl matching section on a J-pole antenna. It matches 50 ohms to a few Kohms so an SWR of 60: 1 or so would not be unusal here.S oas long as the feedline can handle the current and voltage peaks without much los it doesnt matter much as long as the source impedance is matched to the impedance at the input to the transmission line.Im sure there is a practical limit though.

Jimmie

2515. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 02:49:41 UTC
From: Derek <blueyhi5s@yahoo.com.au>
Message-ID: <1173754180.937492.48330@h3g2000cwc.googlegroups.com>
Source record: 44729

Now thats more like it..

Who's next?

D

2516. Re: Tower design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 03:53:10 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <12vc81l15eae4f1@corp.supernews.com>
Source record: 44730

Jimmie D wrote:
> "J. Mc Laughlin" <jcm@power-net.net> wrote in message
> news:dZKdnVPmJMFXDWnYnZ2dnUVZ_oCmnZ2d@bright.net...
>> Dear Jimmie (no call sign given):
>>
>> Even towers as short, and as relatively simple as what you say you are
>> considering, involve safety of life issues! Very expensive computer
>> programs exist that will analyze a tower, however no professional trusts
>> them until comparing what the program exports with what is calculated
>> using
>> a hand-calculator and fundamental concepts.
>>
>> Textbooks on (mechanical) statics and strength-of-materials would be
>> appropriate places to start. Even a spread sheet can be used to develop
>> computational tools, though a real HP calculator can be a great aid. A
>> good
>> mechanical engineering handbook (Mark's ?) might have the information, but
>> might be more difficult to read. Schaum's Outline series might be better
>> than some textbooks. Of course, you may have this sort of background
>> already.
>>
>> If you stay below 70 feet and have trees/buildings all around, wind
>> loading calculations are relatively simple. (The standard (222G) on
>> calculating serious wind loads cost about $400.)
>>
>> Give the group more of an idea of the "boundary conditions" for your
>> proposal. How wonderful to be able to contemplate having time for such a
>> project in retirement.
>>
>> Regards, Mac N8TT
>> --
>> J. Mc Laughlin; Michigan U.S.A.
>> Home: JCM@Power-Net.Net
>> "JIMMIE" <JIMMIEDEE123@YAHOO.COM> wrote in message
>> news:1173624269.884477.154000@n33g2000cwc.googlegroups.com...
>>> I am trying to find information on build your own tower. As retirement
>>> nears I plan on having a lot more time for doing things like this and
>>> will have a few acres I can devote to an antenna farm. I wouldnt mind
>>> learning to design them from scratch but would prefer a computer
>>> program if one is available. I know to some building your own tower
>>> may not seem practical but my wife and I inherited a lot of the basic
>>> materials when her father passed away. I am especialy interested in
>>> building tubular foldover mast 50 to 70 ft tall. It seems like years
>>> ago I came across a magazine article on this that also had associated

>>> design software. Any help would be greatly appreciated.
>>>
>>> Jimmie
>>>
>>
> Antenna will have to be tall enough to clear the current canopy of oaks that
> cover the property. Materials I have on had are way more heavy duty than
> what you see towers normaly built of. such as several sections of galvanised
> sign post The heavy U shaped stuf with the flange, dont know what you call
> it but there is probably 300 to 400 ft of this stuff, lots of rebar. I could
> easily build something similar to a Rohn tower with this. Also have a MIG
> and Stick welder. There is maybe 2000ft of oil well drilling pipe piled up
> out there. Wife pretty much mandated that I do something with it or get rid
> of it. She has her ticket too so she is sympathetic to the cause. Ther is
> also a neighbor who works on heavy equipment and he has a crane. Wonder what
> a few steaks and beers will get me. First I would like to get up my VHF/UHF
> stuff. Nothing elaborate here just some stacked Yagi on 2M and 432 and a 5
> elemnt Yagi for 6M. The is also a lot of tublar steel some about 6 inches in
> daimeter. with inch thick walls, I think he was making TVRO mast out of this
> stuff at one time. Hopefully once I get the place cleaned up I might start a
> second career, there is a big 30 x 60 ft shop on the property that should be
> good for something. Oh, yes I do have a 50ft Rohn tower i was thinking about
> tempoaraly erecting thi as a scafold to work off of. Just a thought.
>
> With the oil well pipe I was planning on making a base from three pieces of
> it the screw on three pieces and weld bracing on as I go up it then add on
> three more pieces and keep going up. I figure I should easily build a 65 ft
> tower this way, maybe more. There are also some really tall southern long
> leaf pines about 30 years old on the prperty that might be good for
> something. These are some of the taler trees and I was thinking about
> stringinging soem 75/80M dipoles of of these.
>
> If I had some design info I might could start figuring out how to make the
> best use of some of this junk and get a head start on the game.
>
> Jimmie
>
>
Jimmie;

If you are planning to use any of the materials you list here I wouldn't
want to be in the same county. All of the items you list are of low
tensile strength. The well casing will fold over when you try to crank
it up. I know from actual testing. My ELMER had a hundred feet of 6 inch
pipe. We put his tribander on the top end and hooked a wench to the
bottom. After one hell of a lot of cranking we turned around to see how
much more we had to go to put straight up. The tribander was still on
the ground and the bottom of the tower was vertical. The pipe had folded
at the hinge point.
Rebar is good for concrete and stakes but not much else. Fence posts are

extremely bendable.

For your safety forget about your scrap steel and buy a commercial manufactured tower.

Dave WD9BDZ

2517. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 03:55:34 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <12vc861j53n70d2@corp.supernews.com>
Source record: 44731
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Tim Wescott wrote:
> billcalley wrote:
>
>> We are all told that VSWR doesn't matter when using low loss
>> transmission lines, since the RF energy will travel from the
>> transmitter up to the mismatched antenna, where a certain amount of
>> this RF energy will reflect back towards the transmitter; after which
>> the RF will then reflect back up to the antenna -- where the energy is
>> eventually radiated after bouncing back and forth between the
>> transmitter and antenna. I understand the concept, but what I don't
>> quite understand is why the reflected RF energy isn't simply absorbed
>> by the 50 ohm output of the transmitter after the first reflection?
>> For the RF to bounce back and forth, wouldn't the transmitter's
>> impedance have to be very, very high (or low) when the reflected RF
>> energy hit its output stages? I know I'm missing something vital
>> here...
>>
> That's assuming you use an antenna tuner. The tuner will transform the
> transmitter's output impedance* just as it transforms the line. Were
> the transmitter output impedance actually at 50 ohms, on the other side
> of the tuner it would have the same VSWR as the line when everything was
> tuned up.
>
> Having said that, the VSWR _does_ matter somewhat when using low loss
> lines, both because the line loss is low but not zero, and the tuner
> loss will tend to go up as you correct for higher and higher VSWR.
>
> * I am _not_ going to start the Big Transmitter Output Impedance Debate.
> sed denizens -- just don't comment on what a transmitter's "actual"
> output impedance may be, lest you start a flame war.
>
If you want a quick lesson in high vswr find a ham with an old tube
transmitter and see if he will hook it up to a mismatched load. The
cherry red plates are the reflected energy being absorbed. Transistors
will just turn to smoke under the same conditions.

Dave WD9BDZ

2518. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 04:25:53 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <lJpJh.1515$y56.1068@trnddc07>
Source record: 44732
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

"David G. Nagel" <nagel@core.com> wrote in message
news:12vc861j53n70d2@corp.supernews.com...
> Tim Wescott wrote:
>> billcalley wrote:
>>
>>> We are all told that VSWR doesn't matter when using low loss
>>> transmission lines, since the RF energy will travel from the
>>> transmitter up to the mismatched antenna, where a certain amount of
>>> this RF energy will reflect back towards the transmitter; after which
>>> the RF will then reflect back up to the antenna -- where the energy is
>>> eventually radiated after bouncing back and forth between the
>>> transmitter and antenna. I understand the concept, but what I don't
>>> quite understand is why the reflected RF energy isn't simply absorbed
>>> by the 50 ohm output of the transmitter after the first reflection?
>>> For the RF to bounce back and forth, wouldn't the transmitter's
>>> impedance have to be very, very high (or low) when the reflected RF
>>> energy hit its output stages? I know I'm missing something vital
>>> here...
>>>
>> That's assuming you use an antenna tuner. The tuner will transform the
>> transmitter's output impedance* just as it transforms the line. Were the
>> transmitter output impedance actually at 50 ohms, on the other side of
>> the tuner it would have the same VSWR as the line when everything was
>> tuned up.
>>
>> Having said that, the VSWR _does_ matter somewhat when using low loss
>> lines, both because the line loss is low but not zero, and the tuner loss
>> will tend to go up as you correct for higher and higher VSWR.
>>
>> * I am _not_ going to start the Big Transmitter Output Impedance Debate.
>> sed denizens -- just don't comment on what a transmitter's "actual"
>> output impedance may be, lest you start a flame war.
>>
> If you want a quick lesson in high vswr find a ham with an old tube
> transmitter and see if he will hook it up to a mismatched load. The cherry
> red plates are the reflected energy being absorbed. Transistors will just
> turn to smoke under the same conditions.
>
> Dave WD9BDZ

Hi david

Wouldnt it be OK to have a high VSWR along the transmission line if the
"tank ckt" can be adjusted to match the load to the transmitter output

impedance? That is, the VSWR along the transmission could concievely be high, yet, with proper "tank ckt" adjustment that impedance seen by the output circuit (plate) wouldnt result in a "cherry red plate".
What I am asking is ? is the transmission line VSWR directly related to "plate reddening"?
I'm more asking than *telling*.

Jerry

2519. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 04:50:14 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12vcbc8al8kg584@corp.supernews.com>
Source record: 44733
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

David G. Nagel wrote:
>>
> If you want a quick lesson in high vswr find a ham with an old tube
> transmitter and see if he will hook it up to a mismatched load. The
> cherry red plates are the reflected energy being absorbed. Transistors
> will just turn to smoke under the same conditions.

Unfortunately, you'd be learning the wrong lesson.

The cherry color is due to the transmitter being loaded with an impedance it's not designed for, causing the final to run at low efficiency. You can disconnect the antenna and replace it with a lumped RC or RL impedance of the same value and get exactly the same result. Alternatively, you can attach any combination of load and transmission line which give the same impedance, resulting in a wide variation of "reflected energy", and get exactly the same result. All that counts is the impedance seen by the transmitter, not the VSWR on the line or the "reflected power".

The problem is that the idea of "reflected energy" turning the plates hot is so easy to understand, that people aren't willing to abandon it simply because it isn't true.

See http://eznec.com/misc/Food_for_thought.pdf for more.

Roy Lewallen, W7EL

2520. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 04:53:19 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12vcbi0qph3ll8c@corp.supernews.com>
Source record: 44734
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Jerry Martes wrote:
>
> Wouldnt it be OK to have a high VSWR along the transmission line if the
> "tank ckt" can be adjusted to match the load to the transmitter output
> impedance? That is, the VSWR along the transmission could concievely be
> high, yet, with proper "tank ckt" adjustment that impedance seen by the
> output circuit (plate) wouldnt result in a "cherry red plate".

Yes! All that matters to the transmitter is the impedance it sees. It doesn't know or care that you've mathematically separated the delivered power into "forward" and "reverse" components. It doesn't know or care what the SWR is on the transmission line connected to it, or even if a transmission line is connected at all.

> What I am asking is ? is the transmission line VSWR directly related to
> "plate reddening"?

Absolutely not.

> I'm more asking than *telling*.

That's the first step in learning.

Roy Lewallen, W7EL

2521. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 05:32:56 UTC
From: Bob <bob9@mailinator.com>
Message-ID: <1173763975.887127.278010@t69g2000cwt.googlegroups.com>
Source record: 44735
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

> > The active part of the transmitter output isn't 50 ohm.
> > That would cause half the power to be lost as heat in
> > the output stage. It's only 50ohm once it becomes a moving
> > wave in the transmission line.
>
> > Bob9
>
> Kewl, then I'll just run a tap directly to the 5000 ohm plates and start
> a long chat up ... what the heck is all those pi matching components in
> the way of the rf? Probably some loss there! ROFLOL!!!
>
> JS

It appears that you agree with that part of my post but you are
drawing
an invalid conculsion from it. I never suggested that the passive
matching
network usually found in a transmitter output is unnecessary.

Bob

2522. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 05:34:22 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F2A8945BE26nonenowhere@61.9.191.5>
Source record: 44737
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

don@manx.misty.com (Don Klipstein) wrote in
news:slrneva0no.m7j.don@manx.misty.com:
...
> 1) The transmitter may well have output impedance matching the
> characteristic impedance of the transmission line. RF power reflected
> back in this case gets converted to heat in the output stage of the
> transmitter, in addition to whatever heat the output stage already has
> to dissipate.
...
I thought we put one of these fires out just a few days ago!

Owen

2523. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 05:34:37 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <12vcdvormkp2m1e@corp.supernews.com>
Source record: 44736
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

```
Jerry Martes wrote:
> "David G. Nagel" <nagel@core.com> wrote in message
> news:12vc861j53n70d2@corp.supernews.com...
>> Tim Wescott wrote:
>>> billcalley wrote:
>>>
>>>> We are all told that VSWR doesn't matter when using low loss
>>>> transmission lines, since the RF energy will travel from the
>>>> transmitter up to the mismatched antenna, where a certain amount of
>>>> this RF energy will reflect back towards the transmitter; after which
>>>> the RF will then reflect back up to the antenna -- where the energy is
>>>> eventually radiated after bouncing back and forth between the
>>>> transmitter and antenna. I understand the concept, but what I don't
>>>> quite understand is why the reflected RF energy isn't simply absorbed
>>>> by the 50 ohm output of the transmitter after the first reflection?
>>>> For the RF to bounce back and forth, wouldn't the transmitter's
>>>> impedance have to be very, very high (or low) when the reflected RF
>>>> energy hit its output stages? I know I'm missing something vital
>>>> here...
>>>>
>>> That's assuming you use an antenna tuner. The tuner will transform the
>>> transmitter's output impedance* just as it transforms the line. Were the
>>> transmitter output impedance actually at 50 ohms, on the other side of
>>> the tuner it would have the same VSWR as the line when everything was
>>> tuned up.
>>>
>>> Having said that, the VSWR _does_ matter somewhat when using low loss
>>> lines, both because the line loss is low but not zero, and the tuner loss
>>> will tend to go up as you correct for higher and higher VSWR.
>>>
>>> * I am _not_ going to start the Big Transmitter Output Impedance Debate.
>>> sed denizens -- just don't comment on what a transmitter's "actual"
>>> output impedance may be, lest you start a flame war.
>>>
>> If you want a quick lesson in high vswr find a ham with an old tube
>> transmitter and see if he will hook it up to a mismatched load. The cherry
>> red plates are the reflected energy being absorbed. Transistors will just
>> turn to smoke under the same conditions.
>>
>> Dave WD9BDZ
>
> Hi david
>
```

> Wouldnt it be OK to have a high VSWR along the transmission line if the
> "tank ckt" can be adjusted to match the load to the transmitter output
> impedance? That is, the VSWR along the transmission could concievely be
> high, yet, with proper "tank ckt" adjustment that impedance seen by the
> output circuit (plate) wouldnt result in a "cherry red plate".
> What I am asking is ? is the transmission line VSWR directly related to
> "plate reddening"?
> I'm more asking than *telling*.
>
> Jerry
>
>
Jerry;

The point I was trying to make is that the reflected current is
disapated as heat in the finals if the transmitter isn't matched to the
load.
In a tube radio the tank circuit is the equivilent of an antenna
match/tuner and converts the 2000 or so ohms at the plate to the 50 ohms
of the transmission line and the unknown ohms of the mis matched antenna.

Dave WD9BDZ

2524. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 06:00:59 UTC
From: Bob <bob9@mailinator.com>
Message-ID: <1173765659.231024.64480@h3g2000cwc.googlegroups.com>
Source record: 44738
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna
Body handling: HTML body converted to readable text

On Mar 12, 4:56 am, Richard Clark wrote:
> On 11 Mar 2007 20:39:46 -0700, "Bob" wrote:
>
> >The active part of the transmitter output isn't 50 ohm.
> >That would cause half the power to be lost as heat in
> >the output stage.
>
> Hi Bob,
>
> Well, aside from the initial misunderstanding of how power gets to the
> load (much less back, and then to the load again); I will put to you
> a question that has NEVER been answered by those who know what the
> transmitter output Z ISN'T:
> "What Z is it?"
>
> 73's
> Richard Clark, KB7QHC

As Tim Williams alludes, it depends on the transmitter design.
It will often be complex rarther than resistive. Since the active
device changes impedance during a single cycle of the RF
signal it may not even be adequately described by a single
value in ohms for a paticular frequency if you wish to
analyse the case of forward and reflected power.

Consider a class C or class E output stage with an
output transistor that is low impedance during
most of the positive half of a cycle of signal and mostly
somewhere near open circuit for the negative half
of the cycle. It seems to me that the effect of reflected
power is going to be different depending its phase
relative to the forward power.
I think this also applys to a lesser extent to a class
A PA with a nice hi-Q tank circuit.

As usually whan this topic comes up, It don't feel
like we have arrived at a usefull and convincing model
of what happens, possibly because simple
descriptions don't cover everything.

Bob

2525. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 07:26:42 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <nujcv2tn21e82rhbc8sv51ogv7kbsh7eid@4ax.com>
Source record: 44739
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

On 12 Mar 2007 23:00:59 -0700, "Bob" <bob9@mailinator.com> wrote:

>As Tim Williams alludes, it depends on the transmitter design.

Hi Bob,

No quantifiable answer I see. It's not unexpected, everyone who knows what it isn't has never been able to say what it is. It seems like the stock answer you give the cop who asks if you know the speed limit.
"No. But I wasn't speeding!"

The dependency here started with a conventional Ham transmitter, one so ordinary as to be a commodity. The design is not so exotic as to elude a very simple value - except for those who know it isn't 50 Ohms.

73's
Richard Clark, KB7QHC

2526. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 08:46:06 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <kRXJwYIOTm9FFAzJ@ifwtech.co.uk>
Source record: 44741

wrote:
>Richard Clark <kb7qhc@comcast.net> wrote:
>
><snip>
>
>> My presumption is that "special properties" and "some kinds of light"
>> are congruent. Again, it appears to be as tautological as might my
>> examples of "extraordinary properties."
>
>> Where does this lead us?
>
>To the conclusion that a photon is a photon.
>
>All photons propagate the same way.
>
>Electromagnetic radiation is electromagnetic radiation.
>
>All electromagnetic radiation propagates the same way.
>
>The interaction of electromagnetic radiation and matter is a function
>of the photon energy, which is a function of the photon frequency.
>

Agreed with all the above, but...

>There is no hard and fast dividing line between antennas and optics.

Certainly no hard and fast line, because the same basic physics applies at all frequencies and wavelengths. But there are HUGE differences in the size and importance of some effects, for RF and for light.

We cannot tell how big those differences are by just talking about them. We need to rub a few numbers together, and then see what comes out.

So the very first step into quantum mechanics is to put some numbers into the E=hf equation. This immediately proves that quantum effects (although still theoretically present) are too small to be of any practical importance in antenna engineering. At that point, any sensible person would realise they had taken a wrong turning, and get straight back on the road.

For antenna engineering, that road is ENTIRELY built on the classical physics of the 18th-19th century. It can be a hard road to travel, but it's a reliably straight one. Any side turnings are NOT going to be short-cuts to a better understanding.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

2527. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 09:21:00 UTC
From: Tim Williams <tmoranwms@charter.net>
Message-ID: <q8tJh.1058$602.278@newsfe06.lga>
Source record: 44740
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:h6fJh.4682$yW.2048@newssvr11.news.prodigy.net...
> Of course, that was a tongue-in-cheek posting.
> But if you could design a Thevenin equivalent
> source with a 0.1 ohm source impedance, wouldn't
> the efficiency calculate out to be pretty high?

Class D rules. (Using MOSFETs, the Thevenin equivalent is quite easy to
spot, too!)

Tim

--
Deep Fryer: A very philosophical monk.
Website @ http://webpages.charter.net/dawill/tmoranwms

2528. Re: Antenna grounding help

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 14:14:55 UTC
From: scooterspal <tfg1@mindspring.com>
Message-ID: <zlyJh.7106$M65.3414@newssvr21.news.prodigy.net>
Source record: 44742

Jim:

Read the Low Voltage Handbook and more of this now makes complete sense.

My plan is to run a #10 insulated copper wire from the main ground location in the electrical room at the end of my building out and up and then horizontally along the outside brick wall at about the height of the mount for my antenna.

From what you are saying, that single #10 lead can be bonded to the short (probably 24" or less) piece of mast pipe that runs between the two 12" wall mounts up to the base of the 40" X 2" wifi antenna AND to the ground lug on the gas discharge that is screwed into the connector at the base of the antenna mount (inline to the coax cable).

Do I have this correct?

Actually, there will be only a very short piece of #10 from the mast to the discharge unit. Does it matter which one I connect to first prior to looping over to the other?

Jim Lux wrote:
>
>> Do I need to provide one ground for the mounting pipe (mast) that
>> secures the base of the antenna (the aluminum sleeve that contains the
>> connector at the base) to the brick wall and a second ground to the
>> grounding lug on the inline gas discharge unit?
>
>
> Not necessarily. You can daisy chain to a certain extent, but you
> should consider the implications for your overvoltage protection. Too
> much running hither and yon will increase the inductance of the
> grounding line, and depending on what your equipment is grounded to,
> that can actually make things worse. (i.e. if your internal equipment is
> grounded to the "green wire ground" in the wall receptacle, and the
> transient suppressor is grounded to a different wire following a
> different path, then you can have pretty big voltages between the two.)
>

2529. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 14:57:02 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <et6e3vlih1@aioe.org>
Source record: 44743
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

"Roy Lewallen" wrote
> The problem is that the idea of "reflected energy" turning the plates hot
> is so easy to understand, that people aren't willing to abandon it simply
> because it isn't true.

But reflected energy/power does exist.

For an easy example, such reflections are evident in the picture seen on an analog TV receiver when the match between the transmit antenna and the transmission connected to it is bad enough.

In analog TV transmit systems with a typical 500+ foot length transmission line from the tx to the antenna, a 5% reflection from a far-end mismatch can be quite visible, showing as a "ghost" image that is offset from the main image as related to the round-trip propagation time of the transmission line.

RF

2530. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 15:02:02 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <K1zJh.67231$as2.10703@bgtnsc05-news.ops.worldnet.att.net>
Source record: 44744

Ian White GM3SEK wrote:

[snip]
>
> For antenna engineering, that road is ENTIRELY built on the classical
> physics of the 18th-19th century. It can be a hard road to travel, but
> it's a reliably straight one. Any side turnings are NOT going to be
> short-cuts to a better understanding.

Ian,

For the misunderstood and unappreciated "inventor", hope springs eternal.

It's all for the good, however. RRAA would simply fade away without fractals, crossed-fields, RoomCaps, unmodelable structures, traveling waves, one-second long transmission lines, Poynting vectors, etc.

73,
Gene
W4SZ

2531. Vertical above the ground-plane

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 15:15:55 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <11gdv213365ca37p4l18h56mctm6vh8rto@4ax.com>
Source record: 44745

I have a situation where I would like to install a vertical wire above a fiberglass pole I have in the center of the yard. However, I must keep the coax off the ground so I can only feed it about 7 feet from the ground so people and the mower can get underneath. (rental property).

I want to setup a 20 or 30 meter vertical and run ground radials from the base of the pole where the wires can be buried. Is it possible to feed the antenna above the ground plane? for example, I have ground radials connected to a seven foot vertical wire, the shield side, and the center side of the coax would continue upwards to the top, or appropriate height on the pole.

Thanks
Buck
N4PGW

--
73 for now
Buck, N4PGW
www.lumpuckeroo.com
N4PGW

2532. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 15:36:32 UTC
From: Dan Bloomquist <public21@lakeweb.com>
Message-ID: <4yzJh.4721$B25.425@news01.roc.ny>
Source record: 44746
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Jimmie D wrote:
> "Dan Bloomquist" <public21@lakeweb.com> wrote in message
> news:6ghJh.4761$ya1.2347@news02.roc.ny...
>
>>billcalley wrote:
>>
>>
>>> We are all told that VSWR doesn't matter when using low loss
>>>transmission lines, since the RF energy will travel from the
>>>transmitter up to the mismatched antenna, where a certain amount of
>>>this RF energy will reflect back towards the transmitter; after which
>>>the RF will then reflect back up to the antenna -- where the energy is
>>>eventually radiated after bouncing back and forth between the
>>>transmitter and antenna.
>>
>>As pointed out, VSWR does matter. A lot of bouncing means you heat the
>>transmission line with the power instead of radiating the power. 'Doesn't
>>matter', really means it can be tolerated if need be.
>>
>>
>>> I understand the concept, but what I don't
>>>quite understand is why the reflected RF energy isn't simply absorbed
>>>by the 50 ohm output of the transmitter after the first reflection?
>>>For the RF to bounce back and forth, wouldn't the transmitter's
>>>impedance have to be very, very high (or low) when the reflected RF
>>>energy hit its output stages? I know I'm missing something vital
>>>here...
>>
>>Here is what you are missing. In the case of the output, (real/resistive
>>component of the transmitter), seeing the reflected wave, it is _not_
>>reflecting that power back up the transmission line as you think it is. It
>>would go back to that real impedance and heat the transmitter. Here is
>>what is done with a miss match in the real world.
>>
>>trans-output -> match -> line -> antenna
>>
>>The 'match' is where the magic happens. All the energy coming down the
>>line that got reflected from the antenna 'sees' the 'trans-output ->
>>match' as a perfect reflector and gets bounced back[*]. On the other side
>>of the match is the trans->output. There the trans->output sees a perfect
>>impedance, (technically, the conjugate of the trans->output), so that all
>>the power travels through the match toward the antenna.
>>

>>The magic is that when the match is tuned, both of the above conditions
>>are satisfied.
>>
>>*The reflected wave sees a purely reactive reflector not just because of
>>the network but also because of the output power of the transmitter.
>>Without transmitter power the impedance as seen from the load will
>>dramatically change.
>>
>>Best, Dan.
>>
>
>
> Saying that SWR doesnt matter is a rather broad statement(like saying never
> or always) but I have know of antenna systems having an SWR of 30:1 and his
> was normal. The feedline was balanced line made of 1 inch copper. Of course
> an SWR lie this on coax could be fatal to coax and equipment. A more common
> example of this is the 1/4 wl matching section on a J-pole antenna. It
> matches 50 ohms to a few Kohms so an SWR of 60: 1 or so would not be unusal
> here.S oas long as the feedline can handle the current and voltage peaks
> without much los it doesnt matter much as long as the source impedance is
> matched to the impedance at the input to the transmission line.Im sure there
> is a practical limit though.

Hi Jimmie,
Keep in mind I'm answering in the context of the op's post. And the theoretical SWR on a stub is infinite. The point of the stub at the antenna is to keep the SWR on the transmission line in a reasonable range, to make a match if you will. To put high SWR on the feedline instead of matching at the antenna isn't a great idea in my book.

OTOH.
I finally did some sidebanding a couple of months ago. (First time on HF.) I got my hands on an old swan 500c. After changing the 6je6's and supply caps, I had to find out what it was like to get on the air. I ran outside and hung a wire between the lab and the shop. 40-50 feet. Put a couple of alligator clips on the end of a chunk of rg-58 and into the window. I started looking for the antenna through the trans-match with an antenna bridge. The tuning was very sharp, lots of Q. I don't know if I could have found it without the bridge :) I was willing to tolerate the miss match to get on the air.

Well, it worked out. I made some great QSLs across the mid west and into northern CA. I live in Vernon AZ. I'm pleased this turned out to be as great a radio location as I thought. It shouldn't be long before I get a beam on a tower. By then I'll look to match at the antenna and keep the SWR off the feed line as much as possible.

Best, Dan.

2533. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 15:53:18 UTC
From: Dan Bloomquist <public21@lakeweb.com>
Message-ID: <ONzJh.4722$B25.4692@news01.roc.ny>
Source record: 44747
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Roy Lewallen wrote:

> Yes! All that matters to the transmitter is the impedance it sees. It
> doesn't know or care that you've mathematically separated the delivered
> power into "forward" and "reverse" components. It doesn't know or care
> what the SWR is on the transmission line connected to it, or even if a
> transmission line is connected at all.

Well, without a line, you don't have a real component to tune into.
Drawing arcs on a smith chart from an open line with capacitors and
coils will only get you to another purely reactive point.

Best, Dan.

2534. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 16:05:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <ekuic4-82b.ln1@mail.specsol.com>
Source record: 44748
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

In rec.radio.amateur.antenna Roy Lewallen <w7el@eznec.com> wrote:
> David G. Nagel wrote:
> >>
> > > If you want a quick lesson in high vswr find a ham with an old tube
> > > transmitter and see if he will hook it up to a mismatched load. The
> > > cherry red plates are the reflected energy being absorbed. Transistors
> > > will just turn to smoke under the same conditions.

> Unfortunately, you'd be learning the wrong lesson.

> The cherry color is due to the transmitter being loaded with an
> impedance it's not designed for, causing the final to run at low
> efficiency. You can disconnect the antenna and replace it with a lumped
> RC or RL impedance of the same value and get exactly the same result.
> Alternatively, you can attach any combination of load and transmission
> line which give the same impedance, resulting in a wide variation of
> "reflected energy", and get exactly the same result. All that counts is
> the impedance seen by the transmitter, not the VSWR on the line or the
> "reflected power".

> The problem is that the idea of "reflected energy" turning the plates
> hot is so easy to understand, that people aren't willing to abandon it
> simply because it isn't true.

> See http://eznec.com/misc/Food_for_thought.pdf for more.

> Roy Lewallen, W7EL

The fact that any transmission line and antenna combination can be
replaced with an RLC lumped load at the transmitter output and the
transmitter can't tell the difference is something that a lot of
hams seem to have a problem understanding.

What I've never understood is why so many hams have a problem with
the concept of equivalent circuits only when antennas and transmission
lines are involved.

--
Jim Pennino

Remove .spam.sux to reply.

2535. Re: Nominal Impedance of Loop Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 16:50:04 UTC
From: richardharrison@webtv.net
Message-ID: <11651-45F6D63C-622@storefull-3253.bay.webtv.net>
Source record: 44749

Al wrote:
"Is there a nominal impedance for a loop antenna?"

Kraus` 3rd edition of "antennas" is a good reference.

From page 207 we see the radiation resistance is proportional to the square of the number of turns.
On page 209 Kraus gives a graph of radiation resistance versus loop size. We know that radiarion resistance is less the smaller the loop area. From the graph, a one-wavelength circumference loop slightly exceeds 100 ohms.

Best regards, Richard Harrison, KB5WZI

2536. Another Recall for u West Coasters

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 17:21:50 UTC
From: John Doe <hgorden@adelphia.net>
Message-ID: <XMmdnXVMZIEzQGvYnZ2dnUVZ_qunnZ2d@adelphia.com>
Source record: 44750

Recall -- Firm Press Release

FDA posts press releases and other notices of recalls and market withdrawals from the firms involved as a service to consumers, the media, and other interested parties. FDA does not endorse either the product or the company. This listserv covers mainly Class I (life-threatening) recalls. A complete listing of recalls can be found in the FDA Enforcement Report at: http://www.fda.gov/opacom/Enforce.html

WinCo Foods Recalls Bread in California and Nevada
Contact:
Michael Read
208-762-2011

FOR IMMEDIATE RELEASE -- Boise, Idaho, -- March 9, 2007 -- WinCo Foods announced today that it is voluntarily recalling several bread products packaged under the Cascade Pride label and sold at its WinCo Foods stores in California and Nevada. The Cascade Pride products, manufactured for WinCo Foods by Safeway Inc., may contain wire fragments from production machinery. The recall does not affect WinCo Foods stores in Washington, Oregon, or Idaho.

The recall affects the following products with a "Best Before" date of March 15, 2007.

Product
UPC Code #
Best Before Mar 15

Cascade Pride Crushed Wheat Bread
17072-00003
X

Cascade Pride 100% Wheat Bread
17072-00007
X

Cascade Pride Butter Top White Bread
17072-00008
X

Cascade Pride White 24 oz. Bread
17072-00017
X

Cascade Pride Wheat 24 oz. Bread
17072-00018

X

Cascade Pride Butter Top Wheat Bread
17072-00021
X

Cascade Pride White Sandwich Bread
17072-00022
X

Cascade Pride Wheat Sandwich Bread
17072-00023
X

Cascade Pride Texas Toast
17072-00068
X

Cascade Pride Maple Toast
17072-00069
X

Cascade Pride White 16 oz.
17072-00101
X

Cascade Pride Wheat 16 oz.
17072-00102
X

The "Best Before" date can be found on the bread bag's plastic closure. The UPC number can be found on the bottom panel of the bread bag. Customers who purchased these products may return the products to their local store for a full refund.

While Safeway has received a few complaints about the products, WinCo Foods has not received any complaints to date. No injuries have been reported. Safeway has assured WinCo that the production machinery in question has been repaired and the production line cleaned. WinCo Foods values its customers and regrets the inconvenience or concern that this voluntary recall may cause

####

2537. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 17:41:02 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45f6de57$0$17190$4c368faf@roadrunner.com>
Source record: 44751
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

"Dan Bloomquist" <public21@lakeweb.com> wrote in message
news:4yzJh.4721$B25.425@news01.roc.ny...
> Jimmie D wrote:
>> "Dan Bloomquist" <public21@lakeweb.com> wrote in message
>> news:6ghJh.4761$ya1.2347@news02.roc.ny...
>>
>

> Hi Jimmie,
> Keep in mind I'm answering in the context of the op's post. And the
> theoretical SWR on a stub is infinite. The point of the stub at the
> antenna is to keep the SWR on the transmission line in a reasonable range,
> to make a match if you will. To put high SWR on the feedline instead of
> matching at the antenna isn't a great idea in my book.

Sure yoiu can, that stub is a transmission line. It would matter if it s a
1/4 wl long or 21 1/4 wl long. If it is designed to handle the current and
voltage peaks it can transmit power with low loss when a high VSWR is
present. Its just that most people dont make there feedlines out of inch
copper tubing. Even with 450 ohm ladder line 10:1 VSWR is very acceptable.

2538. Re: Vertical above the ground-plane

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 18:23:18 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <fmqdv2ls3t08e690b0ipls57j4e13jn5oq@4ax.com>
Source record: 44753

On Tue, 13 Mar 2007 11:15:55 -0400, Buck <usenet01@lumpuckeroo.com>
wrote:

>I have a situation where I would like to install a vertical wire above
>a fiberglass pole I have in the center of the yard. However, I must
>keep the coax off the ground so I can only feed it about 7 feet from
>the ground so people and the mower can get underneath. (rental
>property).
>
>I want to setup a 20 or 30 meter vertical and run ground radials from
>the base of the pole where the wires can be buried. Is it possible to
>feed the antenna above the ground plane? for example, I have ground
>radials connected to a seven foot vertical wire, the shield side, and
>the center side of the coax would continue upwards to the top, or
>appropriate height on the pole.
>
>Thanks
>Buck
>N4PGW

It sounds workable but the feed impedance is pretty high.
You might match 20 meter operation with a quarter wave feeder.
You could also mount a 20 meter ground plane at 7 feet off the ground.

John Ferrell W8CCW
"Life is easier if you learn to
plow around the stumps"

2539. Re: Vertical above the ground-plane

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 18:48:01 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <ebsdv25j5n7eqjbsr66tfc868gdckvb9h7@4ax.com>
Source record: 44754

On Tue, 13 Mar 2007 18:23:18 GMT, John Ferrell
<johnferrell@sprintmail.com> wrote:

>
>It sounds workable but the feed impedance is pretty high.
>You might match 20 meter operation with a quarter wave feeder.
>You could also mount a 20 meter ground plane at 7 feet off the ground.
>
>John Ferrell W8CCW

I wish I could, The reason the coax con come across is that it goes
directly to the house, the radials would have to be spread out over
the common-area property. I can bury the radials, but not the coax.
The mower folk will run over it without thinking if it is on the
ground, but the radials can be carried out of the way.

Buck
n4pgw
www.lumpuckeroo.com

--
73 for now
Buck, N4PGW
www.lumpuckeroo.com
N4PGW

2540. Re: Tower design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 19:06:04 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <wLWdnfhTI4WSdWvYnZ2dnUVZ_vamnZ2d@bright.net>
Source record: 44752

Dear Jimmie D.:

You certainly have some useful raw-materials and auxiliary items (crane, welding equipment). However, safety is of first importance.

Welding of the members so as to preserve strength is not simple. Put another way, one could put together and erect a structure that can stand on its own. However, once subjected to wind or other disturbances, it could fall. You are coy about your location, but if you are in a coastal or near-costal area, peak wind loads could be very large. Your soil might require especially crafted foundations.

Other than the references I suggested, I do not know an inexpensive set of design information. Use Google to see what exists. Whatever you find needs to be used with caution. Gaining a fundamental understanding from one or more of the references will put you in shape to know whether what you find on the Internet is believable. Wind pressure formulas that are found on the Internet are often wrong - at least until one knows the assumptions being used. If you need a building permit to erect a tower, you may be required to have a Professional Engineer certify that the tower conforms to reasonable standards of workmanship and the requirements of the 222G standard.

You have the part of the solution that is usually the most expensive. It is desirable to learn the critical, low cost part that allows you (and others) to be reasonably safe. Indeed, with the help of a local P.E., you may be able to clean the property and assist other radio amateurs with simple towers. Be safe.

73, Mac N8TT
--
J. Mc Laughlin; Michigan U.S.A.
Home: JCM@Power-Net.Net
"Jimmie D" <GFENDER@carolina.rr.com> wrote in message
news:45f4c764$0$4865$4c368faf@roadrunner.com...
>
> "J. Mc Laughlin" <jcm@power-net.net> wrote in message
> news:dZKdnVPmJMFXDWnYnZ2dnUVZ_oCmnZ2d@bright.net...
> > Dear Jimmie (no call sign given):
> >
> > Even towers as short, and as relatively simple as what you say you
are
> > considering, involve safety of life issues! Very expensive computer
> > programs exist that will analyze a tower, however no professional trusts
> > them until comparing what the program exports with what is calculated
> > using

> > a hand-calculator and fundamental concepts.
> >
> > Textbooks on (mechanical) statics and strength-of-materials would be
> > appropriate places to start. Even a spread sheet can be used to develop
> > computational tools, though a real HP calculator can be a great aid. A
> > good
> > mechanical engineering handbook (Mark's ?) might have the information,
but
> > might be more difficult to read. Schaum's Outline series might be
better
> > than some textbooks. Of course, you may have this sort of background
> > already.
> >
> > If you stay below 70 feet and have trees/buildings all around, wind
> > loading calculations are relatively simple. (The standard (222G) on
> > calculating serious wind loads cost about $400.)
> >
> > Give the group more of an idea of the "boundary conditions" for your
> > proposal. How wonderful to be able to contemplate having time for such
a
> > project in retirement.
> >
> > Regards, Mac N8TT
> > --
> > J. Mc Laughlin; Michigan U.S.A.
> > Home: JCM@Power-Net.Net
> > "JIMMIE" <JIMMIEDEE123@YAHOO.COM> wrote in message
> > news:1173624269.884477.154000@n33g2000cwc.googlegroups.com...
> >> I am trying to find information on build your own tower. As retirement
> >> nears I plan on having a lot more time for doing things like this and
> >> will have a few acres I can devote to an antenna farm. I wouldnt mind
> >> learning to design them from scratch but would prefer a computer
> >> program if one is available. I know to some building your own tower
> >> may not seem practical but my wife and I inherited a lot of the basic
> >> materials when her father passed away. I am especialy interested in
> >> building tubular foldover mast 50 to 70 ft tall. It seems like years
> >> ago I came across a magazine article on this that also had associated
> >> design software. Any help would be greatly appreciated.
> >>
> >> Jimmie
> >>
> >
> >
> Antenna will have to be tall enough to clear the current canopy of oaks
that
> cover the property. Materials I have on had are way more heavy duty than
> what you see towers normaly built of. such as several sections of
galvanised
> sign post The heavy U shaped stuf with the flange, dont know what you call
> it but there is probably 300 to 400 ft of this stuff, lots of rebar. I

could
> easily build something similar to a Rohn tower with this. Also have a MIG
> and Stick welder. There is maybe 2000ft of oil well drilling pipe piled
up
> out there. Wife pretty much mandated that I do something with it or get
rid
> of it. She has her ticket too so she is sympathetic to the cause. Ther is
> also a neighbor who works on heavy equipment and he has a crane. Wonder
what
> a few steaks and beers will get me. First I would like to get up my
VHF/UHF
> stuff. Nothing elaborate here just some stacked Yagi on 2M and 432 and a 5
> elemnt Yagi for 6M. The is also a lot of tublar steel some about 6 inches
in
> daimeter. with inch thick walls, I think he was making TVRO mast out of
this
> stuff at one time. Hopefully once I get the place cleaned up I might start
a
> second career, there is a big 30 x 60 ft shop on the property that should
be
> good for something. Oh, yes I do have a 50ft Rohn tower i was thinking
about
> tempoaraly erecting thi as a scafold to work off of. Just a thought.
>
> With the oil well pipe I was planning on making a base from three pieces
of
> it the screw on three pieces and weld bracing on as I go up it then add on
> three more pieces and keep going up. I figure I should easily build a 65
ft
> tower this way, maybe more. There are also some really tall southern long
> leaf pines about 30 years old on the prperty that might be good for
> something. These are some of the taler trees and I was thinking about
> stringinging soem 75/80M dipoles of of these.
>
> If I had some design info I might could start figuring out how to make the
> best use of some of this junk and get a head start on the game.
>
> Jimmie
>
>

2541. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 19:20:17 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <RPCJh.68269$as2.49890@bgtnsc05-news.ops.worldnet.att.net>
Source record: 44755

art wrote:
> On 13 Mar, 08:02, Gene Fuller <W4SZzzz...@att.net> wrote:

>
> Gene, I was just reading the archives of 2004 where you fought with
> everybody in ham radio,QEX as well as on this newsgroup as to how
> everybody was inerpretating Maxwells laws plus used a lot of
> accusatory words against Walt and many others. You couldn't push any
> of them away then so what makes you think that all are going to line
> up behind you to get rid of me? Now you are lining up with the amateur
> group and the West Coast without resolving your past disagrements with
> every body about your disagreements with Maxwell resolved . Are you
> going to start a third front about what Maxwell really meant? NASA has
> been in error before, remember the "O"
> ring saga . They then dug a hole for themselves thinking that the
> deeper they dug the closer they were to escaping, maybe you are of the
> same thinking.Think about all those clever guys that were part of MIT
> and you are going to take them on with respect to Maxwell's teachings
> or at least what you thinl he meant? I'll back MIT anyday against you
> and others with respect to electrical laws.He gave the mathematical
> analysis which all have been craving for and he gets accused of
> spreading mis information. What is it that this group and the West
> coast NASA want with respect to Gaussian arrays, remove him from all
> the text books and replace him by Stokes?
>
> Art
>

Art,

You need to learn to read more carefully. My one and only argument with Walt Maxwell was about the fuss between him and Steve Best. My position then, and still today, was that both of these experts were correct in their technical analysis.

Walt chose a novel approach involving "virtual short circuits", and Steve chose a more traditional wave model. The physical, measurable results were identical, and there would have been no way that anyone could test the difference in the two analyses by any sort of measurement.

I believe there were some harsh words in addition to the technical analysis, but I was not part of that. There was also a huge amount of chatter along the lines of 2 + 2 is not equal to 7, from our favorite nit-picker.

I have no idea why you have lumped me into something to do with MIT. I have been there a few times over the years, but I don't think that would have any connection to RRAA.

73,
Gene
W4SZ

2542. Re: Vertical above the ground-plane

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 19:44:02 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <45F6FF08.2623D183@shaw.ca>
Source record: 44756

I've had a chunk of RG-213 running across my back lawn for 5 years or
so. It was laid on, but has gradually been absorbed by the grass. From day one
it has never even come close to the lawnmower blade and I keep my grass
fairly short. The same with radial wires! Consider giving it a shot.

Irv VE6BP

Buck wrote:
>

> The mower folk will run over it without thinking if it is on the
> ground, but the radials can be carried out of the way.
>

--

Visit my HomePage at http://members.shaw.ca/finkirv/index.html
Visit my Baby Sofia website at http://members.shaw.ca/finkirv4/index.htm
Visit my OLDTIMERS website at http://members.shaw.ca/finkirv5/index.htm
---
Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

2543. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 19:48:13 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <1eDJh.144495$5j1.110071@bgtnsc04-news.ops.worldnet.att.net>
Source record: 44757

Richard Fry wrote:
> "Roy Lewallen" wrote
>> The problem is that the idea of "reflected energy" turning the plates
>> hot is so easy to understand, that people aren't willing to abandon it
>> simply because it isn't true.
> ____________
>
> But reflected energy/power does exist.
>
> For an easy example, such reflections are evident in the picture seen on
> an analog TV receiver when the match between the transmit antenna and
> the transmission connected to it is bad enough.
>
> In analog TV transmit systems with a typical 500+ foot length
> transmission line from the tx to the antenna, a 5% reflection from a
> far-end mismatch can be quite visible, showing as a "ghost" image that
> is offset from the main image as related to the round-trip propagation
> time of the transmission line.
>
> RF

Richard,

You are undoubtedly correct, but you have also demonstrated what is really the lifeblood of many arguments in RRAA. You have introduced both transient behavior and multi-frequency behavior.

Clearly these are important in the real world. However, the vast majority of models and calculations used as support for RRAA postings are steady-state and monochromatic. Anyone who stayed awake through calculus and differential equations might recall that the equations for steady-state and transient behavior are often quite different.

No one denies the existence of reflections. Some people get confused by the mathematics of power and voltage. But a big argument is about the round-trip travel of energy in the steady-state. Some people seem to believe that energy continues to flow back and forth from one end of a (mismatched) transmission line to the other under steady-state conditions, even simultaneously traveling in both directions. (Passing like ships in the night?) Since energy is a scalar quantity, and any given joule is not distinguishable from another, it is not clear how the proponents keep track of the bookkeeping, but they muddle through somehow.

73,
Gene
W4SZ

2544. Totally OT, yet very relevant

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 19:54:26 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1173815666.777420.51500@s48g2000cws.googlegroups.com>
Source record: 44758

http://www.playfuls.com/news_005052_Rock_Samples_Show_Big_Variations_In_Climate_Over_3_Million_Years.html

Interesting finding on climate variability... Remember, climate affects propagation...

denny

2545. Re: Vertical above the ground-plane

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 20:01:30 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1173816090.286859.3060@y66g2000hsf.googlegroups.com>
Source record: 44759

Hello Buck,

If I Understand you well, one wire (7 feet) runs from the buried radials up to 7 feet high. The coax runs 7 feet above the ground to your shack.

Whether it is possible depends on several things. For the lower bands (where the vertical 7 feet part is short with respect to 0.25 lambda it will work. You need to install a very good common mode (current) balun (several ones) to avoid common mode current into your coaxial cable. You will have a more or less floating ground.

Least common mode problems you will have when the vertical radiator (the part above 7 feet) is about 0.5 lambda. This high impedance will result in low current into your vertical part of you ground system. The disadvantage is that the impedance of the radiator is high, so you will get a very high VSWR inside your cable (losses).

In the case where the radiator is a quarter wave, you will have an easy match, the current in the 7 feet vertical ground wire will radiate also.

You will get problems when your 7 feet ground wire will be in the range of 0.2..0.3 lambda. The impedance seen from the top of the groundwire will be high, hence the voltage at the shield of your cable. Your common mode choke will experience high voltage (with power dissipation as a result).

When your radiator is somewhat longer then 0.5 lambda, the current in the ground will be opposite to the current in the main radiator, resulting in a bad radiation pattern for DX.

Is it possible for you to create some floating ground wires?

If possible, run some more wires from the 7 feet high feedpoint to ground. When you separate them some inches, the inductance of the 7 feet wire will reduce significantly, introducing less common mode voltage on the cable shield. This reduces the "workload" for the common mode choke.

Hope this will help you.

Wim
PA3DJS

2546. Re: Vertical above the ground-plane

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 20:06:59 UTC
From: gwatts <gwatts@frontiernet.net>
Message-ID: <DvDJh.4732$B25.3119@news01.roc.ny>
Source record: 44760

Irv Finkleman wrote:
> I've had a chunk of RG-213 running across my back lawn for 5 years or
> so. It was laid on, but has gradually been absorbed by the grass. From day one
> it has never even come close to the lawnmower blade and I keep my grass
> fairly short. The same with radial wires! Consider giving it a shot.
>
> Irv VE6BP
>
> Buck wrote:
>
>
>>The mower folk will run over it without thinking if it is on the
>>ground, but the radials can be carried out of the way.

I cut a small trench with a weed eater and put my RG-8 line in that,
held in with some galvanized fence wire cut to about a foot long and
bent into a "U" shape, one "U" every three feet or so. After five years
I have a hard time finding it, let alone cutting it with the lawn mower,
give that a try!

73,
W8LNA

2547. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 21:02:51 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F351DB63D73nonenowhere@61.9.191.5>
Source record: 44763

> Richard Fry wrote:
>> "Roy Lewallen" wrote
>>> The problem is that the idea of "reflected energy" turning the
>>> plates hot is so easy to understand, that people aren't willing to
>>> abandon it simply because it isn't true.
>> _____________
>>
>> But reflected energy/power does exist.
>>
>> For an easy example, such reflections are evident in the picture seen
>> on an analog TV receiver when the match between the transmit antenna
>> and the transmission connected to it is bad enough.
>>
>> In analog TV transmit systems with a typical 500+ foot length
>> transmission line from the tx to the antenna, a 5% reflection from a
>> far-end mismatch can be quite visible, showing as a "ghost" image
>> that is offset from the main image as related to the round-trip
>> propagation time of the transmission line.

Richard,

The round trip time on the transmission line is 1uS+, and the period of the highest modulating frequency is 0.2uS, so transient performance of the line is very important.

Run the numbers on typical ham SSB telphony where the rtt is more like 0.2uS+ and the period of the highest modulating frequency is 300uS, is it any wonder transient performance isn't critical.

So, if a solution in the steady state solution doesn't degrade the modulation, why complicate matters with pretend partial time domain solutions. It is half baked thinking in both worlds that drives the thinking that reflected power *must* be dissipated in the anode.

There is no doubt that under load end mismatch, there is a reflected wave on the transmission line, and there is no doubt that under some conditions, the anode dissipates more power, and they may be correlated, but the simplistic explanation above that is commonly touted is BS.

Owen

2548. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 21:15:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <icgjc4-p9.ln1@mail.specsol.com>
Source record: 44764
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

In rec.radio.amateur.antenna Richard Clark <kb7qhc@comcast.net> wrote:
> On Tue, 13 Mar 2007 16:05:02 GMT, jimp@specsol.spam.sux.com wrote:

> >The fact that any transmission line and antenna combination can be
> >replaced with an RLC lumped load at the transmitter output and the
> >transmitter can't tell the difference is something that a lot of
> >hams seem to have a problem understanding.

> Hi Jim,

> Would it be fair to say there are a number of Hams (no need to go into
> proportionality, could be equal number) who have difficulties of
> understanding with going from lumped, equivalent circuits to antennas
> and transmission lines?

> The two perspectives are not exclusionary nor mutually incompatible,
> only the arguers are.

I'd have to say that as soon as a circuit contains a radiator or a
transmission line the arm waving begins.

--
Jim Pennino

Remove .spam.sux to reply.

2549. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 21:19:12 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1173820752.938652.176940@l75g2000hse.googlegroups.com>
Source record: 44766
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

On Mar 12, 11:50 pm, Roy Lewallen <w...@eznec.com> wrote:
> The problem is that the idea of "reflected energy" turning the plates
> hot is so easy to understand, that people aren't willing to abandon it
> simply because it isn't true.

It also isn't true that there is no energy in the reflected wave, that
such beliefs are gobbledegook, and that RF standing wave energy
just sloshes around in a transmission line at less than light speed.
To really understand what is going on, one has to understand
superposition and interference between RF energy waves. You
are on record as not caring to understand reflected energy. Please
don't condemn those of us who are trying to understand.
--
73, Cecil, w5dxp.com

2550. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 21:34:28 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1173821668.106667.158300@n76g2000hsh.googlegroups.com>
Source record: 44767
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

On Mar 12, 11:53 pm, Roy Lewallen <w...@eznec.com> wrote:
> Yes! All that matters to the transmitter is the impedance it sees. It
> doesn't know or care that you've mathematically separated the delivered
> power into "forward" and "reverse" components. It doesn't know or care
> what the SWR is on the transmission line connected to it, or even if a
> transmission line is connected at all.

Think about this - if the transmission line is exactly one-wavelength
long
and lossless, the transmitter sees exactly the same impedance as the
load. At the load, we know reflections occur, but they are same-cycle
reflections so during steady-state with no modulation, exactly the
same
conditions exist at the transmitter as exist at the load if the
transmitter
has the same impedance as the transmission line. So even if we
cannot measure the reflections back into the transmitter, they are
no doubt, there - that is, unless one denies the existence of
reflections
in which case, one needs to explain how standing waves are possible
without reflections in a single-source system.
--
73, Cecil, w5dxp.com

2551. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 21:48:24 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <7faev2p71pdpeok7g3nuefo4op33da5o08@4ax.com>
Source record: 44768

On 13 Mar 2007 14:19:12 -0700, "Cecil Moore" <w5dxp@hotmail.com> wrote:

>On Mar 12, 11:50 pm, Roy Lewallen <w...@eznec.com> wrote:
>> The problem is that the idea of "reflected energy" turning the plates
>> hot is so easy to understand, that people aren't willing to abandon it
>> simply because it isn't true.
>
>It also isn't true that there is no energy in the reflected wave, that
>such beliefs are gobbledegook, and that RF standing wave energy
>just sloshes around in a transmission line at less than light speed.
>To really understand what is going on, one has to understand
>superposition and interference between RF energy waves. You
>are on record as not caring to understand reflected energy. Please
>don't condemn those of us who are trying to understand.

Did you guys on this thread know that it's been proven statistically that five out of four people have trouble with fractions?

Walt,W2DU

2552. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 21:49:18 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <vo6ev2lbh12l70729ocogeu02dosm168mj@4ax.com>
Source record: 44761
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

On Tue, 13 Mar 2007 16:05:02 GMT, jimp@specsol.spam.sux.com wrote:

>The fact that any transmission line and antenna combination can be
>replaced with an RLC lumped load at the transmitter output and the
>transmitter can't tell the difference is something that a lot of
>hams seem to have a problem understanding.

Hi Jim,

Would it be fair to say there are a number of Hams (no need to go into proportionality, could be equal number) who have difficulties of understanding with going from lumped, equivalent circuits to antennas and transmission lines?

The two perspectives are not exclusionary nor mutually incompatible, only the arguers are.

73's
Richard Clark, KB7QHC

2553. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 21:57:18 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <7f7ev25h79viauke3i0ftts9jimc450u9a@4ax.com>
Source record: 44762

On 13 Mar 2007 12:55:48 -0700, "art" <aunwin@insightbb.com> wrote:

> My sincere thanks to M.I.T for supplying another avenue of
>authentification

Hi Art,

Was this thanks for his misreading Gauss where it should have been
Maxwell?

73's
Richard Clark, KB7QHC

2554. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 22:15:37 UTC
From: davis@space.mit.edu
Message-ID: <slrneve8k8.i7e.davis@aluche.mit.edu>
Source record: 44769

On Tue, 13 Mar 2007 13:57:18 -0800, Richard Clark <kb7qhc@comcast.net>
wrote:
>Was this thanks for his misreading Gauss where it should have been
>Maxwell?

I do not understand your comment. If you go back and look at my first
post on this subject (Message-ID <slrnev4j3i.cd7.davis@aluche.mit.edu>),
you will see that I equated Gauss's law with the first Maxwell equation.

Gauss's law is commonly stated as:

The electric flux through a closed surface is proportional to the
amount of charge enclosed by the surface.

As I wrote before, this also happens to be the integral form of the
first Maxwell equation:

div E(x,t) = 4\pi\rho(x,t)

While Gauss may have stated this law in terms of static charges, and
it finds most applications in the static case, the law also holds for
the dynamic case. This is why physicists equate Gauss's law with the
integral form of the first Maxwell equation. And as evidence of this
association, you indirectly pointed out in Message-ID
<tma7v2dqk0b3vpt1udkgcv3j3i21lk8ulb@4ax.com> that Feynman equated the
two in the table 15-1 of volume II of his lectures.

--John

2555. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 22:17:43 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <9n8ev2pop7119tfl23aek70jsppvk1nap9@4ax.com>
Source record: 44765
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

On Tue, 13 Mar 2007 21:15:03 GMT, jimp@specsol.spam.sux.com wrote:

>> The two perspectives are not exclusionary nor mutually incompatible,
>> only the arguers are.
>
>I'd have to say that as soon as a circuit contains a radiator or a
>transmission line the arm waving begins.

Amen

2556. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 22:22:38 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <OuFJh.144893$5j1.100751@bgtnsc04-news.ops.worldnet.att.net>
Source record: 44770

Walter Maxwell wrote:
> On 13 Mar 2007 14:19:12 -0700, "Cecil Moore" <w5dxp@hotmail.com> wrote:
>
>> On Mar 12, 11:50 pm, Roy Lewallen <w...@eznec.com> wrote:
>>> The problem is that the idea of "reflected energy" turning the plates
>>> hot is so easy to understand, that people aren't willing to abandon it
>>> simply because it isn't true.
>> It also isn't true that there is no energy in the reflected wave, that
>> such beliefs are gobbledegook, and that RF standing wave energy
>> just sloshes around in a transmission line at less than light speed.
>> To really understand what is going on, one has to understand
>> superposition and interference between RF energy waves. You
>> are on record as not caring to understand reflected energy. Please
>> don't condemn those of us who are trying to understand.
>
> Did you guys on this thread know that it's been proven statistically that five
> out of four people have trouble with fractions?
>
> Walt,W2DU

Walt,

I didn't know that, but I'm dain bramaged.

73,
Gene
W4SZ

2557. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 22:28:02 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F3604C125A6nonenowhere@61.9.191.5>
Source record: 44771

Walter Maxwell <walt@w2du.com> wrote in
news:7faev2p71pdpeok7g3nuefo4op33da5o08@4ax.com:

> On 13 Mar 2007 14:19:12 -0700, "Cecil Moore" <w5dxp@hotmail.com>
> wrote:
>
> Did you guys on this thread know that it's been proven statistically
> that five out of four people have trouble with fractions?

That's vulgar!

2558. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 22:39:04 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <et7969$ku8$1@aioe.org>
Source record: 44772

"Owen Duffy" wrote
> Richard,
> The round trip time on the transmission line is 1uS+, and the period of
> the highest modulating frequency is 0.2uS, so transient performance of
> the line is very important.

Sorry, sir, but quite a few decades of experience in the analog TV broadcast industry show otherwise (not to mention an accurate theoretical analysis of this condition).

For example, a reflection within an analog TV broadcast signal that is delayed by one microsecond from the main image equates to something like a 10% horizontal displacement of that reflected, or "ghost" image from the main image (525/60Hz TV standard).

A ghost television image amounting to 5% of the main image, and offset by 10% of the width of even a fairly small display screen is not difficult to see (or to be objected to) by an "average" observer at an "average" viewing distance from that display screen.

Reflected r-f power may be less of a concern to amateur radio operators than it is to commercial operators, but that doesn't mean that reflected power is non-existent, or even unimportant.

RF http://rfry.org

2559. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 22:49:08 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F363E00C73Dnonenowhere@61.9.191.5>
Source record: 44773

"Richard Fry" <rfry@adams.net> wrote in news:et7969$ku8$1@aioe.org:

> "Owen Duffy" wrote
>> Richard,
>> The round trip time on the transmission line is 1uS+, and the period
>> of the highest modulating frequency is 0.2uS, so transient
>> performance of the line is very important.
> ____________
>
> Sorry, sir, but quite a few decades of experience in the analog TV
> broadcast industry show otherwise (not to mention an accurate
> theoretical analysis of this condition).

Richard, I don't think you read my words. You are disagreeing with my proposition that transient performance of the line is very important (in the TV example you cited).

Owen

2560. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-13 23:23:21 UTC
From: Uncle Peter <radioconnection@cox.net>
Message-ID: <NnGJh.2136$nh4.866@newsfe20.lga>
Source record: 44774
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

"Bob" <bob9@mailinator.com> wrote in message
news:1173670786.270375.270780@64g2000cwx.googlegroups.com...
> On Mar 12, 1:08 am, "billcalley" <billcal...@yahoo.com> wrote:
>> We are all told that VSWR doesn't matter when using low loss
>> transmission lines,
>
> No, we are not all told that.
> > The active part of the transmitter output isn't 50 ohm.
> That would cause half the power to be lost as heat in
> the output stage. It's only 50ohm once it becomes a moving
> wave in the transmission line.
>
> Bob9
>

In that case...

Half power is only lost when terminated to a 50-ohm load;
i.e. no standing waves. What happens when there's a
mismatch and reflected energy :)

I'll go stand in a corner...

2561. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 01:33:30 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <eqdev2111k2kgfgnatim1hq5a3kf4gd9av@4ax.com>
Source record: 44775

On 13 Mar 2007 22:15:37 GMT, davis@space.mit.edu (John E. Davis) wrote:

>I do not understand your comment.

Hi John,

It was rather explicit. To have disputed Dave's assertion with additional material that substantiated him, makes for a rather strange reading of Feynman.

As Art is presenting material that he has drawn time into Gauss' work through his own invention exclusive of all other's, you have become his touchstone as vouchsafing his claim. You can bow out once again, of course, and become a martyr instead. Or you can indulge us with a dialog with Art.

73's
Richard Clark, KB7QHC

2562. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 01:38:36 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45f74e46$0$28143$4c368faf@roadrunner.com>
Source record: 44676
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

"Uncle Peter" <radioconnection@cox.net> wrote in message
news:NnGJh.2136$nh4.866@newsfe20.lga...
>
> "Bob" <bob9@mailinator.com> wrote in message
> news:1173670786.270375.270780@64g2000cwx.googlegroups.com...
>> On Mar 12, 1:08 am, "billcalley" <billcal...@yahoo.com> wrote:
>>> We are all told that VSWR doesn't matter when using low loss
>>> transmission lines,
>>
>> No, we are not all told that.
>> > The active part of the transmitter output isn't 50 ohm.
>> That would cause half the power to be lost as heat in
>> the output stage. It's only 50ohm once it becomes a moving
>> wave in the transmission line.
>>
>> Bob9
>>
>
> In that case...
>
> Half power is only lost when terminated to a 50-ohm load;
> i.e. no standing waves. What happens when there's a
> mismatch and reflected energy :)
>
>
>
> I'll go stand in a corner...
>

A mismatch where, between the feedline and the antenna, feedline and source,
source and impedance seen at the input to the feedline.

Jimmie

2563. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 02:27:55 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <l1qev2pog993efrqv8f6ij5rjfkevqvd83@4ax.com>
Source record: 44677

On Tue, 13 Mar 2007 17:39:04 -0500, "Richard Fry" <rfry@adams.net> wrote:

>"Owen Duffy" wrote
>> Richard,
>> The round trip time on the transmission line is 1uS+, and the period of
>> the highest modulating frequency is 0.2uS, so transient performance of
>> the line is very important.
>_____________
>
>Sorry, sir, but quite a few decades of experience in the analog TV broadcast
>industry show otherwise (not to mention an accurate theoretical analysis of
>this condition).
>
>For example, a reflection within an analog TV broadcast signal that is
>delayed by one microsecond from the main image equates to something like a
>10% horizontal displacement of that reflected, or "ghost" image from the
>main image (525/60Hz TV standard).
>
>A ghost television image amounting to 5% of the main image, and offset by
>10% of the width of even a fairly small display screen is not difficult to
>see (or to be objected to) by an "average" observer at an "average" viewing
>distance from that display screen.
>
>Reflected r-f power may be less of a concern to amateur radio operators than
>it is to commercial operators, but that doesn't mean that reflected power is
>non-existent, or even unimportant.
>
>RF http://rfry.org

I know that Roy was heavily involved with TDR at Tektronix years ago. I began working at the RCA Laboratories' antenna lab in 1958. I don't know what Tektronix was doing relative to TDR at that time, but one of my colleagues at the lab was Donald Peterson. Don was then working on TDR, and to our knowledge then, his work on the subject was new. His experiments showed that using TDR we could spot problems in a TV TX transmission line that was causing ghosts. Using Don's technique, he traveled to many TV stations around the country that had ghost problems, and with TDR he was able to determine the precise location of a discontinuity in the transmission line that produced a reflection that caused the ghost.

That was over 40 years ago, but I seem to remember that any discontinuity that resulted in a VSWR greater than 1.005:1 produced a ghost that could not be tolerated in the transmitted picture.

I'm sure this is the magnitude of reflections Richard F. is referring to.

Walt, W2DU

2564. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 02:29:50 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <d0rev2tfqhcjftrsi5c2slcap73is4mg5f@4ax.com>
Source record: 44678

On Tue, 13 Mar 2007 22:28:02 GMT, Owen Duffy <none@no.where> wrote:

>Walter Maxwell <walt@w2du.com> wrote in
>news:7faev2p71pdpeok7g3nuefo4op33da5o08@4ax.com:
>
>> On 13 Mar 2007 14:19:12 -0700, "Cecil Moore" <w5dxp@hotmail.com>
>> wrote:
>>
>> Did you guys on this thread know that it's been proven statistically
>> that five out of four people have trouble with fractions?
>
>That's vulgar!

The stat ement or the fractions?

Walt, W2DU

2565. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 02:51:29 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <h7sev21qvo9jkuqn7h1878g4g7jk3isj54@4ax.com>
Source record: 44679

On Tue, 13 Mar 2007 22:22:38 GMT, Gene Fuller <W4SZzzzzzz@att.net> wrote:

>Walter Maxwell wrote:
>> On 13 Mar 2007 14:19:12 -0700, "Cecil Moore" <w5dxp@hotmail.com> wrote:
>>
>>> On Mar 12, 11:50 pm, Roy Lewallen <w...@eznec.com> wrote:
>>>> The problem is that the idea of "reflected energy" turning the plates
>>>> hot is so easy to understand, that people aren't willing to abandon it
>>>> simply because it isn't true.
>>> It also isn't true that there is no energy in the reflected wave, that
>>> such beliefs are gobbledegook, and that RF standing wave energy
>>> just sloshes around in a transmission line at less than light speed.
>>> To really understand what is going on, one has to understand
>>> superposition and interference between RF energy waves. You
>>> are on record as not caring to understand reflected energy. Please
>>> don't condemn those of us who are trying to understand.
>>
>> Did you guys on this thread know that it's been proven statistically that five
>> out of four people have trouble with fractions?
>>
>> Walt,W2DU
>
>
>Walt,
>
>I didn't know that, but I'm dain bramaged.
>
>73,
>Gene
>W4SZ

Gene, are you aware that religious dyslecsics pray to their dog?

Walt

2566. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 03:51:01 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F3970E74A97nonenowhere@61.9.191.5>
Source record: 44680

Walter Maxwell <walt@w2du.com> wrote in
news:d0rev2tfqhcjftrsi5c2slcap73is4mg5f@4ax.com:

> On Tue, 13 Mar 2007 22:28:02 GMT, Owen Duffy <none@no.where> wrote:
>
>>Walter Maxwell <walt@w2du.com> wrote in
>>news:7faev2p71pdpeok7g3nuefo4op33da5o08@4ax.com:
>>
>>> On 13 Mar 2007 14:19:12 -0700, "Cecil Moore" <w5dxp@hotmail.com>
>>> wrote:
>>>
>>> Did you guys on this thread know that it's been proven statistically
>>> that five out of four people have trouble with fractions?
>>
>>That's vulgar!
>
> The stat ement or the fractions?

5/4

2567. Re: Wire span design tool

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 03:57:29 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F39827545DEnonenowhere@61.9.191.5>
Source record: 44681

Richard Clark <kb7qhc@comcast.net> wrote in
news:27sbv29kqq7m4os97hlren97pomchg8tsd@4ax.com:

> On Mon, 12 Mar 2007 20:10:10 GMT, Owen Duffy <none@no.where> wrote:
>
>>Ok, so it is not for you apparently.
>>
> Hi Owen,
>
> So you found the comments and references unappealing. Does that
> invalidate them being constructive? As you do not offer the
> mathematics to appraise, only a calculator to work; what constructive
> commentary did you expect when someone runs an example? The color of
> the box or the size of the font?

I took your comments on board, and have made some changes. The mathematics aren't original or challenging, and in fact the results do show the detail of the model fitted to the data.

The comments are appreciated though, thanks.

73
Owen

2568. Re: Vertical above the ground-plane

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 05:23:38 UTC
From: tk5ep <pegloff@gmail.com>
Message-ID: <mn.717f7d73c4ad97cb.71462@gmail.com>
Source record: 44682

Just a silly question, did you consider the C-pole antenna ?
It could be a solution to you problem as it does NOT need any radials.
It is a much ignored antenna. I made intensive simulations with 4nec2
and the results are very interesting. The only problem is the feed
point on which you need a choking system.

73, Patrick TK5EP
http://tk5ep.fre.fr

Buck a exposï¿œ le 13/03/2007 :
> I have a situation where I would like to install a vertical wire above
> a fiberglass pole I have in the center of the yard. However, I must
> keep the coax off the ground so I can only feed it about 7 feet from
> the ground so people and the mower can get underneath. (rental
> property).
>
> I want to setup a 20 or 30 meter vertical and run ground radials from
> the base of the pole where the wires can be buried. Is it possible to
> feed the antenna above the ground plane? for example, I have ground
> radials connected to a seven foot vertical wire, the shield side, and
> the center side of the coax would continue upwards to the top, or
> appropriate height on the pole.
>
> Thanks
> Buck
> N4PGW

2569. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 05:53:43 UTC
From: Tom Donaly <dtdonaly@sbcglobal.net>
Message-ID: <H5MJh.10129$uo3.3242@newssvr14.news.prodigy.net>
Source record: 44683

John E. Davis wrote:
> On Tue, 13 Mar 2007 13:57:18 -0800, Richard Clark <kb7qhc@comcast.net>
> wrote:
>> Was this thanks for his misreading Gauss where it should have been
>> Maxwell?
>
> I do not understand your comment. If you go back and look at my first
> post on this subject (Message-ID <slrnev4j3i.cd7.davis@aluche.mit.edu>),
> you will see that I equated Gauss's law with the first Maxwell equation.
>
> Gauss's law is commonly stated as:
>
> The electric flux through a closed surface is proportional to the
> amount of charge enclosed by the surface.
>
> As I wrote before, this also happens to be the integral form of the
> first Maxwell equation:
>
> div E(x,t) = 4\pi\rho(x,t)
>
> While Gauss may have stated this law in terms of static charges, and
> it finds most applications in the static case, the law also holds for
> the dynamic case. This is why physicists equate Gauss's law with the
> integral form of the first Maxwell equation. And as evidence of this
> association, you indirectly pointed out in Message-ID
> <tma7v2dqk0b3vpt1udkgcv3j3i21lk8ulb@4ax.com> that Feynman equated the
> two in the table 15-1 of volume II of his lectures.
>
> --John

Using the MKSA system, Gauss' law is expressed as div D = rho. Art can
take the time derivative of both sides, if he wants to, in which case he
gets div d(D)/dt = d(rho)/dt. This doesn't mean much except that it's
what you end up with when you take the divergence of both sides of
the Maxwell equation curl H = j + d(D)/dt, and then apply the equation
of continuity where it fits. (You have to pretend the 'd's'
in each equation are the funny little Greek letters that signify
partial differentiation.) Feynman didn't like to use the magnetic field
intensity vector H or the electric flux density vector D
so he used their B and E equivalents in his presentation of Maxwell's
equations in his _Lectures on Physics_. I guess you could start an
argument over whether or not H and D have physical significance, but
don't ask me to join in.
John, I think you might want to re-think your equation div

E(x,t)=4\pi\rho(x,t).
73,
Tom Donaly, KA6RUH

2570. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 11:29:45 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <et8mbb$ki2$1@aioe.org>
Source record: 44684

"Walter Maxwell" wrote:
> That was over 40 years ago, but I seem to remember that any
> discontinuity that resulted in a VSWR greater than 1.005:1
> produced a ghost that could not be tolerated in the transmitted picture.
> I'm sure this is the magnitude of reflections Richard F. is referring to.

Analog TV transmission is not quite that sensitive to VSWR, fortunately. Matti Siukola of the RCA Broadcast TV antenna group in Gibbsboro, NJ did some experimental work showing that a 1% reflection (1.02 VSWR) or less is unnoticeable to a critical observer, a 3% reflection (1.06 VSWR) is noticeable but tolerable, and a 5% reflection (about 1.1 VSWR) and above is objectionable. These values applied to the r-f spectrum from visual carrier (Fcv) to Fcv +2.5 MHz or so, and for transmission line lengths of 500 feet and more from the tx to the antenna.

These parameters were measured using an r-f pulse at the visual carrier frequency having the transition times and r-f bandwidth corresponding to the maximum bandwidth limits of the TV channel, only.

The more conventional broadband TDRs used a very short pulse with energy from DC to far beyond the limits of the TV channel. It could resolve small discontinuities along the transmission line, but many of them had no affect on the quality of the transmitted television image, as they were not present in the r-f spectrum of the TV signal. And the pulse return of a wideband TDR is extremely high from the TV transmit antenna itself, which is a DC short across the far end of the line.

RF (RCA Broadcast Field Engineer, 1965-1980)

2571. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 11:53:55 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12vfoili3g58nba@corp.supernews.com>
Source record: 44686

Yes, there's no simple correlation between VSWR at a particular frequency and the reflection coefficient seen by a step or pulse type TDR. As Richard pointed out, these TDRs have energy extending from DC (the step type) or some relatively low frequency (pulse type) to extremely high frequencies. The units I was involved in designing had a 3 dB frequency response and step content of up to 60 GHz. The phase has to be quite constant over this entire bandwidth, also, for good step fidelity. This very wide bandwidth is necessary to produce a fast step and step response (on the order of 10 - 15 ps for the units I worked with) in order to resolve anomalies which are physically very close together. It is possible to translate a TDR return into a spectrum of complex reflection coefficients (that is, a plot of reflection coefficient or SWR vs frequency), but this requires a Fourier transform. However, the energy content at any particular frequency is very small, so many repetitions have to be integrated to provide a usable signal/noise ratio. Likewise, a network analyzer can be swept over a very wide frequency range and S11 converted to a TDR waveform by use of an inverse Fourier transform.

Because of the major difference in spectral content and methodology, a lot of care has to be taken in translating what you observe with a TDR system to what happens in a steady-state single frequency situation. For just one example, with a TDR you can easily tell the difference between a transmission line and load, and a lumped RC or RL circuit. You can also easily see the difference if you use a signal generator and make measurements at several different frequencies. Or if you watch the transient behavior as you turn the generator on and off (as in the frequency-limited TDR Richard described). But in a single frequency steady state system, you can't tell any difference whatsoever, provided that you choose the RC or RL to have the same terminal impedance as the original transmission line/load combination. Whatever effects are seen with all the "forward" and "reverse" power and energy bouncing around the line are seen exactly the same with no line at all and just an RC or RL as a load. So any explanation of the effects (such as the red plates of the mismatched transmitter posed earlier) has to be made without resorting to the bouncing energy. Why that seems so difficult for so many to do is a puzzle.

Roy Lewallen, W7EL

Richard Fry wrote:
> "Walter Maxwell" wrote:
>> That was over 40 years ago, but I seem to remember that any
>> discontinuity that resulted in a VSWR greater than 1.005:1
>> produced a ghost that could not be tolerated in the transmitted picture.

>> I'm sure this is the magnitude of reflections Richard F. is referring to.
> ___________
>
> Analog TV transmission is not quite that sensitive to VSWR, fortunately.
> Matti Siukola of the RCA Broadcast TV antenna group in Gibbsboro, NJ did
> some experimental work showing that a 1% reflection (1.02 VSWR) or less
> is unnoticeable to a critical observer, a 3% reflection (1.06 VSWR) is
> noticeable but tolerable, and a 5% reflection (about 1.1 VSWR) and above
> is objectionable. These values applied to the r-f spectrum from visual
> carrier (Fcv) to Fcv +2.5 MHz or so, and for transmission line lengths
> of 500 feet and more from the tx to the antenna.
>
> These parameters were measured using an r-f pulse at the visual carrier
> frequency having the transition times and r-f bandwidth corresponding to
> the maximum bandwidth limits of the TV channel, only.
>
> The more conventional broadband TDRs used a very short pulse with energy
> from DC to far beyond the limits of the TV channel. It could resolve
> small discontinuities along the transmission line, but many of them had
> no affect on the quality of the transmitted television image, as they
> were not present in the r-f spectrum of the TV signal. And the pulse
> return of a wideband TDR is extremely high from the TV transmit antenna
> itself, which is a DC short across the far end of the line.
>
> RF (RCA Broadcast Field Engineer, 1965-1980)

2572. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 12:46:58 UTC
From: Tim Williams <tmoranwms@charter.net>
Message-ID: <AfRJh.2$H6.0@newsfe03.lga>
Source record: 44685
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

"Richard Fry" <rfry@adams.net> wrote in message
news:et6e3vlih1@aioe.org...
> In analog TV transmit systems with a typical 500+ foot length transmission
> line from the tx to the antenna, a 5% reflection from a far-end mismatch
can
> be quite visible, showing as a "ghost" image that is offset from the main
> image as related to the round-trip propagation time of the transmission
> line.

I've noticed that, at least in this area, Fox 39 (WQRF) has a ghost of a few
microseconds (I forget what exactly, I've calculated it before). Something
like 500 feet, IIRC.

Tim

--
Deep Fryer: A very philosophical monk.
Website @ http://webpages.charter.net/dawill/tmoranwms

2573. Re: Tower design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 13:04:52 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <ipqfv21iiqdt9eefv8vc9e6klr1f64slde@4ax.com>
Source record: 44687

On 11 Mar 2007 07:44:30 -0700, "JIMMIE" <JIMMIEDEE123@YAHOO.COM>
wrote:

>I am trying to find information on build your own tower. As retirement
>nears I plan on having a lot more time for doing things like this and
>will have a few acres I can devote to an antenna farm. I wouldnt mind
>learning to design them from scratch but would prefer a computer
>program if one is available. I know to some building your own tower
>may not seem practical but my wife and I inherited a lot of the basic
>materials when her father passed away. I am especialy interested in
>building tubular foldover mast 50 to 70 ft tall. It seems like years
>ago I came across a magazine article on this that also had associated
>design software. Any help would be greatly appreciated.
>
>Jimmie
I have a Wilson crank up mast that I purchased in about 1980. It was
originally a 77 foot tower but a failure early in its life led to
removal of the top section. The failure was due to a torsional load
(48 element collinear on 440mhz) and other antennas. The section that
failed was about 3 inches in diameter. I appears to be pretty much the
same as what US Tower is selling today.

I have performed needed maintenance through the years and even moved
it from Ohio to North Carolina. In Ohio it was installed as a guyed
tower. It is currently installed un guyed with a home brew device that
allows me to lay it over to work on antennas on the ground.

I feel that every aspect of the mechanism is critical. If it was any
heavier the electric boat winch could not handle the extent ion. If I
had much more weight on the top, the lay over wench (and I-Beam) would
be challenged. It is built just loose enough to not hang on retraction
but not rattle excessively in the wind. I don't even want to think
about what would happen if it jammed on retraction!

The galvanizing is worn off the outside but still in good shape on the
inside. I have replaced a couple of the pulleys and one of the cables
along with miscellaneous clips & such.

When you deal with this thing it is better to think in terms of a
sailboat mast rather than a tower. Most loads you apply try to put a
crease in the tubing or load the extent ion cables.

Your suggested project would require more patience that I have. It
only takes a few hours of welding for me to want to do something else!

I would sell the old tubing & buy a new crank up mast.

BTW, I am currently trying to figure out how I can safely plant a 40
foot utility pole that was a gift....

John Ferrell W8CCW
"Life is easier if you learn to
plow around the stumps"

2574. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 14:09:13 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1173881353.465339.242610@e65g2000hsc.googlegroups.com>
Source record: 44688

On Mar 13, 2:48 pm, Gene Fuller <W4SZzzz...@att.net> wrote:
> No one denies the existence of reflections.

But some people deny that there is any energy in the reflections -
see below. :-)

> But a big argument is about the
> round-trip travel of energy in the steady-state. Some people seem to
> believe that energy continues to flow back and forth from one end of a
> (mismatched) transmission line to the other under steady-state
> conditions, even simultaneously traveling in both directions. (Passing
> like ships in the night?) Since energy is a scalar quantity, and any
> given joule is not distinguishable from another, it is not clear how the
> proponents keep track of the bookkeeping, but they muddle through somehow.

Again Gene, to be able to prove your point, you need to present an
example of a standing wave that exists without a forward traveling
energy wave and a reverse traveling energy wave. You keep implying
that is possible, but have presented no proof.

Water is also a scalar. If you had one gallon per minute flowing into
a barrel and two gallons per minute flowing out of the barrel, would
you argue that there is no water flowing into the barrel and only one
gallon of water flowing out of the barrel? Or would you say the *net*
water flow is one barrel per minute out of the barrel?
--
73, Cecil, w5dxp.com

2575. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 14:29:56 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1173882596.331015.324330@n76g2000hsh.googlegroups.com>
Source record: 44689

On Mar 13, 9:27 pm, Walter Maxwell <w...@w2du.com> wrote:
> That was over 40 years ago, but I seem to remember that any discontinuity that
> resulted in a VSWR greater than 1.005:1 produced a ghost that could not be
> tolerated in the transmitted picture.

And of course, the same thing can happen in a simple system consisting
of
a TV source, a transmission line, and a mismatched load. TV ghosting
can
prove that the reflected traveling waves make multiple round trips to
the load
and back to the source, yet many continue to deny that proof. The best
(copout) argument that I have heard against it is that, "That is not
steady-state",
and therefore doesn't count. :-)
--
73, Cecil, w5dxp.com

2576. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 14:58:43 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1173884323.050419.171420@e1g2000hsg.googlegroups.com>
Source record: 44690

On Mar 14, 6:53 am, Roy Lewallen <w...@eznec.com> wrote:
> So any explanation of the effects (such as the red plates
> of the mismatched transmitter posed earlier) has to be made without
> resorting to the bouncing energy.

That's simply not true. When the load is connected directly to the source, incident power is often still rejected, it just doesn't have very far to "bounce". And since it is internal to the source, the "bouncing" is difficult if not impossible to quantitize.

If you hang a purly reactive load on a source output, it rejects all the the incident power just like it does at the end of a one-wavelength long transmission line. If we leave the source output terminals open, i.e. an infinite impedance, all of the source power is rejected at the source output terminal, i.e. there is a standing wave on the internal wire (often coax) connected to the source connector.

In the same way that a source doesn't know whether it is connected to a transmission line or a lumped circuit, a purely reactive load doesn't know whether it is connected to a source or to a transmission line. Either way, it does an immediate rejection of incident power. Whether the load is connected to a transmission line or directly to a source, the reflection at the load is a same-cycle reflection. Since it happens at the load with a transmission line, why are you surprised that it happens at the load with a source?
--
73, Cecil, w5dxp.com

2577. Re: Vertical above the ground-plane

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 15:34:19 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <mc5gv25p2cju6rkeotk054h0opdgielv62@4ax.com>
Source record: 44691

I hear that RG-8 shouldn't be buried, but if not, the reason for the
problem is the hired help with the mower people. They either will
chop it up or won't cut near it and complain to the land lord. He
hasn't complained about what we have so far, so I am keeping it low
key until we can find a better, ham-friendly place in which to move.

Thank you,
Buck
N4pgw

On Tue, 13 Mar 2007 19:44:02 GMT, Irv Finkleman <finkirv@shaw.ca>
wrote:

>I've had a chunk of RG-213 running across my back lawn for 5 years or
>so. It was laid on, but has gradually been absorbed by the grass. From day one
>it has never even come close to the lawnmower blade and I keep my grass
>fairly short. The same with radial wires! Consider giving it a shot.
>
>Irv VE6BP
>
>Buck wrote:
>>
>
>> The mower folk will run over it without thinking if it is on the
>> ground, but the radials can be carried out of the way.
>>

--
73 for now
Buck, N4PGW
www.lumpuckeroo.com
N4PGW

2578. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 15:34:31 UTC
From: davis@space.mit.edu
Message-ID: <slrnevg5g4.f3.davis@aluche.mit.edu>
Source record: 44692

On Wed, 14 Mar 2007 05:53:43 GMT, Tom Donaly <dtdonaly@sbcglobal.net>
wrote:
> John, I think you might want to re-think your equation div
>E(x,t)=4\pi\rho(x,t).

It is not my equation--- it is the first Maxwell equation (expressed
using Gaussian units). I did not make it up, nor did I add the
time-dependence as another poster suggested.

--John

2579. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 16:27:28 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <d2cgv2504rc26fk6m4g96pam611fcdu1u9@4ax.com>
Source record: 44693

On Wed, 14 Mar 2007 03:51:01 GMT, Owen Duffy <none@no.where> wrote:

>Walter Maxwell <walt@w2du.com> wrote in
>news:d0rev2tfqhcjftrsi5c2slcap73is4mg5f@4ax.com:
>
>> On Tue, 13 Mar 2007 22:28:02 GMT, Owen Duffy <none@no.where> wrote:
>>
>>>Walter Maxwell <walt@w2du.com> wrote in
>>>news:7faev2p71pdpeok7g3nuefo4op33da5o08@4ax.com:
>>>
>>>> On 13 Mar 2007 14:19:12 -0700, "Cecil Moore" <w5dxp@hotmail.com>
>>>> wrote:
>>>>
>>>> Did you guys on this thread know that it's been proven statistically
>>>> that five out of four people have trouble with fractions?
>>>
>>>That's vulgar!
>>
>> The stat ement or the fractions?
>
>5/4
>
Yer right, that's what I thought you mean't.

Walt

2580. Re: Vertical above the ground-plane

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 16:42:23 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <PBVJh.1343$qe5.559@trnddc05>
Source record: 44694

"Buck" <usenet01@lumpuckeroo.com> wrote in message
news:mc5gv25p2cju6rkeotk054h0opdgielv62@4ax.com...
>I hear that RG-8 shouldn't be buried, but if not, the reason for the
> problem is the hired help with the mower people. They either will
> chop it up or won't cut near it and complain to the land lord. He
> hasn't complained about what we have so far, so I am keeping it low
> key until we can find a better, ham-friendly place in which to move.
>
> Thank you,
> Buck
> N4pgw
>
>
> On Tue, 13 Mar 2007 19:44:02 GMT, Irv Finkleman <finkirv@shaw.ca>
> wrote:
>
>>I've had a chunk of RG-213 running across my back lawn for 5 years or
>>so. It was laid on, but has gradually been absorbed by the grass. From
>>day one
>>it has never even come close to the lawnmower blade and I keep my grass
>>fairly short. The same with radial wires! Consider giving it a shot.
>>
>>Irv VE6BP
>>
>>Buck wrote:
>>>
>>
>>> The mower folk will run over it without thinking if it is on the
>>> ground, but the radials can be carried out of the way.
>>>
>
> --
> 73 for now
> Buck, N4PGW

Hi Buck

Are you interested in experimenting? I would have tried something like
this ----

Run the RG-8 from the "building" to the monopole parallel to the ground
and 7 feet above it. Drop it down parallel to the monopole a few inches
from it all the way to the ground. At the ground, connect the coax the
same way a conventional monopole is connected.

Any low loss, high dielectric constant, material in the immediate vicinity of the parallel coax and monopole will help. A coiled coax type "balun" at the antenna end of the horizontal coax will really be needed too.

I have no idea if you want to "play" with antenna ideas. And, I have no certainty that the antenna would work anyway.

Jerry

2581. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 17:09:27 UTC
From: Tom Donaly <dtdonaly@sbcglobal.net>
Message-ID: <y%VJh.4079$tv6.3188@newssvr19.news.prodigy.net>
Source record: 44695

John E. Davis wrote:
> On Wed, 14 Mar 2007 05:53:43 GMT, Tom Donaly <dtdonaly@sbcglobal.net>
> wrote:
>> John, I think you might want to re-think your equation div
>> E(x,t)=4\pi\rho(x,t).
>
> It is not my equation--- it is the first Maxwell equation (expressed
> using Gaussian units). I did not make it up, nor did I add the
> time-dependence as another poster suggested.
>
> --John

Different texts have Maxwell's equations in different order. What text did you get this from? Becker has it (in Gaussian CGS units) as div D = 4\pi\rho (where the backslash indicates multiplication, and D and rho have the usual meanings. You can add the 't' if you want to, but it's unnecessary. Also, since you're dealing in 3 dimensions, why not indicate them as in E(x,y,z), or E(x,y,z,t) (if the time means something to you)?
73,
Tom Donaly, KA6RUH

2582. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 17:24:28 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <gdWJh.73527$as2.57780@bgtnsc05-news.ops.worldnet.att.net>
Source record: 44696

Cecil Moore wrote:
> On Mar 13, 2:48 pm, Gene Fuller <W4SZzzz...@att.net> wrote:
>> No one denies the existence of reflections.
>
> But some people deny that there is any energy in the reflections -
> see below. :-)
>
>
>> But a big argument is about the
>> round-trip travel of energy in the steady-state. Some people seem to
>> believe that energy continues to flow back and forth from one end of a
>> (mismatched) transmission line to the other under steady-state
>> conditions, even simultaneously traveling in both directions. (Passing
>> like ships in the night?) Since energy is a scalar quantity, and any
>> given joule is not distinguishable from another, it is not clear how the
>> proponents keep track of the bookkeeping, but they muddle through somehow.
>
> Again Gene, to be able to prove your point, you need to present an
> example of a standing wave that exists without a forward traveling
> energy wave and a reverse traveling energy wave. You keep implying
> that is possible, but have presented no proof.

Au contraire, mon frere. You continue to claim that a standing wave MUST
be made up of two traveling waves, but without proof.

My contention is that this distinction is merely a matter of
mathematical preference. When standing waves occur, there is absolutely
no physical difference between the standing wave and its traveling wave
constituents. If you find some physically significant difference due to
considering traveling wave constituents rather than the standing wave,
then you have made a mistake in your calculations.

> Water is also a scalar. If you had one gallon per minute flowing into
> a barrel and two gallons per minute flowing out of the barrel, would
> you argue that there is no water flowing into the barrel and only one
> gallon of water flowing out of the barrel? Or would you say the *net*
> water flow is one barrel per minute out of the barrel?

This is totally irrelevant to the issue at hand. Try to keep on task.

73,
Gene
W4SZ

2583. Re: Totally OT, yet very relevant

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 18:14:38 UTC
From: You <You@shadow.orgs>
Message-ID: <You-E9C692.10140514032007@netnews.worldnet.att.net>
Source record: 44697

In article <1173815666.777420.51500@s48g2000cws.googlegroups.com>,
"Denny" <k8do@mailblocks.com> wrote:

> Remember, climate affects propagation...

On what planet do you live??????

2584. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 18:16:00 UTC
From: davis@space.mit.edu
Message-ID: <slrnevgeuu.25a.davis@aluche.mit.edu>
Source record: 44698

On Wed, 14 Mar 2007 09:09:27 -0800, Tom Donaly <dtdonaly@sbcglobal.net>
wrote:
>Different texts have Maxwell's equations in different order. What text
>did you get this from? Becker has it (in Gaussian CGS units) as
>div D = 4\pi\rho (where the backslash indicates multiplication, and D
>and rho have the usual meanings. You can add the 't' if you want to, but
>it's unnecessary. Also, since you're dealing in 3 dimensions, why not
>indicate them as in E(x,y,z), or E(x,y,z,t) (if the time means something
>to you)?

I tend to write equations in LaTeX form as most people I exchange
emails with mathematical equations use that for formatting mathematics.
Here, \pi represents the greek letter pi, and \rho is the greek letter
rho. I used x to represent a spatial 3-vector. I could have written
it as (x,y,z) but I did not think this shorthand would cause any
confusion given the context.

The difference between E and D is not important here. If you use D,
then \rho must be interpreted as the so-called "free" charge density.
However, the fundamental field is E, and if you use it the \rho must
be interpreted as the _full_ charge density. The relationship between
E and D can be very complex and may well depend upon the strength of
the applied field E. For simple materials a linear relationship is
usually assumed, e.g., D = \epsilon E, where \epsilon is the
dielectric constant of the medium. Also even here in this linear
relationship, \epsilon need not be a scalar (a number). It could be a
tensor (a 3x3 matrix), in which case D and E would not have the same
direction.

--John

2585. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 18:20:07 UTC
From: Dan Bloomquist <public21@lakeweb.com>
Message-ID: <r1XJh.4894$ya1.1806@news02.roc.ny>
Source record: 44699
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

billcalley wrote:

<snip>

I've been reading the posts on this. One poster said this has been going on for twenty years! (For the other groups, this thread has life on rec.radio.amateur.antenna) It doesn't need to be so.

First, there should be no doubt that reflected power on a transmission line is real. Sure, you can replace the line with a lump but that doesn't clear up the question for others.

For the next two examples, see page 179:
http://cp.literature.agilent.com/litweb/pdf/54753-97015.pdf
All examples assume the same impedance for source and line.

First example, step into an open line with a Thevenin source. The energy is divided between the source and the line. Half the energy is moving down the line and when it returns changes the impedance the source sees to an open circuit. The energy does not flow back into the source, so, where did it go? It is stored in the capacitance of the line.

Second example, step into a shorted line. When the energy returns the source now sees a short. The energy does not flow back into the source, so, where did it go? It is stored in the inductance of the line.

So here are two examples where the energy sent down the line do not return to the source.

Third example. Send a pulse down the line. The Thevenin voltage source will go to short, as it should, when the pulse falls. The pulse is reflected from either an open or a short at the end of the line. All the energy is dissipated in the source impedance when this pulse returns. That is where the energy goes. And it is obviously the _same_ energy created at the source.

Sure, non of the cases above represent steady state AC. But they do show that energy may or may not be returned to the real component of the source.

With the above in mind, it can be shown, (in some part II), that a real accounting of energy from source to load and back is possible. Equivalent circuits are just that, the trading of line for lump. But, and this is really important, the only reason the effective impedance at the input of a 50 ohm line is not 50 ohms is because of reflected energy.

Best, Dan.

2586. Re: Vertical above the ground-plane

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 19:17:08 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <7gigv2dnhirvtifkud6urfsn8r8pg9q5od@4ax.com>
Source record: 44700

On Wed, 14 Mar 2007 16:42:23 GMT, "Jerry Martes"
<j.jmartes@verizon.net> wrote:

>
>"Buck" <usenet01@lumpuckeroo.com> wrote in message
>news:mc5gv25p2cju6rkeotk054h0opdgielv62@4ax.com...
>>I hear that RG-8 shouldn't be buried, but if not, the reason for the
>> problem is the hired help with the mower people. They either will
>> chop it up or won't cut near it and complain to the land lord. He
>> hasn't complained about what we have so far, so I am keeping it low
>> key until we can find a better, ham-friendly place in which to move.
>>
>> Thank you,
>> Buck
>> N4pgw
>>
>>
>> On Tue, 13 Mar 2007 19:44:02 GMT, Irv Finkleman <finkirv@shaw.ca>
>> wrote:
>>
>>>I've had a chunk of RG-213 running across my back lawn for 5 years or
>>>so. It was laid on, but has gradually been absorbed by the grass. From
>>>day one
>>>it has never even come close to the lawnmower blade and I keep my grass
>>>fairly short. The same with radial wires! Consider giving it a shot.
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>>>Irv VE6BP
>>>
>>>Buck wrote:
>>>>
>>>
>>>> The mower folk will run over it without thinking if it is on the
>>>> ground, but the radials can be carried out of the way.
>>>>
>>
>> --
>> 73 for now
>> Buck, N4PGW
>
> Hi Buck
>
> Are you interested in experimenting? I would have tried something like
>this ----
>

> Run the RG-8 from the "building" to the monopole parallel to the ground
>and 7 feet above it. Drop it down parallel to the monopole a few inches
>from it all the way to the ground. At the ground, connect the coax the
>same way a conventional monopole is connected.
>
> Any low loss, high dielectric constant, material in the immediate vicinity
>of the parallel coax and monopole will help. A coiled coax type "balun"
>at the antenna end of the horizontal coax will really be needed too.
>
> I have no idea if you want to "play" with antenna ideas. And, I have no
>certainty that the antenna would work anyway.
>
> Jerry
>
That is definitely an idea to consider. I will have about four to six
inches it'll be away from the vertical.

Buck
n4pgw

--
73 for now
Buck, N4PGW
www.lumpuckeroo.com
N4PGW

2587. Re: Vertical above the ground-plane

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 19:22:11 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns98F37DE929364spectrumhogstarbandn@198.186.192.196>
Source record: 44701

> I hear that RG-8 shouldn't be buried, but if not, the reason for the
> problem is the hired help with the mower people. They either will
> chop it up or won't cut near it and complain to the land lord. He
> hasn't complained about what we have so far, so I am keeping it low
> key until we can find a better, ham-friendly place in which to move.
>

If you're only operating on HF, 100 watts or less, and your feedline runs are of moderate length, or less, you could probabaly get by with the smaller and inexpensive RG-58.... or RG-8X if you're loss conscious. Either way, you could enclose it in cheap PVC, as small in diameter as you can get and still get the coax through it. The electrical gray stuff would not only be less noticable, but is pretty tough. Groundskeeper weedeaters shouldn't bother it if they hit it.

... just a thought.

Ed K7AAT

2588. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 19:26:52 UTC
From: Derek <blueyhi5s@yahoo.com.au>
Message-ID: <1173900412.361076.89300@b75g2000hsg.googlegroups.com>
Source record: 44703

On Mar 13, 6:33 pm, Richard Clark <kb7...@comcast.net> wrote:
> On 13 Mar 2007 22:15:37 GMT, d...@space.mit.edu (John E. Davis)
> wrote:
>
> >I do not understand your comment.
>
> Hi John,
>
> It was rather explicit. To have disputed Dave's assertion with
> additional material that substantiated him, makes for a rather strange
> reading of Feynman.

. You can bow out once again,
> of course, and become a martyr instead. Or you can indulge us with a
> dialog with Art.
>

I would think this comment applied equally to Dave.

Derek

2589. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 19:40:42 UTC
From: Tom Donaly <dtdonaly@sbcglobal.net>
Message-ID: <_cYJh.9753$jx3.7445@newssvr25.news.prodigy.net>
Source record: 44704

John E. Davis wrote:
> On Wed, 14 Mar 2007 09:09:27 -0800, Tom Donaly <dtdonaly@sbcglobal.net>
> wrote:
>> Different texts have Maxwell's equations in different order. What text
>> did you get this from? Becker has it (in Gaussian CGS units) as
>> div D = 4\pi\rho (where the backslash indicates multiplication, and D
>> and rho have the usual meanings. You can add the 't' if you want to, but
>> it's unnecessary. Also, since you're dealing in 3 dimensions, why not
>> indicate them as in E(x,y,z), or E(x,y,z,t) (if the time means something
>> to you)?
>
> I tend to write equations in LaTeX form as most people I exchange
> emails with mathematical equations use that for formatting mathematics.
> Here, \pi represents the greek letter pi, and \rho is the greek letter
> rho. I used x to represent a spatial 3-vector. I could have written
> it as (x,y,z) but I did not think this shorthand would cause any
> confusion given the context.
>
> The difference between E and D is not important here. If you use D,
> then \rho must be interpreted as the so-called "free" charge density.
> However, the fundamental field is E, and if you use it the \rho must
> be interpreted as the _full_ charge density. The relationship between
> E and D can be very complex and may well depend upon the strength of
> the applied field E. For simple materials a linear relationship is
> usually assumed, e.g., D = \epsilon E, where \epsilon is the
> dielectric constant of the medium. Also even here in this linear
> relationship, \epsilon need not be a scalar (a number). It could be a
> tensor (a 3x3 matrix), in which case D and E would not have the same
> direction.
>
> --John

Thanks for explaining that, John. I am unfamiliar with the conventions
of LaTex, obviously (I get my information from books that are generally
older than I am, and I'm not young). I don't have any problem with
Gauss' law being used in a non-static context. It applies, regardless.
That's as far as I go in agreeing with Art, though, since I can't
understand the rest of his theory, at all (but might if I could turn
off the left side of my brain - maybe).
73,
Tom Donaly, KA6RUH

2590. Re: Tower design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 19:41:49 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45f84c2c$0$5783$4c368faf@roadrunner.com>
Source record: 44702

"John Ferrell" <johnferrell@sprintmail.com> wrote in message
news:ipqfv21iiqdt9eefv8vc9e6klr1f64slde@4ax.com...
> On 11 Mar 2007 07:44:30 -0700, "JIMMIE" <JIMMIEDEE123@YAHOO.COM>
> wrote:
>
>>I am trying to find information on build your own tower. As retirement
>>nears I plan on having a lot more time for doing things like this and
>>will have a few acres I can devote to an antenna farm. I wouldnt mind
>>learning to design them from scratch but would prefer a computer
>>program if one is available. I know to some building your own tower
>>may not seem practical but my wife and I inherited a lot of the basic
>>materials when her father passed away. I am especialy interested in
>>building tubular foldover mast 50 to 70 ft tall. It seems like years
>>ago I came across a magazine article on this that also had associated
>>design software. Any help would be greatly appreciated.
>>
>>Jimmie
> I have a Wilson crank up mast that I purchased in about 1980. It was
> originally a 77 foot tower but a failure early in its life led to
> removal of the top section. The failure was due to a torsional load
> (48 element collinear on 440mhz) and other antennas. The section that
> failed was about 3 inches in diameter. I appears to be pretty much the
> same as what US Tower is selling today.
>
> I have performed needed maintenance through the years and even moved
> it from Ohio to North Carolina. In Ohio it was installed as a guyed
> tower. It is currently installed un guyed with a home brew device that
> allows me to lay it over to work on antennas on the ground.
>
> I feel that every aspect of the mechanism is critical. If it was any
> heavier the electric boat winch could not handle the extent ion. If I
> had much more weight on the top, the lay over wench (and I-Beam) would
> be challenged. It is built just loose enough to not hang on retraction
> but not rattle excessively in the wind. I don't even want to think
> about what would happen if it jammed on retraction!
>
> The galvanizing is worn off the outside but still in good shape on the
> inside. I have replaced a couple of the pulleys and one of the cables
> along with miscellaneous clips & such.
>
> When you deal with this thing it is better to think in terms of a
> sailboat mast rather than a tower. Most loads you apply try to put a
> crease in the tubing or load the extent ion cables.
>

> Your suggested project would require more patience that I have. It
> only takes a few hours of welding for me to want to do something else!
>
> I would sell the old tubing & buy a new crank up mast.
>
> BTW, I am currently trying to figure out how I can safely plant a 40
> foot utility pole that was a gift....
>
> John Ferrell W8CCW
> "Life is easier if you learn to
> plow around the stumps"

I dont intend to make anything that will crank up, tilt over is a consideration as I once saw a magazine article with design parameters and understand the person who wrote the article also may have written software.

I have set a light pole before. I got theinfo from the local power company on how much of it should be buried and a friend that has a wrcker helped me put it in he ground. Since the bottom end is considerably heavier than the top the center of gravity is much lower than the actual center. this makes things a lot easier than it may appear. Hardest part by far was digging the hole.

Jimmie

2591. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 20:03:24 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <j1ngv298amcmleeulkb4dij5751ks39n9v@4ax.com>
Source record: 44705

On Wed, 7 Mar 2007 12:08:53 -0600, richardharrison@webtv.net (Richard Harrison) wrote:

>Owen Duffy wrote:
>"Breaking out of the previous thread to explore the "power explanation"
>in a steady state situation:"
>
>All OK as I see it.
>
>Bird tells us that if you have significant standing waves, reflected
>power is 10% or more of the forward power, and the ratio of reflected
>power to forward power is then easily determined on the Bird Thruline
>Wattmeter. Ratio of the reflected power to forward power is easily
>converted to VSWR.
>
>Bird supplies, charts, slide rules, and a formula for this conversion.
>
>Bird confirms: "Power delivered to and dissipated in a load is given by:
>
>Watts into load = Watts forward - Watts reflected."
>
>Owen Duffy told us 100W is developed in 70 ohm load and the DC input
>power of the transmitter is 200W.
>
>Obviously 100W is dissipated in the transmitter and the efficiency is
>50%.
>
>Best regards, Richard Harrison, KB5WZI

Much has been said in this thread concerning whether reflected power does or does not enter the power
amplifier and cause heating of the plate. In describing below the experimental procedure that I have performed
many times in my RF Lab, I am offering proof here that such heating does not occur.

The following material from Chapter 19A of Reflections 3 is presented to show why reflected power
does not enter the amplifier and cause heating of the tube plate.

"Weï¿½ll now examine the experimental data that resulted from measurements performed subsequent to those reported in Chapter 19, new data that provides additional evidence that a
conjugate match exists at the output terminals of an RF power amplifier when all of its available power is delivered into its load, however complex the load impedance. According to
the definition of the conjugate match as explained earlier, if this condition prevails

there is a
conjugate match. In addition, the data presented below also provides further evidence that the
output source resistance of the RF amplifier is non-dissipative. CONSEQUENTLY, THIS EVIDENCE
PROVES THAT REFLECTED POWER DOES NOT CAUSE HEATING OF THE PLATE. The following steps describe
the experimental procedure I employed and the results obtained:

1. Using a Kenwood TS-830S transceiver as the RF source, the tuning and loading of the pi-network are adjusted to deliver all the available power into a 50 + j0-ohm load with the grid
drive adjusted to deliver the maximum of 100 watts at 4 MHz, thus establishing the area of the RF power window at the input of the pi-network, resistance RLP at the plate, and the slope of the load line. The output source resistance of the amplifier in this condition will
later be shown to be 50 ohms. In this condition the DC plate voltage is 800 v and plate current is 260 ma. DC input power is therefore 800 v x 0.26 a = 208 w. Readings on the Bird 43 wattmeter indicate 100 watts forward and zero watts reflected. (100 watts is the maximum RF output power available at this drive level.) From here on the grid drive is left undisturbed, and the pi-network controls are left undisturbed until Step 10.

2. The amplifier is now powered down and the load resistance RL is measured across the input
terminals of the resonant pi-network tank circuit (from plate to ground) with an HP-4815 Vector Impedance Meter. The resistance is found to be approximately 1400 ohms. Because the amplifier was adjusted to deliver the maximum available power of 100 watts prior to the resistance measurement, the average of the dynamic resistance RLP looking into the plate (upstream from the network terminals) is also approximately 1400 ohms. Accordingly, a non-reactive 1400-ohm resistor is now connected across the input terminals of the pi-network
tank circuit and output source resistance Ros is measured looking rearward into the output terminals of the network. Resistance Ros was found to be 50 ohms.

3. Three 50-ohm dummy loads (a 1500w Bird and two Heathkit Cantennas) are now connected in parallel to provide a purely resistive load of 16.67 ohms, and used to terminate a coax of
13.5ï¿½ length at 4 MHz.

4. The impedance ZIN appearing at the input of the 13.5ï¿½ length of coax at 4 MHz terminated
by the 16.67-ohm resistor of Step 3 is measured with the Vector Impedance Meter, and found to be 20 ohms at +26ï¿½. Converting from polar to rectangular notation, Zin = 17.98 + j8.77 ohms. (Zin = Zload from the earlier paragraphs.) This impedance is used in Steps 5 and 6 to provide the alternate load impedance in the load-variation method for determining the complex output impedance of the amplifier, and for proving that the conjugate match exists.

5. With respect to 50 ohms, Zin from Step 4 yields a 2.88:1 mismatch and a voltage reflection
coefficient (rho) 0.484. Therefore, power reflection coefficient (rho squared) 0.235, transmission
coefficient (1 - 0.235) = 0.766, and forward power increase factor 1/(1- 0.235) = 1/0.766 =

1.306.

6. Leaving pi-network and drive level adjustments undisturbed, the 50-ohm load is now replaced with the coax terminated with the 16.67-ohm load from Step 4, thus changing the load impedance from 50 ohms to 17.98 + j8.77 ohms, the input impedance Zin of the coax.

7. Due to the 2.88:1 mismatch at the load, neglecting network losses and the small change in
plate current resulting from the mismatch, approximately the same mismatch appears between RLP and ZL at the input of the pi-network. Consequently, the change in load impedance changed the network input resistance RL from 1400 ohms to complex ZL = 800 - j1000 ohms, measured with the Vector Impedance Meter using the method described in Step 2. To verify the impedance measurement of ZL the phase delay of the network was measured using an HP-8405 Vector Voltmeter and found to be 127ï¿½. Using this value of phase delay the input impedance ZL was calculated using two different methods; one yielding 792 - j1003 ohms, the other yielding 794.6 - j961.3 ohms, thus verifying the accuracy of the measurement. However, because grid voltage Ec, grid drive Eg, and plate voltage Eb are left unchanged, the average dynamic resistance RLP at the plate has remained at approximately 1400 ohms, leaving a mismatch between RLP and ZL at the input of the pi-network.
As stated above, this value of ZL yields the substantially the same mismatch to plate resistance
RLP as that between the output impedance of the pi-network and the 17.98 + j8.77-ohm load, i.e.,
2.88:1. This mismatch at the network input results in less power delivered into the network,
and thus to the load, a decrease in the area of the RF window at the network input, and a change in the slope of the loadline. (It must be remembered that the input and output mismatches contribute only to mismatch loss, which does not result in power delivered and then lost somewhere in dissipation. As we will see in Step 8, the mismatch at the input of the pi-network results only in a reduced delivery of source power proportional to the degree of mismatch.)

8. Readings on a Bird 43 power meter now indicate 95w forward and 20w reflected, meaning only 75 watts are now delivered by the source and absorbed in the mismatched load. The 20w reflected power remains in the coax, and adds to the 75 watts delivered by the source to
establish the total forward power of 95w.

9. We now compare the measured power delivered with the calculated power, using the power transmission coefficient, (1 - 0.235). The calculated power delivered is: 100w x (1 - 0.235) = 76.6w,
compared to the 75w indicated by the Bird wattmeter. However, because the new load impedance is less than the original 50 ohms, and also reactive, the amplifier is now overloaded and the pi-network is detuned from resonance. Consequently, the plate current has increased from 260 to 290 ma, plate voltage has dropped to 760 v, and DC input power has increased from 208 w to 220.4 w.

10. With the 17.98 + j8.77-ohm load still connected, the pi-network loading and tuning are now re-adjusted to again deliver all available power with drive level setting still left undisturbed. The readjustment of the plate tuning capacitor has increased the capacitive reactance in the pi-network by -8.77 ohms, canceling the +8.77 ohms of inductive reactance in the load, returning the system to resonance. The readjustment of the loading control

capacitor has decreased the output capacitive reactance, thus reducing the output resistance
from 50 to 17.98 ohms. Thus the network readjustments have decreased the output impedance from 50 + j0 to 17.98 - j 8.77 ohms, the conjugate of the load impedance, 17.98 + j8.77 ohms. The readjustments have also returned the network input impedance ZL to 1400 + j0 ohms (again equal to RLP), have returned the original area of the RF window at the network input, and have returned the slope of the loadline to its original value. For verification of the 1400-ohm network input resistance after the readjustment, ZL was again measured using the method described in Step 2, and found it to have returned to 1400 + j0 ohms.

11. Bird 43 power meter readings following the readjustment procedure now indicate 130w forward and 29.5w reflected, indicating 100.5w delivered to the mismatched load.

12. For comparison, the calculated power values are: Forward power = 100 x 1.306 = 130.6w, reflected power = 30.6w, and delivered power = 130.6w - 30.6w = 100w showing substantial agreement with the measured values. (1.306 is the forward power increase factor determined in Step 5.) Plate current has returned to its original value, 260 ma, and likewise,
plate voltage has also returned to the original value, 800 v. Consequently, the DC input power has also returned to its original value, 208 w.

13. It is thus evident that the amplifier has returned to delivering the original power, 100 watts
into the previously mismatched complex-impedance load, now conjugately matched, the same as when it was delivering 100 watts into the 50-ohm non-reactive load. But the reflected power, 30.6 watts, remains in the coax, adding to the 100 watts delivered by the amplifier to establish the 130.6 watts of forward power, proving that it does not enter the amplifier to dissipate and heat the network or the tube.

It must be kept in mind that impedance Zin appearing at the input of the 13ï¿½ line connecting
the 16.7-ohm termination to the output of the amplifier is the result of reflected waves of both
voltage and current, and thus reflected power is returning to the input of the line, and becomes
incident on the output of the amplifier.
The significance of these measurement data is that for the amplifier to deliver all of its available power (100w) into the mismatched load impedance Zin = 17.98 + j8.77 ohms, the readjustment of the tuning and loading of the pi-network simply changed the output impedance of the network from 50 + j0 ohms to 17.98 - j8.77 ohms, the conjugate of the load impedance, thus matching the output impedance of the network to the input impedance of the coax. Consequently, there IS a conjugate match between the output of the transceiver and its complex load. QED. The readjustments of the pi-network simply changed its impedance transformation ratio from 50:1400 to (17.98 - j8.77):1400, returning the input resistance RL of the pi-network to 1400 ohms, the value of RLP. Thus the plates of the amplifier
tubes are unaware of the change in external load impedance.

14. Weï¿½ll now make an additional indirect measurement of Ros that proves the conjugate match statement above is true. Leaving the pi-network adjustments undisturbed from the conditions in Step 10, with the amplifier powered down we again connect a 1400-ohm non-

reactive resistor across the input terminals of the pi-network tank circuit and measure the output source
impedance Zos looking rearward into the output terminals of the network. The impedance was found to be Zos = 18 - j8 ohms.

From a practical viewpoint, measured impedance Zos = 18 - j8 ohms is the conjugate of load impedance Zload = 17.98 + j8.77, proving that the amplifier is conjugately matched to the load, and also proving the validity of the indirect method in determining that the source
impedance of the amplifier is the conjugate of the load impedance when all available power is
being delivered to the load.
Thus the data obtained in performing Steps 1 through 14 above proves the following four conditions to be true:

No reflected power incident on the output of the amplifier is absorbed or dissipated in the amplifier, because:

1. The total DC input power is the same whether the amplifier is loaded to match the resistive
Z0 load of 50 + j0 ohms, with no reflected power, or to match the complex load of 17.98 - j8.77 ohms with 30.6 watts of reflected power, while 100 w is delivered to either the Z0 load or
the re-matched complex load.

2. All the 100 watts of power delivered by the transmitter is absorbed in both the Z0 load and
the re-matched complex load cases, with the same DC input power in both cases.

3. All the 30 watts of reflected power has been shown to add to the source power, establishing
the total 130 watts of forward power in the case involving the re-matched complex load.

4. All the reflected power is added to the source power by re-reflection from the non-dissipative output source resistance Ros of the amplifier. Had the output source resistance of
the amplifier been dissipative the reflected power would have been dissipated there to heat,
instead of being re-reflected back into the line and adding to the source power. In addition, the
Bird 43 power meter would have indicated 75 watts of forward power, not 95. This proves that
reflected power incident on the output of the amplifier does not cause heating of the tube.

It should also be noted, an accepted alternative to the load-variation method for measuring the output impedance of a source of RF power is the indirect method demonstrated above. As performed during the measurements described above, the procedure for this method is to first
make the necessary loading adjustments of the output network to ensure that all of the available power is being delivered to the load. Next, the input impedance of the load is measured. It then follows that, as proven above, the source impedance is the conjugate of the

input impedance measured at the input of the load, because when all available power is being
delivered to the load, this condition conforms to the Conjugate Matching and the Maximum Power-transfer Theorems.
Additionally, I previously performed this same measurement procedure using a HeathKit HW-100 transceiver, using several different lengths of coax between the 16.7-ohm load and the output of the transceiver in each of several measurements. The different lengths of coax
provided different complex load impedances for the transceiver during each measurement. The
same performance as described above resulted with each different load impedance, providing further evidence that a conjugate match exists when the amplifier is delivering all of its available power into its load. These results also prove that the single test with the Kenwood
transceiver is not simply a coincidence.

More recent experimental evidence has been presented since that of Chapter 19, adding further proof that a conjugate match can exist when the source is an RF power amplifier, and
that the output source resistance of the amplifier is non-dissipative. It was also shown that
the average dynamic resistance RLP looking toward the plate from the network input equals resistance RL appearing at the input of the pi-network when a conjugate match is obtained, while contrary to Brueneï¿½s claim, there is no requirement that RL = RS to obtain a conjugate match,
thus proving Brueneï¿½s definition of the conjugate match appearing in his November 1991 QST
article 142 invalid.

Walt, W2DU

2592. Re: Antenna Performance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 20:17:12 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1173903432.194550.216210@b75g2000hsg.googlegroups.com>
Source record: 44706

Hi Paul,

About your 868 MHz project (probably european [ETSI] SRD application).

The datasheet gives impedance requirement that should function when connected directly to 50 Ohms. I saw (little bit surprised) the datasheet doesn't give a reference design.

If the design is to be terminated with 50 Ohms, and you run a coaxial cable from bulkhead to PCB (both sides bread of cable connected), it should be OK (irrespective of cable length). I assume that the antenna that you are using is a 50 Ohms antenna (a quarter wave?). The antenna will us the metal casing as ground plane avoiding RF currents inside the housing.

Sometimes, circuits may become instable (out of band or just out of band) when changing the cable length. You may check this by adding a 3 or 6 dB attenuation. Normally spoken, adding 6 dB will reduce the range with about a factor 2 (assuming free space, not close to ground).

Other things can be interference on the IF (directly onto the chip) from a switching regulator or digital HW. Is it possible that you are close to other applications (for example 2W UHF RFID, or UHF broadcast stations). You should see that on the analog I&Q outputs, If you move with the antenna, with no transmitter present, the output noise should not change (so not become more or becoming less).

When this a commercial application, and have some budget, you may hire a specialist. Many of the single chip TRX are difficult to get in line with EN300220, though the datasheet does mention compliance.

Best Regards,

Wim
PA3DJS.

2593. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 20:23:01 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F44B19A66FCnonenowhere@61.9.191.5>
Source record: 44707

"Richard Fry" <rfry@adams.net> wrote in news:et6e3vlih1@aioe.org:

> In analog TV transmit systems with a typical 500+ foot length
> transmission line from the tx to the antenna, a 5% reflection from a
> far-end mismatch can be quite visible, showing as a "ghost" image that
> is offset from the main image as related to the round-trip propagation
> time of the transmission line.

Richard, read this carefully, I do NOT disagree with what you have said in the paragraph above.

For a ghost to be visible to viewers getting signal off air, there is more at play that a 5% reflection from a far end mismatch, the reflected wave is heading towards the transmitter, and needed to encounter another at least another reflection point with sufficiently high reflection coefficient that a sufficiently large, time delayed copy of the original modulated wave reaches the load (even if in turn part is reflected again).

This second point of reflection could be a transmission line discontinuity, but it is most likely that it was that the tx end of the transmission line was not matched, that is that the tranmitter did not terminate the line with a near perfect match.

It leaves the questions "are transmitters matched to Zo in real life, is matching an unavoidable consequence of optimising power output?".

For avoidance of doubt, the discussion in this post is about the transient behaviour of the tranmission line and waves, it is relevant to long transmission lines with analogue TV modulation, but that doesn't mean it is necessarily important to other applications.

Owen

2594. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 21:39:32 UTC
From: Dave <noone@nowhere.com>
Message-ID: <oYZJh.8192$vb.3244@trndny04>
Source record: 44709

"Derek" <blueyhi5s@yahoo.com.au> wrote in message
news:1173900412.361076.89300@b75g2000hsg.googlegroups.com...
> On Mar 13, 6:33 pm, Richard Clark <kb7...@comcast.net> wrote:
>> On 13 Mar 2007 22:15:37 GMT, d...@space.mit.edu (John E. Davis)
>> wrote:
>>
>> >I do not understand your comment.
>>
>> Hi John,
>>
>> It was rather explicit. To have disputed Dave's assertion with
>> additional material that substantiated him, makes for a rather strange
>> reading of Feynman.
>
> . You can bow out once again,
>> of course, and become a martyr instead. Or you can indulge us with a
>> dialog with Art.
>>
>
> I would think this comment applied equally to Dave.
>
>
> Derek
>
i like the post that points out the unnecessary t in the Gauss's law
equation... well done. sri i didn't state that myself, but i have had
better things to do than try to argue with art.

2595. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 22:13:14 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <5qsgv2l7umhbta3fn1plu7b9vng8dlofkk@4ax.com>
Source record: 44708

On 14 Mar 2007 13:26:46 -0700, "art" <aunwin@insightbb.com> wrote:

>But that still leaves the question why haven't
>ham
>radio users not picked up the slack and tried them?

Hi Art,

That was done an hundred years ago, and people found better ways.

73's
Richard Clark, KB7QHC

2596. Re: Tower design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 22:15:24 UTC
From: Wes <n7ws@yahoo.com>
Message-ID: <1173910524.609846.177340@p15g2000hsd.googlegroups.com>
Source record: 44710

On Mar 11, 7:44 am, "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote:
> I am trying to find information on build your own tower. As retirement
> nears I plan on having a lot more time for doing things like this and
> will have a few acres I can devote to an antenna farm. I wouldnt mind
> learning to design them from scratch but would prefer a computer
> program if one is available. I know to some building your own tower
> may not seem practical but my wife and I inherited a lot of the basic
> materials when her father passed away. I am especialy interested in
> building tubular foldover mast 50 to 70 ft tall. It seems like years
> ago I came across a magazine article on this that also had associated
> design software. Any help would be greatly appreciated.
>
> Jimmie

k6mhe.com/n7ws/PipeMastDesign.pdf

2597. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 22:19:20 UTC
From: Derek <blueyhi5s@yahoo.com.au>
Message-ID: <1173910760.585692.68230@d57g2000hsg.googlegroups.com>
Source record: 44711

On Mar 14, 2:39 pm, "Dave" <n...@nowhere.com> wrote:

>
> i like the post that points out the unnecessary t in the Gauss's law
> equation... well done. sri i didn't state that myself, but i have had
> better things to do than try to argue with art.

As I remember it you were arguing with John.

Derek

2598. Re: Best way to clean elements before assembly?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 22:35:17 UTC
From: Wes <n7ws@yahoo.com>
Message-ID: <1173911717.766494.261060@n59g2000hsh.googlegroups.com>
Source record: 44712

On Mar 10, 9:41 pm, Tehrasha Darkon <dar...@netins.net> wrote:
> I have become the new owner of a KT-34XA which has never been deployed.
>
> Original owner bought it 3 years ago, and it has lay on the floor of his car
> port ever since. So it has been subjected to rain, bird poo and mice. The
> main elements (mainly the boom) show the signs weathering. Very dull gray and
> an almost dusty texture.
>
> What would be the best thing to use to clean the elements, before grease and
> assembly?
>
>

I've discussed my method before in this group. DAGS for "wes cleaning
aluminum" for the writeup.

Unfortunately, in my location the meth labs were using lots of lye so
we can't buy it at Ace Hardware anymore.

2599. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 22:36:43 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <et9tds$f10$1@aioe.org>
Source record: 44713

"Owen Duffy" wrote
> This second point of reflection could be a transmission line
> discontinuity, but it is most likely that it was that the tx end of the
> transmission line was not matched, that is that the tranmitter did not
> terminate the line with a near perfect match.
>
> It leaves the questions "are transmitters matched to Zo in real life, is
> matching an unavoidable consequence of optimising power output?"

Field experience in my tenure with RCA Broadcast when measuring and minimizing the "ghosting" propensities of commercial analog broadcast TV transmission systems showed/shows that a measured 5% or greater voltage reflection from the transmit antenna/input elbow complex, when sufficiently displaced in time from the main image, will result in an objectionable ghost image seen on an off-air TV set tuned to that station.

That would not be true if such a nominal 5% far-end reflection from the antenna system essentially was absorbed by the TV transmitter (whether or not that turned the tube PA plates red, or caused the failure or other compromise of a solid-state PA).

Maximizing the output power and efficiency of a broadcast r-f amplifier dictates that its effective output Z must be greatly different than the load Z it is expected to drive. In the case of broadcast transmitters, that source impedance is low (a few ohms), compared to the typical 50 or 75 ohm Zo of the load it is driving.

And this it the reason that much of the voltage reflected from an antenna/far-end mismatch returns from the tx back to the antenna to be radiated, and so to produce the TV ghost image seen under those conditions.

An equivalent effect is a reality in FM broadcasting, where a poor Z match of the antenna system across the FM channel bandwidth produces synchronous AM, and adds to stereo and SCA crosstalk.

RF

2600. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 22:42:57 UTC
From: Dave <noone@nowhere.com>
Message-ID: <RT_Jh.10798$S06.9902@trndny08>
Source record: 44714

"Derek" <blueyhi5s@yahoo.com.au> wrote in message
news:1173910760.585692.68230@d57g2000hsg.googlegroups.com...
> On Mar 14, 2:39 pm, "Dave" <n...@nowhere.com> wrote:
>
>>
>> i like the post that points out the unnecessary t in the Gauss's law
>> equation... well done. sri i didn't state that myself, but i have had
>> better things to do than try to argue with art.
>
>
> As I remember it you were arguing with John.
>
>
> Derek
>
i was probably arguing with a couple of them... all the blabbering looks the
same after a while.

2601. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 23:06:17 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1173913577.140678.306020@e65g2000hsc.googlegroups.com>
Source record: 44715

On Mar 14, 12:24 pm, Gene Fuller <W4SZzzz...@att.net> wrote:
> Au contraire, mon frere. You continue to claim that a standing wave MUST
> be made up of two traveling waves, but without proof.

On the contrary, I have presented at least three references as proof.
If I remember correctly, it was Ramo, Whinnery, Hecht, and Balanis.
You, OTOH, have presented none.

> My contention is that this distinction is merely a matter of
> mathematical preference. When standing waves occur, there is absolutely
> no physical difference between the standing wave and its traveling wave
> constituents.

Obviously false as proven by the different equations for the two types
of waves. We laid that one to rest long ago. In fact, it was you who
pointed out that standing wave phase is completely different from
traveling wave phase and cannot be used to measure phase shift through
a coil. If I remember correctly, it was the difference between
cos(x*wt) and cos(x)*cos(wt), i.e. *very* different.

> > Water is also a scalar. If you had one gallon per minute flowing into
> > a barrel and two gallons per minute flowing out of the barrel, would
> > you argue that there is no water flowing into the barrel and only one
> > gallon of water flowing out of the barrel? Or would you say the *net*
> > water flow is one barrel per minute out of the barrel?
>
> This is totally irrelevant to the issue at hand. Try to keep on task.

No, it is virtually identical to your argument. Saying it is "totally
irrevelent" doesn't change anything. You are arguing that net energy
transfer is primary and the underlying energy components are
irrelevant if nonexistant.
--
73, Cecil, w5dxp.com

2602. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 23:12:08 UTC
From: richardharrison@webtv.net
Message-ID: <2090-45F88148-2@storefull-3254.bay.webtv.net>
Source record: 44718

I wrote:
"Obviously 100W is dissipated inthe transmitter and efficiency is 50%."

This is a Class A amplifier limit but not for other classes of amplifiers. Terman tells us on page 450 of his 1955 opus:
"The high efficiency of the Class C amplifier is a result of the fact that plate current is not allowed to flow except when the instantaneous voltage drop across the tube is low; i.e., Eb supplies energy to the amplifier only when the largest portion of this energy will be absorbed by the tuned circuit.

"Transmission Lines, Antennas, and Wave Guides" by King, Mimno, and Wing is an excellent reference, and like Terman, the authors agree with Walter Maxwell. On page 43 is found:
"Principal of Conjugates in Impedance Matching - If a dissipationless network is inserted between a constant-voltage generator of impedance Zg and a load of impedance ZR such that maximum power is delivered to the load, at every pair of terminals the impedance looking in opposite directions are conjugates of each other."

The real world is full of imperfections which by no means preclude practical work.

Best regards, Richard Harrison, KB5WZI

2603. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 23:14:40 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1173914080.195032.4080@l77g2000hsb.googlegroups.com>
Source record: 44716

On Mar 14, 5:36 pm, "Richard Fry" <r...@adams.net> wrote:
> And this it the reason that much of the voltage reflected from an
> antenna/far-end mismatch returns from the tx back to the antenna to be
> radiated, and so to produce the TV ghost image seen under those conditions.

For whatever reason, ghosting of this sort proves that the reflected
energy
makes a round trip from the load to the source and back. The ghosting
delay is exactly what a speed-of-light EM traveling wave would
experience.
In fact, multiple ghosting is caused by multiple reflections.
--
73, Cecil, w5dxp.com

2604. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 23:16:22 UTC
From: Dan Bloomquist <public21@lakeweb.com>
Message-ID: <an%Jh.4930$ya1.2806@news02.roc.ny>
Source record: 44717

Richard Fry wrote:

> Maximizing the output power and efficiency of a broadcast r-f amplifier
> dictates that its effective output Z must be greatly different than the
> load Z it is expected to drive. In the case of broadcast transmitters,
> that source impedance is low (a few ohms), compared to the typical 50 or
> 75 ohm Zo of the load it is driving.
>
> And this it the reason that much of the voltage reflected from an
> antenna/far-end mismatch returns from the tx back to the antenna to be
> radiated...

This is not correct. It has nothing to do with the output impedance of the drivers. Even a 50 ohm Thevenin source will reflect _all_ the power back to the load as long as it is 'matched'.

Here is how to prove this to your self. Take a transmitter and tune it up into a dummy load. The effective output impedance is now 50 ohms. Now plug that transmitter into a trans-match that drives some coax to a long wire. When the match is tuned there will be no energy flowing from the match back to the transmitter. All the energy reflected from the long wire gets reflected back from the match even if a 50 ohm source is used.

Best, Dan.

2605. Re: Tower design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-14 23:25:12 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1173914712.013074.78990@n59g2000hsh.googlegroups.com>
Source record: 44719

On Mar 14, 6:15 pm, "Wes" <n...@yahoo.com> wrote:
> On Mar 11, 7:44 am, "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote:
>
> > I am trying to find information on build your own tower. As retirement
> > nears I plan on having a lot more time for doing things like this and
> > will have a few acres I can devote to an antenna farm. I wouldnt mind
> > learning to design them from scratch but would prefer a computer
> > program if one is available. I know to some building your own tower
> > may not seem practical but my wife and I inherited a lot of the basic
> > materials when her father passed away. I am especialy interested in
> > building tubular foldover mast 50 to 70 ft tall. It seems like years
> > ago I came across a magazine article on this that also had associated
> > design software. Any help would be greatly appreciated.
>
> > Jimmie
>
> k6mhe.com/n7ws/PipeMastDesign.pdf

Thanks Wes this is the info I needed, as a matter of fact it IS the magazine article I remember reading. I keep thinking that after the article came out the author published software to go along with it, do you know anything about this?

Jimmie

2606. Best HF Vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 00:08:30 UTC
From: west <restccq2@verizon.net>
Message-ID: <280Kh.1399$Eg4.1163@trnddc03>
Source record: 44720

I know I can go to eham.com but I like the advice on rraa better. I also know that this question is somewhat subjective, but if you will, please indulge. :-)
What is flat out the best vertical HF antenna in your opinion and why?
Thanks in advance.

west
AF4GC

2607. Re: Best HF Vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 00:10:08 UTC
From: Uncle Peter <radioconnection@cox.net>
Message-ID: <A90Kh.15610$zJ1.2286@newsfe24.lga>
Source record: 44721

"west" <restccq2@verizon.net> wrote in message
news:280Kh.1399$Eg4.1163@trnddc03...
>I know I can go to eham.com but I like the advice on rraa better. I also
> know that this question is somewhat subjective, but if you will, please
> indulge. :-)
> What is flat out the best vertical HF antenna in your opinion and why?
> Thanks in advance.
>
> west
> AF4GC
>
>

One with a good radial system.

2608. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 00:38:38 UTC
From: Dan Bloomquist <public21@lakeweb.com>
Message-ID: <iA0Kh.4934$ya1.994@news02.roc.ny>
Source record: 44722

Richard Harrison wrote:

> "Transmission Lines, Antennas, and Wave Guides" by King, Mimno, and Wing
> is an excellent reference, and like Terman, the authors agree with
> Walter Maxwell. On page 43 is found:
> "Principal of Conjugates in Impedance Matching - If a dissipationless
> network is inserted between a constant-voltage generator of impedance Zg
> and a load of impedance ZR such that maximum power is delivered to the
> load, at every pair of terminals the impedance looking in opposite
> directions are conjugates of each other."

And can be seen clearly by looking at the reflection of a smith chart
upside down.

Best, Dan.

2609. Re: Challenger DX opinions?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 00:39:11 UTC
From: west <restccq2@verizon.net>
Message-ID: <PA0Kh.1407$Eg4.36@trnddc03>
Source record: 44723

"Michael Coslo" <mjc5@psu.edu> wrote in message
news:el1m7j$19pa$1@f04n12.cac.psu.edu...
> Charlie wrote:
> > I like the Hustler BTV line of verticals. Had my 5-BTV up over 2 years
now
> > and it works a treat. Whichever vertical you settle on invest some time
into
> > a ground radial system if it is to be a ground mounted antenna.
>
>
> I'd venture that the ground radials are more important than the antenna
> itself. Not very glamorous perhaps, but critical.
>
> - 73 de Mike KB3EIA -

What about the ones that do not require ground radials or counter poise,
i.e. GAP Titan?

west
AF4GC

2610. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 01:27:05 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <Jh1Kh.75641$as2.67224@bgtnsc05-news.ops.worldnet.att.net>
Source record: 44724

Cecil Moore wrote:
> On Mar 14, 12:24 pm, Gene Fuller <W4SZzzz...@att.net> wrote:
>> Au contraire, mon frere. You continue to claim that a standing wave MUST
>> be made up of two traveling waves, but without proof.
>
> On the contrary, I have presented at least three references as proof.
> If I remember correctly, it was Ramo, Whinnery, Hecht, and Balanis.
> You, OTOH, have presented none.
>
>> My contention is that this distinction is merely a matter of
>> mathematical preference. When standing waves occur, there is absolutely
>> no physical difference between the standing wave and its traveling wave
>> constituents.
>
> Obviously false as proven by the different equations for the two types
> of waves. We laid that one to rest long ago. In fact, it was you who
> pointed out that standing wave phase is completely different from
> traveling wave phase and cannot be used to measure phase shift through
> a coil. If I remember correctly, it was the difference between
> cos(x*wt) and cos(x)*cos(wt), i.e. *very* different.
>
>>> Water is also a scalar. If you had one gallon per minute flowing into
>>> a barrel and two gallons per minute flowing out of the barrel, would
>>> you argue that there is no water flowing into the barrel and only one
>>> gallon of water flowing out of the barrel? Or would you say the *net*
>>> water flow is one barrel per minute out of the barrel?
>> This is totally irrelevant to the issue at hand. Try to keep on task.
>
> No, it is virtually identical to your argument. Saying it is "totally
> irrevelent" doesn't change anything. You are arguing that net energy
> transfer is primary and the underlying energy components are
> irrelevant if nonexistant.
> --
> 73, Cecil, w5dxp.com
>

Cecil,

Until next time. I guess we will continue to disagree.

73,
Gene
W4SZ

2611. Re: Tower design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 01:37:59 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1173922679.907859.275720@e65g2000hsc.googlegroups.com>
Source record: 44725

On Mar 14, 7:25 pm, "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote:
> On Mar 14, 6:15 pm, "Wes" <n...@yahoo.com> wrote:
>
>
>
>
>
> > On Mar 11, 7:44 am, "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote:
>
> > > I am trying to find information on build your own tower. As retirement
> > > nears I plan on having a lot more time for doing things like this and
> > > will have a few acres I can devote to an antenna farm. I wouldnt mind
> > > learning to design them from scratch but would prefer a computer
> > > program if one is available. I know to some building your own tower
> > > may not seem practical but my wife and I inherited a lot of the basic
> > > materials when her father passed away. I am especialy interested in
> > > building tubular foldover mast 50 to 70 ft tall. It seems like years
> > > ago I came across a magazine article on this that also had associated
> > > design software. Any help would be greatly appreciated.
>
> > > Jimmie
>
> > k6mhe.com/n7ws/PipeMastDesign.pdf
>
> Thanks Wes this is the info I needed, as a matter of fact it IS the
> magazine article I remember reading. I keep thinking that after the
> article came out the author published software to go along with it, do
> you know anything about this?
>
> Jimmie- Hide quoted text -
>
> - Show quoted text -

That is a great website you sent me to, much morethan just the pdf
file I was looking for.
k6mhe.com/

2612. Re: Best HF Vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 01:50:35 UTC
From: Caveat Lector <CL@nowhere.com>
Message-ID: <KD1Kh.91457$dO6.33946@newsfe07.phx>
Source record: 44626

"west" <restccq2@verizon.net> wrote in message
news:280Kh.1399$Eg4.1163@trnddc03...
>I know I can go to eham.com but I like the advice on rraa better. I also
> know that this question is somewhat subjective, but if you will, please
> indulge. :-)
> What is flat out the best vertical HF antenna in your opinion and why?
> Thanks in advance.
>
> west
> AF4GC

IMHO: Take a look at the steppir verticals
http://www.steppir.com/
No traps, coils, capacitors or linear loading of any kind.

Full continuous coverage, including WARC bands-without compromise! 2000 W
PEP Rating.

Used on several DXpeditions with rave reviews

That's the one I would buy if I could put in a good ground radial system -
but I have no room for radials. So don't own one, a friend does and for what
is worth he claims it is the best vertical he has ever owned over 30 years
including, Butternut, Cushcraft, Hustler, Hy-Gain, etc

But the steppir's are pricey $595 and $695

Good luck

CL

2613. Re: Best HF Vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 02:14:30 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1173924870.646171.151780@n76g2000hsh.googlegroups.com>
Source record: 44628

On 14 Mar, 18:50, "Caveat Lector" <C...@nowhere.com> wrote:
> "west" <restc...@verizon.net> wrote in message
>
> news:280Kh.1399$Eg4.1163@trnddc03...
>
> >I know I can go to eham.com but I like the advice on rraa better. I also
> > know that this question is somewhat subjective, but if you will, please
> > indulge. :-)
> > What is flat out the best vertical HF antenna in your opinion and why?
> > Thanks in advance.
>
> > west
> > AF4GC
>
> IMHO: Take a look at the steppir verticals
> http://www.steppir.com/
> No traps, coils, capacitors or linear loading of any kind.
>
> Full continuous coverage, including WARC bands-without compromise! 2000 W
> PEP Rating.
>
> Used on several DXpeditions with rave reviews
>
> That's the one I would buy if I could put in a good ground radial system -
> but I have no room for radials. So don't own one, a friend does and for what
> is worth he claims it is the best vertical he has ever owned over 30 years
> including, Butternut, Cushcraft, Hustler, Hy-Gain, etc
>
> But the steppir's are pricey $595 and $695
>
> Good luck
>
> CL

A vertical dipole fed in the center
Art

2614. Re: Best way to clean elements before assembly?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 02:28:19 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <etaavahfg1@nnrp.linuxfan.it>
Source record: 44629

Wes wrote:

> ...
> Unfortunately, in my location the meth labs were using lots of lye so
> we can't buy it at Ace Hardware anymore.
>

Oh no, now we'll probably see a tremendous price increase in lye and
it'll only be available on the black market ... gawd, if they only
expended part of the energy they do in the anti-drug campaign towards
something useful how lucky we would all be.

It may be cold hearted, but if someone insists on killing themselves
with drugs--more power to 'em! Better they kill themselves than someone
else as they hold up, rob, etc. normal citizens.

JS
--
http://assemblywizard.tekcities.com

2615. Re: Best HF Vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 02:53:01 UTC
From: Scott <acepilot@bloomer.net>
Message-ID: <hZGdnZfJpqaTKGXYnZ2dnUVZ_r6vnZ2d@bright.net>
Source record: 44630

There is such a thing? ;O

Well, my only experience with an HF vertical is the Outbacker on my truck. Works A-OK on 40M and up, but seems a little weak on 80M (which doesn't really surprise me!).

Scott
N0EDV

west wrote:

> I know I can go to eham.com but I like the advice on rraa better. I also
> know that this question is somewhat subjective, but if you will, please
> indulge. :-)
> What is flat out the best vertical HF antenna in your opinion and why?
> Thanks in advance.
>
> west
> AF4GC
>
>

2616. Re: Challenger DX opinions?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 03:11:19 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <49ehv2dqrmtgf632kevng5b5230efilg7h@4ax.com>
Source record: 44627

On Thu, 15 Mar 2007 00:39:11 GMT, "west" <restccq2@verizon.net> wrote:

>What about the ones that do not require ground radials or counter poise,
>i.e. GAP Titan?

Hi West,

Two things:
1. Raise them up 3 or 4 meters;
B. Don't use the bottom one or two bands.

73's
Richard Clark, KB7QHC

2617. Re: Best way to clean elements before assembly?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 03:15:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <jspmc4-tec.ln1@mail.specsol.com>
Source record: 44631

Wes <n7ws@yahoo.com> wrote:
> On Mar 10, 9:41 pm, Tehrasha Darkon <dar...@netins.net> wrote:
> > I have become the new owner of a KT-34XA which has never been deployed.
> >
> > Original owner bought it 3 years ago, and it has lay on the floor of his car
> > port ever since. So it has been subjected to rain, bird poo and mice. The
> > main elements (mainly the boom) show the signs weathering. Very dull gray and
> > an almost dusty texture.
> >
> > What would be the best thing to use to clean the elements, before grease and
> > assembly?
> >
> >

> I've discussed my method before in this group. DAGS for "wes cleaning
> aluminum" for the writeup.

> Unfortunately, in my location the meth labs were using lots of lye so
> we can't buy it at Ace Hardware anymore.

If you are talking about Red Devil brand lye, it is because Red Devil
got out of the lye business due to lack of profits in it.

--
Jim Pennino

Remove .spam.sux to reply.

2618. Re: Best way to clean elements before assembly?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 03:31:40 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12vhfgted86ae5b@corp.supernews.com>
Source record: 44632

jimp@specsol.spam.sux.com wrote:
> Wes <n7ws@yahoo.com> wrote:
>
>> I've discussed my method before in this group. DAGS for "wes cleaning
>> aluminum" for the writeup.
>
>> Unfortunately, in my location the meth labs were using lots of lye so
>> we can't buy it at Ace Hardware anymore.
>
> If you are talking about Red Devil brand lye, it is because Red Devil
> got out of the lye business due to lack of profits in it.

Calcium carbonate (Na2CO3), aka "washing soda", is sold at paint stores as "TSP substitute". It's not as alkaline as lye (pH over 13), but with a pH of 11.5 for a few percent solution it's still pretty darn alkaline. Would it work in place of lye?

Roy Lewallen, W7EL

2619. Re: Best HF Vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 04:13:28 UTC
From: Jet_Li <Jet_Li@I_Kill_U.org.ch>
Message-ID: <94ydnZozGs1nW2XYnZ2dnUVZ_s3inZ2d@hawaiiantel.net>
Source record: 44633

west wrote:

> I know I can go to eham.com but I like the advice on rraa better. I also
> know that this question is somewhat subjective, but if you will, please
> indulge. :-)
> What is flat out the best vertical HF antenna in your opinion and why?
> Thanks in advance.
>
> west
> AF4GC

best is any vertical from Force 12 - I got one on 75 meters that beats
everything else I have put up.
got one on 40 meters from Force 12 - beats everything else I have put up.

need I go on?

2620. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 05:12:11 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <LA4Kh.5267$JZ3.4880@newssvr13.news.prodigy.net>
Source record: 44634

Gene Fuller wrote:
> Until next time. I guess we will continue to disagree.

Gene, how can you insist that standing waves are just
like traveling waves when their equations are so
different - different enough to make them virtually
opposites. The phase of a traveling wave varies with
distance - the phase of a standing wave doesn't. The
amplitude of a standing wave varies with distance -
the amplitude of a traveling wave doesn't (in a loss-
less transmission line). I can't think of a way that
those two types of waves are alike except for frequency.
--
73, Cecil http://www.w5dxp.com

2621. Re: Best HF Vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 06:16:49 UTC
From: David Ryeburn <ryeburn@sfu.caz>
Message-ID: <ryeburn-33C66C.23164714032007@morgoth.sfu.ca>
Source record: 44635

In article <94ydnZozGs1nW2XYnZ2dnUVZ_s3inZ2d@hawaiiantel.net>,
Jet_Li <Jet_Li@I_Kill_U.org.ch> wrote:

> best is any vertical from Force 12 - I got one on 75 meters that beats
> everything else I have put up.
> got one on 40 meters from Force 12 - beats everything else I have put up.

I went to the Force 12 website and clicked on the "Flagpole antennas"
link http://force12inc.com/F12-flagpole-ants-003.htm.

I read the "New 40 Meter Coil" portion of the page with interest --
sounded too good to be true. A moment's use of the calculator showed
that the VSWR figures and the quoted feed point impedances were very
inconsistent -- orders of magnitude wrong. The claimed SWR of 16 for the
unloaded antenna worked out really to be about 850 -- close enough to
infinity for me!

If that's what the "useful A.R.R.L. TLW software" actually indicates,
then the League should withdraw the software. But somehow I suspect that
the software (which I do not have) doesn't predict what the web page
says it does.

I leave it to someone with a copy of EZNEC to see if an 1/8 wave monople
on 40 metres made out of 2 inch diameter tubing really has an input
impedance of about 5 - j460. That part, at least, sounds reasonable to me

David, ex-W8EZE, who hasn't forgotten the formulas for SWR

--
David Ryeburn
ryeburn@sfu.caz
To send e-mail, use "ca" instead of "caz".

2622. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 06:52:39 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1173941559.060938.159960@n59g2000hsh.googlegroups.com>
Source record: 44636

On Mar 9, 2:11 pm, John Smith I <assemblywiz...@gmail.com> wrote:
> Cecil Moore wrote:
> > j...@specsol.spam.sux.com wrote:
> >> EM waves depart when energy is applied, not particles.
>
> > Quantum Electrodynamics tells us that EM waves consist
> > of photons which are particles.
> > --
> > 73, Cecil, w5dxp.com
>
> So, which is the real question:
>
> 1) Why do waves act like particles?
>
> --OR--
>
> 2) Why do particles act like waves?
>
> JS
> --http://assemblywizard.tekcities.com

When a field is traveling at/near the speed of light it has mass(acts as a particle) slower and it is a wave. EM lives on the hairy edge of both worlds. vAt least thats what my Phd girlfriend told me once. Who knows though, she was pretty weird.

JIMMIE

2623. Re: Best HF Vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 07:33:47 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F4BCD2DD891nonenowhere@61.9.191.5>
Source record: 44637

David Ryeburn <ryeburn@sfu.caz> wrote in
news:ryeburn-33C66C.23164714032007@morgoth.sfu.ca:

> In article <94ydnZozGs1nW2XYnZ2dnUVZ_s3inZ2d@hawaiiantel.net>,
> Jet_Li <Jet_Li@I_Kill_U.org.ch> wrote:
>
>> best is any vertical from Force 12 - I got one on 75 meters that
>> beats everything else I have put up.
>> got one on 40 meters from Force 12 - beats everything else I have put
>> up.
>
> I went to the Force 12 website and clicked on the "Flagpole antennas"
> link http://force12inc.com/F12-flagpole-ants-003.htm.
>
> I read the "New 40 Meter Coil" portion of the page with interest --
> sounded too good to be true. A moment's use of the calculator showed
> that the VSWR figures and the quoted feed point impedances were very
> inconsistent -- orders of magnitude wrong. The claimed SWR of 16 for
> the unloaded antenna worked out really to be about 850 -- close enough
> to infinity for me!

Your calc is about right (assuming Zo=50+j0).

>
> If that's what the "useful A.R.R.L. TLW software" actually indicates,
> then the League should withdraw the software. But somehow I suspect
> that the software (which I do not have) doesn't predict what the web
> page says it does.

TLW suffers from some of the same issues as tables in the ARRL handbooks,
but I haven't run Force12's numbers on TLW, I will use my own calculator.

>
> I leave it to someone with a copy of EZNEC to see if an 1/8 wave
> monople on 40 metres made out of 2 inch diameter tubing really has an
> input impedance of about 5 - j460. That part, at least, sounds
> reasonable to me

David, I ran an analysis of a 10m "flagpole" as a multiband antenna, and
the feedpoint impedance is around the 5-j460 if you ignore resistive loss
in the ground system. Force12 might not want to include such in the
analysis as it drives much lower efficiency.

If they did achieve a coil of 10uH with Q=600, the additional R is ~0.7
ohms (about 0.6dB loss in the stated scenario), so their new 6-j22 looks
a reasonable development(apart from the fact it also ignores ground

resistance), and I make the VSWR(50) to be 10 rather than their stated 6.

At the end of the day, the VSWR is not of itself the issue, the issue is what is the line loss and load impedance presented to the ATU, then the expected tuner loss.

Their estimate of 2dB line loss for 100' is probably realistic, I make the loss on 100' of RG213 at 7MHz with load 6-j22 to be 2dB (try it yourself at http://www.vk1od.net/tl/tllc.php), and the load seen by the ATU is a manageable 8+j3.0. The Z into the line is highly dependent on the line length, but since Force12 give it, lets look at likely tuner efficiency. Using W9CF's tuner applet with default configuration, ATU loss might be around 0.7dB.

This whole scenario predicts an antenna that might be quite acceptable to people with space or covenant issues, 3.3dB of total loss.

But...

What if ground resistance was 10 ohms, efficiency of the antenna and loading coil would be 5/(10+5+0.7) or 32% (5dB loss). That will help the line loss though, now with a feed Z of 15.7-j22, loss in the same line is 1dB and input Z is 16+j2. ATU loss might be more like 0.4dB. Total loss is 5+1+0.4 or 6.4dB.

Although there analysis ignores ground resistance, possibly so as to hide the efficiency of the loaded radiator, the real situation might only be 3dB worse than they intimate.

Of course, if the coil wasn't as good as they state, the picture is a little poorer. Similarly, achieving a low ground resistance isn't easy and the story could be much worse.

Do they have credibility? Perhaps they should have stuck to the QSL card count method as the quantitative support for the design!

The idea of a flagpole sings when an automatic ATU is placed at its base, but that doesn't solve the efficiency issue that exists with any Marconi with low radiation resistance. I wrote an article exploring an unloaded vertical as a multiband antenna, it is at http://www.vk1od.net/multibandunloadedvertical/index.htm and may be of interest.

Owen

2624. Re: Best HF Vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 07:48:48 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F4BF5EBE8ACnonenowhere@61.9.191.5>
Source record: 44638

David Ryeburn <ryeburn@sfu.caz> wrote in
news:ryeburn-33C66C.23164714032007@morgoth.sfu.ca:

> In article <94ydnZozGs1nW2XYnZ2dnUVZ_s3inZ2d@hawaiiantel.net>,
> Jet_Li <Jet_Li@I_Kill_U.org.ch> wrote:
>
>> best is any vertical from Force 12 - I got one on 75 meters that
>> beats everything else I have put up.
>> got one on 40 meters from Force 12 - beats everything else I have put
>> up.
>
> I went to the Force 12 website and clicked on the "Flagpole antennas"
> link http://force12inc.com/F12-flagpole-ants-003.htm.
>
> I read the "New 40 Meter Coil" portion of the page with interest --
> sounded too good to be true. A moment's use of the calculator showed
> that the VSWR figures and the quoted feed point impedances were very
> inconsistent -- orders of magnitude wrong. The claimed SWR of 16 for
> the unloaded antenna worked out really to be about 850 -- close enough
> to infinity for me!

Ah, but you calculated the VSWR at the load end. They calculated the much
lower VSWR at the source end of the line.

If you were Force12, you probably wouldn't want to publicise the extreme
VSWR that users of the standard flagpole experience in this scenario.

Owen

2625. Re: Best HF Vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 07:50:32 UTC
From: Tehrasha Darkon <darkon@netins.net>
Message-ID: <etats8cii1@news.netins.net>
Source record: 44639

On Thu, 15 Mar 2007 00:08:30 +0000, west wrote:

> I know I can go to eham.com but I like the advice on rraa better. I also
> know that this question is somewhat subjective, but if you will, please
> indulge. :-)
> What is flat out the best vertical HF antenna in your opinion and why?
> Thanks in advance.
>
> west
> AF4GC

SteppIR. Why use a tuner to match your radio to your antenna, when you can
make your antenna match your radio?

--Teh

2626. Re: Totally OT, yet very relevant

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 11:55:08 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1173959707.951120.160100@l77g2000hsb.googlegroups.com>
Source record: 44640

On Mar 14, 2:14 pm, You <Y...@shadow.orgs> wrote:
> In article <1173815666.777420.51...@s48g2000cws.googlegroups.com>,
>
> "Denny" <k...@mailblocks.com> wrote:
> > Remember, climate affects propagation...
>
> On what planet do you live??????

Hmmm, since it appears you don't believe, try weak signal DX on 160 meters during the summer...
Or, try 2 meters on a calm spring night with a temperature inversion...

Or, were you referring to the article which provides the fact that global warming and ice cap melting is not new or even rare and preceeds the industrial revolution by millions of years and is recurrent, over and over... In fact, the ground where I am as I type this, had 2 miles high of blue ice piled on top of it a mere 20,000 years ago... Must have been those Neandertals and their factories and SUV's that did us in, eh...

Anyway, cheers, eh wot!

denny / k8do

2627. Re: Totally OT, yet very relevant

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 12:51:03 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <XibKh.5368$JZ3.361@newssvr13.news.prodigy.net>
Source record: 44641

Denny wrote:
> In fact, the ground where I am as I type
> this, had 2 miles high of blue ice piled on top of it a mere 20,000
> years ago...

And probably the same 145,000 years ago, while 120,000
years ago it was hotter than it is today. Every time
in the past 400K yearswhen it got approximately as hot
as it is today, an ice age "immediately" followed in
cycles of between 80K and 120K years. Just the other
day, Congress had to cancel their Global Warming
meeting because of snow. :-)
--
73, Cecil http://www.w5dxp.com

2628. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 13:02:37 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <etbg5erar1@aioe.org>
Source record: 44642

"Dan Bloomquist" wrote
> This is not correct. It has nothing to do with the output impedance of the
> drivers. Even a 50 ohm Thevenin source will reflect _all_ the power back
> to the load as long as it is 'matched'.

Following is a quotation from a paper titled "A Study of RF Intermodulation Between FM Broadcast Transmitters Sharing Filterplexed or Co-Located Antenna Systems," by G. N. Mendenhall, P.E., who then was the VP of Engineering for Broadcast Electronics, Inc, and now is VP of Product Engineering for Harris Corporation, Broadcast Division. Broadcast Electronics and Harris manufacture a full range of high power broadcast transmitters. Mendenhall is highly regarded in the broadcast industry.

In the context of the quote, the "interfering signal" means a signal coupled into the transmitter PA output circuits that was generated external to that transmitter. But the interfering signal also could be a reflection of the output signal of that transmitter from a mismatched load. Therefore the information in the quote addresses the subject of these posts.

QUOTE
"Output Return Loss" is a measure of the amount.of interfering signal that is coupled into the output circuit versus the amount that is reflected back from
the output circuit without interacting with the nonlinear device.

To understand this concept more clearly, we must remember that although the output circuit of the transmitter is designed to work into a fifty ohm load, the
output source impedance of the transmitter is not fifty ohms. If the source impedance were equal to the fifty ohm transmission line impedance, half of the transmitter's output power would be dissipated in its internal output source impedance.

The transmitter's output source impedance must be low compared to the load impedance in order to achieve good efficiency. The transmitter therefore looks
like a voltage source driving a fifty ohm resistive load. While the transmission
line is correctly terminated looking toward the antenna (high return loss), the
transmission line is greatly mismatched looking toward the output circuit of the
transmitter (low return loss). This means that power coming out of the transmitter
is (almost) completely absorbed by the load while interfering signals fed

into
the transmitter are almost completely reflected by the output circuit.
END QUOTE

If the terminating impedance for reflected/reverse power on a transmission line looking back into the PA matched the impedance of that transmission line, it is rather unclear why the PA would reflect _all_ that power back toward the load, rather than dissipate it in that termination.

RF

2629. Re: Best way to clean elements before assembly?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 13:07:09 UTC
From: Wes <n7ws@yahoo.com>
Message-ID: <1173964029.638154.327340@n59g2000hsh.googlegroups.com>
Source record: 44643

On Mar 14, 8:15 pm, j...@specsol.spam.sux.com wrote:
> Wes <n...@yahoo.com> wrote:
> > On Mar 10, 9:41 pm, Tehrasha Darkon <dar...@netins.net> wrote:
> > > I have become the new owner of a KT-34XA which has never been deployed.
>
> > > Original owner bought it 3 years ago, and it has lay on the floor of his car
> > > port ever since. So it has been subjected to rain, bird poo and mice. The
> > > main elements (mainly the boom) show the signs weathering. Very dull gray and
> > > an almost dusty texture.
>
> > > What would be the best thing to use to clean the elements, before grease and
> > > assembly?
>
> > I've discussed my method before in this group. DAGS for "wes cleaning
> > aluminum" for the writeup.
> > Unfortunately, in my location the meth labs were using lots of lye so
> > we can't buy it at Ace Hardware anymore.
>
> If you are talking about Red Devil brand lye, it is because Red Devil
> got out of the lye business due to lack of profits in it.

Yes. It's hard to make a profit when a lot of stores have pulled it
from their shelves.

Now the meth heads have to mail order it:

http://www.boyercorporation.com/

2630. Re: Best way to clean elements before assembly?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 13:28:15 UTC
From: Wes <n7ws@yahoo.com>
Message-ID: <1173965295.128600.57150@l77g2000hsb.googlegroups.com>
Source record: 44644

On Mar 14, 8:31 pm, Roy Lewallen <w...@eznec.com> wrote:

>
> Calcium carbonate (Na2CO3), aka "washing soda", is sold at paint stores
> as "TSP substitute". It's not as alkaline as lye (pH over 13), but with
> a pH of 11.5 for a few percent solution it's still pretty darn alkaline.
> Would it work in place of lye?

Don't see why not. Might just have to soak it longer. Fresh lye
works pretty fast and as it becomes depleted it takes longer, so this
would be about the same situation.

I'm not a chemist and don't profess any special knowledge of this
process other than what Iearned eons ago in the "chem lab" in our
engineering lab. We used to do our own aluminum passivation
(Alodine), silver and gold plating and so forth. For example, here's
one of the two-meter amps I've built:

http://k6mhe.com/n7ws/K7CVT_Amp_6.jpg

(Sorry about the quality of the image, this is scanned from an old
snapshot I took just before I polished it up and sold it.)

Before that I worked in my dad's automotive machine shop, where we had
a caustic hot tank for degreasing parts. You learned real fast to not
leave any VW parts in there overnight because the next day, you didn't
have any.

2631. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 13:33:14 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <uWbKh.150257$5j1.123458@bgtnsc04-news.ops.worldnet.att.net>
Source record: 44645

Cecil Moore wrote:
> Gene Fuller wrote:
>> Until next time. I guess we will continue to disagree.
>
> Gene, how can you insist that standing waves are just
> like traveling waves when their equations are so
> different - different enough to make them virtually
> opposites. The phase of a traveling wave varies with
> distance - the phase of a standing wave doesn't. The
> amplitude of a standing wave varies with distance -
> the amplitude of a traveling wave doesn't (in a loss-
> less transmission line). I can't think of a way that
> those two types of waves are alike except for frequency.

Cecil,

OK, so you don't want to let this drop quite yet. I have dredged through the muck of Google archives, and I found the following 5 exact quotes from you. I believe these fairly represent your position, but if not, please let me know about others. More on the other end . . .

****

1) Quoting Balanis: "Standing wave antennas, such as the dipole, can be analyzed as traveling wave antennas with waves propagating in opposite directions (forward and backward) and represented by traveling wave antenna currents I(f) and I(b)."

2) Kraus: "A sinusoidal current distribution may be regarded as the standing wave produced by two uniform (unattenuated) traveling waves of equal amplitude moving in opposite directions along the antenna."

3) From "Fields and Waves ...", by Ramo & Whinnery, in describing the standing wave situation: "The total energy in any length of line a multiple of a quarter wavelength long is constant, *merely interchanging between energy in the electric field of the voltages and energy in the magnetic field of the currents*." Again, proof that standing wave energy doesn't flow. It just stands there being exchanged between the E-fields and the H-fields. That is from page 40 of "Fields and Waves in Communications Electronics", by Ramo, Whinnery, and Van Duzer.

4) I recognize that equation from "Optics", by Hecht. Pick any point, 'z', and see what you get. Hecht says, "It doesn't rotate at all, and the resultant wave it represents *DOESN'T PROGRESS THROUGH SPACE* - it's a standing wave." The RF equivalent of a standing wave of light that doesn't progress through space is an RF standing wave that doesn't

progress through a wire. That's what I have been telling you guys. Standing waves don't move. Standing wave current doesn't flow! Even in empty space, a light standing wave doesn't progress through space, i.e. IT DOESN'T MOVE! That is on page 289 of "Optics", by Hecht, 4th edition.

5) Here's a little help from Hecht of "Optics" fame. (quote)

E(x,t)=2E0t*sin(kx)*cos(wt)

This is the equation for a *standing wave*, as opposed to a traveling wave. Its profile does not move through space; it is clearly not of the (traveling wave) form f(x +/- vt) ...
Let the phasor E1 represent a (traveling) wave to the left, and E2 a (traveling) wave to the right. ... (The sum) doesn't rotate at all, and the resultant wave it represents doesn't progress through space - it's a standing wave. (end quote)

****

Quotes (1) and (2) do not use words that most people would associate with "proof". Instead, the use of terms such as "can be analyzed" and "may be regarded" completely support my position that the choice to use standing waves or traveling waves is simply one of mathematical convenience. When standing waves exist, there is no physical difference between the standing waves and their constituent traveling wave components.

Quotes (3), (4), and (5) completely support my position again. When a standing wave exists, there is no more hidden information buried in the constituent traveling wave components. No flowing energy waves or other such nonsense.

It is possible to have many mathematical descriptions of a physical phenomenon. However, they all need to yield exactly the same physical predictions or else one or more of the models are incomplete or wrong.

Of course there are traveling waves that are not simply mathematical components of standing waves. All of the stuff about TDRs and ghosts falls into that category. This message is not about those traveling waves at all, so you can forget about bringing up all of your TV ghost arguments.

73,
Gene
W4SZ

2632. Re: Best HF Vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 15:06:23 UTC
From: Caveat Lector <CL@nowhere.com>
Message-ID: <MhdKh.37931$907.2277@newsfe13.phx>
Source record: 44647

"Tehrasha Darkon" <darkon@netins.net> wrote in message
news:etats8cii1@news.netins.net...
> On Thu, 15 Mar 2007 00:08:30 +0000, west wrote:
>
>> I know I can go to eham.com but I like the advice on rraa better. I also
>> know that this question is somewhat subjective, but if you will, please
>> indulge. :-)
>> What is flat out the best vertical HF antenna in your opinion and why?
>> Thanks in advance.
>>
>> west
>> AF4GC
>
> SteppIR. Why use a tuner to match your radio to your antenna, when you can
> make your antenna match your radio?
>
> --Teh

No Tuner i.e. TransMatch -- The SteppIRT vertical is remotely adjustable in length, with continuous coverage from 40 meters through 6 meters - and every frequency in between.

A vertical antenna that is precisely adjustable in length while in the air solves the coverage problem, and in addition has vastly improved performance over existing fixed length verticals. The ability to tune the antenna to a specific frequency results in excellent performance on every band - and this means the entire band, with very low VSWR. Resonant antennas must be made a specific length to operate optimally on a given frequency. So, instead of trying to "trick" the antenna into thinking it is a different length (traps, coils, etc), why not just change the antenna length? This is what we have done with the new SteppIR verticals.

http://www.steppir.com/

CL

2633. Re: Totally OT, yet very relevant

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 15:15:46 UTC
From: chuck <nospam@nospam.org>
Message-ID: <1173968253_39035@sp6iad.superfeed.net>
Source record: 44646

Denny wrote:
> On Mar 14, 2:14 pm, You <Y...@shadow.orgs> wrote:
>> In article <1173815666.777420.51...@s48g2000cws.googlegroups.com>,
>>
>> "Denny" <k...@mailblocks.com> wrote:
>>> Remember, climate affects propagation...
>> On what planet do you live??????
>
> Hmmm, since it appears you don't believe, try weak signal DX on 160
> meters during the summer...
> Or, try 2 meters on a calm spring night with a temperature
> inversion...
>
> Or, were you referring to the article which provides the fact that
> global warming and ice cap melting is not new or even rare and
> preceeds the industrial revolution by millions of years and is
> recurrent, over and over... In fact, the ground where I am as I type
> this, had 2 miles high of blue ice piled on top of it a mere 20,000
> years ago... Must have been those Neandertals and their factories and
> SUV's that did us in, eh...
>
>
>
> Anyway, cheers, eh wot!
>
> denny / k8do
>

Well, at least if you're in a potato field ;-)

http://www.winmee.org/2005/papers/WiNMee_Thelen.pdf
WiNMee_Thelen.pdf (application/pdf Object)

73,
Chuck

----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

2634. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 15:16:27 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <frdKh.7798$M65.4331@newssvr21.news.prodigy.net>
Source record: 44648

Gene Fuller wrote:

> Quotes (1) and (2) do not use words that most people would associate
> with "proof". Instead, the use of terms such as "can be analyzed" and
> "may be regarded" completely support my position that the choice to use
> standing waves or traveling waves is simply one of mathematical
> convenience.

No technical author is going to be arrogant enough to use
the phrases "must be analyzed" or "must be regarded". Many
shortcuts do work from a mathematical standpoint but often
lose their ability to tell us anything about reality.

You were the first person to point that out - that when two
opposite direction traveling waves are superposed, the sum
of the superposition loses its changing phase. That's why
W7EL's and W8JI's phase measurements through a loading coil
on a standing wave antenna were of no value except to prove
that standing wave current doesn't change phase in a wire or
in a coil.

> When standing waves exist, there is no physical difference
> between the standing waves and their constituent traveling wave components.

Proven false by the previous quote from "Optics", by Hecht.

>> E(x,t)=2E0t*sin(kx)*cos(wt)
>>
>> This is the equation for a *standing wave*, as opposed to a traveling
>> wave. Its profile does *NOT* move through space; it is clearly *NOT*
of the
>> (traveling wave) form f(x +/- vt) ...

Hecht apparently assumed the definition of the word "not" is
understood by the average reader and didn't need emphasis
so I added it. :-)

There is an obvious physical difference that can be seen
from the equations. Again, a standing wave has fixed phase
while a traveling wave has a variable phase. A standing
wave has a variable amplitude while a traveling wave has
a fixed amplitude. That's two ways they are entirely
different.

> No flowing energy waves or other such nonsense.

Nothing like that assertion is supported in the quotes. Please
point out where any of those references assert that there is no
energy in a reflected wave or that reflected waves do not exist.

Ramo and Whinnery go so far as to vector sum the forward power
flow vector and the reflected power flow vector.

> It is possible to have many mathematical descriptions of a physical
> phenomenon. However, they all need to yield exactly the same physical
> predictions or else one or more of the models are incomplete or wrong.

Plus they need to be linked to reality. Standing waves existing
without the component forward and reverse traveling waves is
divorced from reality. Neither you nor anyone else has been able
to provide even one real-world example of such.

Forward traveling wave + reflected traveling wave = standing wave

What happens to the standing wave when you take away the reflected
wave?

Forward traveling wave + nothing = forward traveling wave

i.e. there is no standing wave. So please tell us again how
you can build a standing wave from a single traveling wave.

> ... so you can forget about bringing up all of your TV ghost
> arguments.

That rug of yours under which you try to sweep all the
reflected energy is going to explode one of these days. :-)
--
73, Cecil, w5dxp.com

2635. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 15:53:38 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <6_dKh.150541$5j1.46868@bgtnsc04-news.ops.worldnet.att.net>
Source record: 44649

Cecil Moore wrote:

>
> Forward traveling wave + reflected traveling wave = standing wave
>
> What happens to the standing wave when you take away the reflected
> wave?

It's a different physical situation. None of this discussion has any bearing on the new problem with only one traveling wave. When you when finally understand the meaning of your own words, there may be hope for progress. Until then, we are just boring everyone.

73,
Gene
W4SZ

2636. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 15:53:59 UTC
From: Dan Bloomquist <public21@lakeweb.com>
Message-ID: <r_dKh.4876$B25.2052@news01.roc.ny>
Source record: 44650

Richard Fry wrote:
> "Dan Bloomquist" wrote
>
>> This is not correct. It has nothing to do with the output impedance of
>> the drivers. Even a 50 ohm Thevenin source will reflect _all_ the
>> power back to the load as long as it is 'matched'.
>
> _____
>
> Following is a quotation from a paper titled "A Study of RF
> Intermodulation Between FM Broadcast Transmitters Sharing Filterplexed
> or Co-Located Antenna Systems," by G. N. Mendenhall, P.E., who then was
> the VP of Engineering for Broadcast Electronics, Inc, and now is VP of
> Product Engineering for Harris Corporation, Broadcast Division.
> Broadcast Electronics and Harris manufacture a full range of high power
> broadcast transmitters. Mendenhall is highly regarded in the broadcast
> industry.
>
> In the context of the quote, the "interfering signal" means a signal
> coupled into the transmitter PA output circuits that was generated
> external to that transmitter. But the interfering signal also could be
> a reflection of the output signal of that transmitter from a mismatched
> load. Therefore the information in the quote addresses the subject of
> these posts.
>
> QUOTE
> "Output Return Loss" is a measure of the amount.of interfering signal that
> is coupled into the output circuit versus the amount that is reflected
> back from
> the output circuit without interacting with the nonlinear device.
>
> To understand this concept more clearly, we must remember that although the
> output circuit of the transmitter is designed to work into a fifty ohm
> load, the
> output source impedance of the transmitter is not fifty ohms. If the
> source
> impedance were equal to the fifty ohm transmission line impedance, half
> of the transmitter's output power would be dissipated in its internal
> output
> source impedance.
>
> The transmitter's output source impedance must be low compared to the load
> impedance in order to achieve good efficiency. The transmitter therefore
> looks

> like a voltage source driving a fifty ohm resistive load. While the
> transmission
> line is correctly terminated looking toward the antenna (high return
> loss), the
> transmission line is greatly mismatched looking toward the output
> circuit of the
> transmitter (low return loss). This means that power coming out of the
> transmitter
> is (almost) completely absorbed by the load while interfering signals
> fed into
> the transmitter are almost completely reflected by the output circuit.
> END QUOTE
>
> If the terminating impedance for reflected/reverse power on a
> transmission line looking back into the PA matched the impedance of that
> transmission line, it is rather unclear why the PA would reflect _all_
> that power back toward the load, rather than dissipate it in that
> termination.

Hi Richard,
He says it in the last sentence. But here is an example. Take a 50 ohm thevinin source. Power off, it looks like 50 ohms back into it. Take a second thevinin source to represent a reflection and drive 5 volts into the first source. Now set your first source 180 degrees to the reflection and drive forward 5 volts.

(s)-----/\/\/\--------(c)-----/\/\/\--------(r)

(s)source (c)connection (r)reflection. With (s) 180 degrees out of phase from (r), (r) will see a short at (c). It is because of the power generated at the source that the impedance into it can look purely reactive. And, you can use 5 ohms with 1 volt at the source, (c) will still look like a short to (r). The source resistance doesn't matter as long as a 'match' is made.

And for the same reason, why the 50 ohm line doesn't look like 50 ohms is because of reflected power. Drive an open quarter wave line and it looks like a short because the reflected voltage is 180 degrees out from the source.

> RF

Best, Dan. (DB :)

2637. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 15:58:24 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <A2eKh.79065$as2.9066@bgtnsc05-news.ops.worldnet.att.net>
Source record: 44651

Cecil Moore wrote:

>
> No technical author is going to be arrogant enough to use
> the phrases "must be analyzed" or "must be regarded". Many
> shortcuts do work from a mathematical standpoint but often
> lose their ability to tell us anything about reality.
>

Cecil,

Utter rot. These experts are not careless. Textbooks are full of examples of "must" and "may". The words are not chosen at random.

If you think a standing wave is a "shortcut", how about showing the mathematical models that support your position? I, along with many others, have shown the reverse many times.

73,
Gene
W4SZ

2638. Re: Best way to clean elements before assembly?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 16:35:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <rl8oc4-i6g.ln1@mail.specsol.com>
Source record: 44652

Wes <n7ws@yahoo.com> wrote:
> On Mar 14, 8:15 pm, j...@specsol.spam.sux.com wrote:
> > Wes <n...@yahoo.com> wrote:
> > > On Mar 10, 9:41 pm, Tehrasha Darkon <dar...@netins.net> wrote:
> > > > I have become the new owner of a KT-34XA which has never been deployed.
> > >
> > > > Original owner bought it 3 years ago, and it has lay on the floor of his car
> > > > port ever since. So it has been subjected to rain, bird poo and mice. The
> > > > main elements (mainly the boom) show the signs weathering. Very dull gray and
> > > > an almost dusty texture.
> > >
> > > > What would be the best thing to use to clean the elements, before grease and
> > > > assembly?
> > >
> > > I've discussed my method before in this group. DAGS for "wes cleaning
> > > aluminum" for the writeup.
> > > Unfortunately, in my location the meth labs were using lots of lye so
> > > we can't buy it at Ace Hardware anymore.
> > >
> > If you are talking about Red Devil brand lye, it is because Red Devil
> > got out of the lye business due to lack of profits in it.

> Yes. It's hard to make a profit when a lot of stores have pulled it
> from their shelves.

> Now the meth heads have to mail order it:

> http://www.boyercorporation.com/

Not really.

Found at the local Lowes home improvement store, Roebic Crystal
Drain Opener. Ingrediants, 100% sodium hydroxide.

None of the local supermarkets which all used to carry Red Devil lye
any longer have anything like that.

--
Jim Pennino

Remove .spam.sux to reply.

2639. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 16:36:41 UTC
From: richardharrison@webtv.net
Message-ID: <15227-45F97619-230@storefull-3255.bay.webtv.net>
Source record: 44653

Dan Bloomquist wrote:
"And can be seen clearly by looking at the reflection of a Smith chart upside down."

Clever idea! Standing on my head, peering at a Smith chart from that perspective, did not much change my view of the R/Zo and jX/Zo circles.

I agree the Smith Chart is a marvelous way to visualize what is happening on a transmission line.

Best regards, Richard Harrison, KB5WZI

2640. Re: Best HF Vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 16:59:17 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F5288F33411nonenowhere@61.9.191.5>
Source record: 44654

"Caveat Lector" <CL@nowhere.com> wrote in
news:MhdKh.37931$907.2277@newsfe13.phx:

>
> "Tehrasha Darkon" <darkon@netins.net> wrote in message
> news:etats8cii1@news.netins.net...
>> On Thu, 15 Mar 2007 00:08:30 +0000, west wrote:
>>
>>> I know I can go to eham.com but I like the advice on rraa better. I
>>> also know that this question is somewhat subjective, but if you
>>> will, please indulge. :-)
>>> What is flat out the best vertical HF antenna in your opinion and
>>> why? Thanks in advance.
>>>
>>> west
>>> AF4GC
>>
>> SteppIR. Why use a tuner to match your radio to your antenna, when
>> you can make your antenna match your radio?
>>
>> --Teh
>
> No Tuner i.e. TransMatch -- The SteppIRT vertical is remotely
> adjustable in length, with continuous coverage from 40 meters through
> 6 meters - and every frequency in between.
>
> A vertical antenna that is precisely adjustable in length while in the
> air solves the coverage problem, and in addition has vastly improved
> performance over existing fixed length verticals. The ability to tune
> the antenna to a specific frequency results in excellent performance
> on every band - and this means the entire band, with very low VSWR.
> Resonant antennas must be made a specific length to operate optimally
> on a given frequency. So, instead of trying to "trick" the antenna
> into thinking it is a different length (traps, coils, etc), why not
> just change the antenna length? This is what we have done with the new
> SteppIR verticals.

This analysis is along the lines of the traditional "resonant antennas
work better" line.

Sure, a marconi antenna that is adjusted to be a physical quarter wave on
the operating frequency has a feedpoint impedance that yields a low VSWR
on the coax, and feedline losses are relatively low, but the equivalent
loss resistance of the ground connection is significant relative to the
radiation resistance. A quarter wave marconi requires an extensive earth

system for good efficiency.

My reading of Cebik's article at http://www.cebik.com/gp/gr.html is that simple 4 radial installations have 10 ohms or so loss resistance greater than extensive (128 radial) systems, which themselves aren't zero loss. The modelled feedpoint R varies from 4 to 18 ohms above the radiation resistance of a quarter wave over perfect ground, which implies a feedpoint efficiency of 90% to 66% respectively.

On the other hand, a longer non-resonant radiator (say approaching a half wave) has higher radiation resistance (relative to the equivalent ground loss resistance) which more than offsets the loss expected in a matching network needed to operate the coax at near unity VSWR for low line loss. Not only might the longer radiator be more efficient, but it well have a better pattern (eg higher gain at lower angles or radiation).

It isn't clear to me that the Steppir has "vastly improved performance over existing fixed length verticals" as you put it. With enough radials, it is about as good as good verticals get, but there are other good verticals that don't need as extensive a radial system.

Owen

2641. Re: The power explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 17:01:38 UTC
From: Dan Bloomquist <public21@lakeweb.com>
Message-ID: <SZeKh.4991$ya1.2182@news02.roc.ny>
Source record: 44655

Richard Harrison wrote:

> Dan Bloomquist wrote:
> "And can be seen clearly by looking at the reflection of a Smith chart
> upside down."
>
> Clever idea! Standing on my head, peering at a Smith chart from that
> perspective, did not much change my view of the R/Zo and jX/Zo circles.

You need to stand on your head _and_ use a mirror! :)

Otherwise, just flip the page over, top to bottom, and look at it
through the back side.

> I agree the Smith Chart is a marvelous way to visualize what is
> happening on a transmission line.

And a great engineering tool too.

> Best regards, Richard Harrison, KB5WZI

Best, Dan, KJ6FI

2642. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 17:22:17 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <etbvb3nqd1@nnrp.linuxfan.it>
Source record: 44656

JIMMIE wrote:

> ...
> When a field is traveling at/near the speed of light it has mass(acts
> as a particle) slower and it is a wave. EM lives on the hairy edge of
> both worlds. vAt least thats what my Phd girlfriend told me once. Who
> knows though, she was pretty weird.
>
> JIMMIE
>

Yes. Just thinking about this one aspect can keep me up for hours from
a restful sleep ... :(

Regards,
JS
--
http://assemblywizard.tekcities.com

2643. Re: Totally OT, yet very relevant

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 17:28:48 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1173979728.247119.6740@e1g2000hsg.googlegroups.com>
Source record: 44657

>
> Well, at least if you're in a potato field ;-)
>

Well, for those that care, I am sitting atop a ridge of glacial till
that the glacier dropped as these nasty hunter/gatherers melted it
with their camp fires - had to be their fault, just ask Al...

denny

2644. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 17:33:57 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1173980037.250920.306030@e65g2000hsc.googlegroups.com>
Source record: 44658

```
...
>
> > When a field is traveling at/near the speed of light it has mass(acts
> > as a particle) slower and it is a wave. EM lives on the hairy edge of
> > both worlds. vAt least thats what my Phd girlfriend told me once. Who
> > knows though, she was pretty weird.
>
> > JIMMIE
>
> Yes. Just thinking about this one aspect can keep me up for hours from
> a restful sleep ... :(
>
> Regards,
> JS
> --http://assemblywizard.tekcities.com

So, if I pass the wave through a slit it speeds up or slows down?
If I pass the particle through a slit it speeds up or slows down?

denny - enquiring mind and all that...
```

2645. One word answers...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 18:38:50 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F53970076E1nonenowhere@61.9.191.5>
Source record: 44659

Lets escape from mixed analysis of VSWR in transient scenarios.

Visualise a series circuit of a battery of 100V and negligible internal resistance, a 100 ohm ideal resistor, and an open switch. This circuit is connected to a lossless (ie ideal) transmission line with surge impedance (or characteristic impedance, Zo) of 100 ohms which is open circuit at the far end. It takes T seconds for a wave to travel from one end of the line to the other.

The scenario is a source impedance matched to the transmission line, with unmatched load.

When the switch is closed, current flows into the line. Until t=2T seconds, the current If that flows into the line equals 100V/(100+100 ohms) = 0.5A, during which time the resistor dissipates heat at the rate of I^2*R = 100W. The voltage of the wave Vf travelling from the source is I*Zo = 50V. This situation is constant until t=2T seconds.

At precisely t=T seconds, the wave travelling from the source end reaches the open end of the line, and a reflected wave is established to satisfy the conditions that I at the end of the line must be zero. The reflected wave must have current equal and opposite to the forward wave, so Ir=-If, the negative sign indicates that the wave travels in the opposite direction. Considering the reflected wave, Vr=Zo*Ir = 50V, so the total voltage at the o/c end is Vf+Vr = 50+50 = 100V.

At precisely t=2T seconds, the reflected wave reaches the source end of the line, and the voltage at the line terminals instantly becomes Vf+Vr or 100V. At that instant, the current from the source falls to zero, and the dissipation in the source resistor also falls to zero. This situation continues indefinitely.

My questions are:

How much of the energy that was contained in the reflected wave was dissipated in the source resistor?

Does existence of a reflected wave necessarily increase dissipation in the equivalent source resistance?

Is the reflected wave necessarily absorbed (or partly absorbed) by the equivalent source resistance?

Are the principles that apply to this example inconsistent with the general case (eg dc, ac, transient, steady state etc)?

One word answers should be sufficient.

Owen

2646. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 18:40:31 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <zqgKh.7447$yW.4482@newssvr11.news.prodigy.net>
Source record: 44660

Gene Fuller wrote:
> Cecil Moore wrote:
>> Forward traveling wave + reflected traveling wave = standing wave
>> What happens to the standing wave when you take away the reflected
>> wave?
>
> It's a different physical situation.

The two components of the standing wave are the forward traveling
wave and the reverse traveling wave. I guess if the reverse
traveling wave disappears, you can't ignore it anymore, huh?
--
73, Cecil, w5dxp.com

2647. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 18:48:42 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <eygKh.7544$yW.4663@newssvr11.news.prodigy.net>
Source record: 44661

Gene Fuller wrote:
> Cecil Moore wrote:
> If you think a standing wave is a "shortcut", how about showing the
> mathematical models that support your position?

I already did, Gene, but here it is again:

forward traveling wave + reverse traveling wave = standing wave

just substitute the appropriate math symbols. There's a
trig identity that corresponds to the above equation.

Take away either the forward traveling wave or the reverse
traveling wave and the standing wave ceases to exist.
There's no valid mathematical model that supports the
position that standing waves can exist with the two
component waves.
--
73, Cecil, w5dxp.com

2648. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 18:53:51 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <3DgKh.7642$yW.1980@newssvr11.news.prodigy.net>
Source record: 44662

Cecil Moore wrote:
> There's no valid mathematical model that supports the
> position that standing waves can exist with the two
> component waves.

Sorry, obviously should be "without", not "with".
I'm engaging in March Madness while I'm posting.
Gig 'Um, Aggies!
--
73, Cecil, w5dxp.com

2649. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 18:54:55 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <etc4or$7fa$1@nnrp.linuxfan.it>
Source record: 44663

Denny wrote:

> ...
> So, if I pass the wave through a slit it speeds up or slows down?
> If I pass the particle through a slit it speeds up or slows down?
>
> denny - enquiring mind and all that...
>

Are you asking me to check my speedometer next time I pass under a bridge?

See: http://en.wikipedia.org/wiki/Double-slit_experiment

JS
--
http://assemblywizard.tekcities.com

2650. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 19:09:09 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <etc5jg$9oe$1@nnrp.linuxfan.it>
Source record: 44664

John Smith I wrote:
> Denny wrote:
>
> > ...
>> So, if I pass the wave through a slit it speeds up or slows down?
>> If I pass the particle through a slit it speeds up or slows down?
>>
>> denny - enquiring mind and all that...
>>
>
> Are you asking me to check my speedometer next time I pass under a bridge?
>
>
> See: http://en.wikipedia.org/wiki/Double-slit_experiment
>
> JS

Perhaps this URL:

http://www.thekeyboard.org.uk/Quantum%20mechanics.htm

will put everyone on "the same page" and point out that quite a few of
the debates/arguments/discussions here are probably "centered", roughly,
on the same points of dispute/contention ... or, the
unknown/unseen/unmeasured are a mystery that traditional physics
attempts to ignore and gloss over and use "place holders" to compensate
for--yet hamper our complete understanding of forces/affects/effects we
attempt to take for granted and claim a "good understanding" of.

Hey, I probably shouldn't complain--a world without mystery could get a
bit stale--I suppose ...

Regards,
JS
--
http://assemblywizard.tekcities.com

2651. Re: One word answers...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 19:13:36 UTC
From: Dan Bloomquist <public21@lakeweb.com>
Message-ID: <AVgKh.4894$B25.3178@news01.roc.ny>
Source record: 44665

Owen Duffy wrote:
> Lets escape from mixed analysis of VSWR in transient scenarios.
>
> Visualise a series circuit of a battery of 100V and negligible internal
> resistance, a 100 ohm ideal resistor, and an open switch. This circuit is
> connected to a lossless (ie ideal) transmission line with surge impedance
> (or characteristic impedance, Zo) of 100 ohms which is open circuit at
> the far end. It takes T seconds for a wave to travel from one end of the
> line to the other.
>
> At precisely t=2T seconds, the reflected wave reaches the source end of
> the line, and the voltage at the line terminals instantly becomes Vf+Vr
> or 100V. At that instant, the current from the source falls to zero, and
> the dissipation in the source resistor also falls to zero. This situation
> continues indefinitely.
>
> My questions are:
>
> How much of the energy that was contained in the reflected wave was
> dissipated in the source resistor?

None.

> Does existence of a reflected wave necessarily increase dissipation in
> the equivalent source resistance?

No.

> Is the reflected wave necessarily absorbed (or partly absorbed) by the
> equivalent source resistance?

No.

> Are the principles that apply to this example inconsistent with the
> general case (eg dc, ac, transient, steady state etc)?

Yes.

> One word answers should be sufficient.

Ok.

> Owen

Best,

2652. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 19:13:49 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <NVgKh.79848$as2.1206@bgtnsc05-news.ops.worldnet.att.net>
Source record: 44666

```
Cecil Moore wrote:
> Gene Fuller wrote:
>> Cecil Moore wrote:
>>> Forward traveling wave + reflected traveling wave = standing wave
>>> What happens to the standing wave when you take away the reflected
>>> wave?
>>
>> It's a different physical situation.
>
> The two components of the standing wave are the forward traveling
> wave and the reverse traveling wave. I guess if the reverse
> traveling wave disappears, you can't ignore it anymore, huh?
> --
> 73, Cecil, w5dxp.com

Cecil,

If I cut off one leg I will probably fall over. So what?

Your desperate attempts at evasion are showing. 8-)

73,
Gene
W4SZ
```

2653. Re: Best HF Vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 19:14:29 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F53F7AC5308nonenowhere@61.9.191.5>
Source record: 44667

Owen Duffy <none@no.where> wrote in
news:Xns98F4BCD2DD891nonenowhere@61.9.191.5:

...
> But...
>
> What if ground resistance was 10 ohms, efficiency of the antenna and
> loading coil would be 5/(10+5+0.7) or 32% (5dB loss). That will help
> the line loss though, now with a feed Z of 15.7-j22, loss in the same
> line is 1dB and input Z is 16+j2. ATU loss might be more like 0.4dB.
> Total loss is 5+1+0.4 or 6.4dB.

I didn't want to give the impression that this isn't a significant
improvement over the unloaded vertical on 7MHz.

The Force12 page give an analysis and loosely claims 16dB improvement
over the unloaded antenna, but that is probably based on ignoring ground
resistance again.

Assuming ground resistance of 10 ohms, feedpoint Z would be 15-j460,
ground loss 5dB, line loss 12.2dB, ATU loss ~1.1dB for a total system
loss of 18.3dB.

Improvement from system loss of 18.3dB to 6.4dB is 12dB, a little less
than they might want you to think, but very worthwhile.

Of course results are very sensitive to the ground scenario.

Owen

2654. Re: One word answers...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 19:20:04 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F5406D99A09nonenowhere@61.9.191.5>
Source record: 44668

Dan Bloomquist <public21@lakeweb.com> wrote in
news:AVgKh.4894$B25.3178@news01.roc.ny:

>> Are the principles that apply to this example inconsistent with the
>> general case (eg dc, ac, transient, steady state etc)?
>
> Yes.

I would have thought the answer was NO, the principles are *not*
inconsistent with the general case.

Or did I use too many negatives?

Owen

2655. Re: One word answers...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 19:41:52 UTC
From: Dan Bloomquist <public21@lakeweb.com>
Message-ID: <4khKh.5006$ya1.3770@news02.roc.ny>
Source record: 44672

Owen Duffy wrote:

> Dan Bloomquist <public21@lakeweb.com> wrote in
> news:AVgKh.4894$B25.3178@news01.roc.ny:
>
>
>>>Are the principles that apply to this example inconsistent with the
>>>general case (eg dc, ac, transient, steady state etc)?
>>
>>Yes.
>
>
> I would have thought the answer was NO, the principles are *not*
> inconsistent with the general case.

Hi Owen,
See the example I posted where a pulse is sent down the line. In that case all the energy is dissipated in the source resistor.

Best, Dan.

2656. Re: One word answers...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 19:56:45 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F546A5B2364nonenowhere@61.9.191.5>
Source record: 44673

Cecil Moore <nospam@w5dxp.com> wrote in news:96hKh.483$rj1.92
@newssvr23.news.prodigy.net:

> Owen Duffy wrote:
>> Are the principles that apply to this example inconsistent with the
>> general case (eg dc, ac, transient, steady state etc)?
>
> Of course, pure DC principles are not adequate to cover
> general case distributed network problems. Else, there

The principles are those of the behaviour of transmission lines and the theory applying to solving the source circuit. In the 'DC' case, the analysis becomes trivial, but IMHO there were no underlying principles that do not apply in the general case.

The example is a specific case of the general, and the outcome that reflected power is not dissipated in the source resistance dissproves any general statement to the contrary.

You could devise an example with an AC source that had exactly the same outcome, more complicated mathematics to solve it, but the exactly the same outcome. But you don't need to do that, the example is in the set of the general, and stands against a general statement that power reflected from a source is necessarily dissipated in the source.

2657. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 19:57:50 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <etc8fuppe1@f04n12.cac.psu.edu>
Source record: 44674

Buck wrote:
> On Thu, 08 Mar 2007 08:03:56 -0800, Richard Clark <kb7qhc@comcast.net>
> wrote:
>
>> On Thu, 08 Mar 2007 05:24:52 -0500, Buck <usenet01@lumpuckeroo.com>
>> wrote:
>>
>>> If an OCF is shorter than 1/2 wave for the frequency of operation, it
>>> will not perform as well as the 1/2 wave dipole.
>> Hi Buck,
>>
>> Modeling would suggest otherwise.
>>
>> The difference between a 1/4 wave center fed and off-center fed (at
>> 10% from the end) is about a 12% increase in real resistance, and
>> .25dB gain improvement, both favoring the off-center fed.
>>
>> Are you comparing short antennas to long antennas? If so, it wouldn't
>> be a surprise, would it?
>>
>> Coming in late, did I miss someone's extravagant claim that a OCF
>> could do better?
>>
>> 73's
>> Richard Clark, KB7QHC

Sorry, I haven't been able to find replies until now- musta been a news server burp or something..

> The original comment was that a multiband OCF antenna is a
> 'compromise' antenna and wouldn't be as good as dedicated 1/2 wave
> dipole cut to frequency (or so I understood it.)
>
> If a 135 foot OCF were compared to a 1/2 wave 160 meter dipole, the
> OCF would lose, but if it were compared to a 20 meter dipole, it would
> have gain in the direction of various lobes.

And I'm not sure I would define those lobes as something other than a compromise. If the lobe is in a good place for you, fine. If not, not so fine.

> Yes, the comparison is between different length antennas, and you are
> right, generally speaking, the longer, the better. (no doubt someone
> can find an exception to the rule, but that isn't the point of this
> discussion.)

I'm a little dense here. 8^) Is a antenna cut for a half wavelength at 80 meters a better antenna at 10 meters than an antenna specifically cut for 10 meters?

I'd also have to go back and look, but isn't the SWR on some bands on the Capacitive reactance end, even though it may be 50 ohms?

I know my old Icom did not like capacitive reactance very much.

The idea that an OCF is superior to a dipole, and certainly Richard's statements would indicate that; makes me wonder why everyone isn't using them!

- 73 de Mike KB3EIA -

2658. Re: Best HF Vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 19:59:22 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <468jv2l4333a2fvoe8jchl56f5hhs7nonq@4ax.com>
Source record: 44675

On Thu, 15 Mar 2007 00:08:30 GMT, "west" <restccq2@verizon.net> wrote:

>I know I can go to eham.com but I like the advice on rraa better. I also
>know that this question is somewhat subjective, but if you will, please
>indulge. :-)
>What is flat out the best vertical HF antenna in your opinion and why?
>Thanks in advance.
>
>west
>AF4GC
>
What I gather from what I read here and all the publications I can get
my hands on it is a quarter wave radiator over 130 radials that are at
least 1/4 wave long.

That may not hold true if you consider radiators longer than 1/4 wave.
"Best" is a very loose spec.

I am in the throws of constructing what I think is "Best" for me. I
started out with a 28 foot radiator and three twenty five foot
radials. It worked. It works a whole lot better now with a total of 36
radials. 14 are about 70 ft, 16 are about 36 ft, 6 are less than 36
ft.

I will work on a taller and more robust radiator next.

I feed it with a SGC-237 tuner. I can only guess the tuner losses are
similar to what a comparable tuner built from the TLW program in the
ARRL Antenna Handbook predict.

The limiting factors are the radiator, the ground and the losses.

What is "Best" for you will depend on your set of compromises.

My expectations are focused on 160-80-40 meters. It was pretty
inexpensive until I added the tuner!

John Ferrell W8CCW
"Life is easier if you learn to
plow around the stumps"

2659. Re: One word answers...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 20:05:07 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F548109210Cnonenowhere@61.9.191.5>
Source record: 44576

Owen Duffy <none@no.where> wrote in
news:Xns98F546A5B2364nonenowhere@61.9.191.5:

> You could devise an example with an AC source that had exactly the
> same outcome, more complicated mathematics to solve it, but the
> exactly the same outcome. But you don't need to do that, the example
> is in the set of the general, and stands against a general statement
> that power reflected from a source is necessarily dissipated in the
> source.
>

This wasn't so well written, let me move a word around:

> You could devise an example with an AC source that had exactly the
> same outcome, more complicated mathematics to solve it, but the
> exactly the same outcome. But you don't need to do that, the example
> is in the set of the general, and stands against a general statement
> that reflected power from a source is necessarily dissipated in the
> source.

Owen

2660. Re: One word answers...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 20:06:02 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <KGhKh.7646$yW.5893@newssvr11.news.prodigy.net>
Source record: 44577

Owen Duffy wrote:
> You could devise an example with an AC source that had exactly the same
> outcome, more complicated mathematics to solve it, but the exactly the
> same outcome.

But the point is that I can devise an example with an
AC source that has the opposite outcome simply by using
a Norton equivalent source. When the reflection arrives,
the dissipation doubles.
--
73, Cecil, w5dxp.com

2661. Re: One word answers...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 20:22:02 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F54AEECAC63nonenowhere@61.9.191.5>
Source record: 44578

Dan Bloomquist <public21@lakeweb.com> wrote in news:4khKh.5006$ya1.3770
@news02.roc.ny:

> Owen Duffy wrote:
>
>> Dan Bloomquist <public21@lakeweb.com> wrote in
>> news:AVgKh.4894$B25.3178@news01.roc.ny:
>>
>>
>>>>>Are the principles that apply to this example inconsistent with the
>>>>general case (eg dc, ac, transient, steady state etc)?
>>>
>>>Yes.
>>
>>
>> I would have thought the answer was NO, the principles are *not*
>> inconsistent with the general case.
>
> Hi Owen,
> See the example I posted where a pulse is sent down the line. In that
> case all the energy is dissipated in the source resistor.

Dan, I don't deny there may be cases where that may happen, but it is not
true that reflected power is necessarily dissipated (or partly
dissipated) in the equivalent source resistance.

Owen

2662. Re: One word answers...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 20:25:01 UTC
From: Dan Bloomquist <public21@lakeweb.com>
Message-ID: <xYhKh.5014$ya1.2122@news02.roc.ny>
Source record: 44579

Owen Duffy wrote:

> Cecil Moore <nospam@w5dxp.com> wrote in news:96hKh.483$rj1.92
> @newssvr23.news.prodigy.net:
>
>
>>Owen Duffy wrote:
>>
>>>Are the principles that apply to this example inconsistent with the
>>>general case (eg dc, ac, transient, steady state etc)?
>>
>>Of course, pure DC principles are not adequate to cover
>>general case distributed network problems. Else, there
>
>
> The principles are those of the behaviour of transmission lines and the
> theory applying to solving the source circuit. In the 'DC' case, the
> analysis becomes trivial, but IMHO there were no underlying principles
> that do not apply in the general case.

But your underlying principle is that the source steps and doesn't
change. So any general case where the source is at some different level
is now not covered.

Best, Dan.

2663. Re: One word answers...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 20:27:52 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <96hKh.483$rj1.92@newssvr23.news.prodigy.net>
Source record: 44669

Owen Duffy wrote:
> Are the principles that apply to this example inconsistent with the
> general case (eg dc, ac, transient, steady state etc)?

Of course, pure DC principles are not adequate to cover
general case distributed network problems. Else, there
would have been no need to develop the distributed network
model. How would your transmission line calculator work
if you only used DC principles?

For instance, the conditions at the source are opposite
between the RF frequency where the feedline length is 1/4WL
and the RF frequency where the same feedline length is 1/2WL.

Conditions are also opposite depending upon whether a
Thevenin equivalent or a Norton equivalent is chosen.

Ramo and Whinnery, of "Fields and Waves ..." fame, warn
us not to attach any significance to the dissipation
within those two equivalent circuits. They are still
equivalent even though one is dissipating zero watts
and the other is dissipating 200 watts.

Even when the impedance is the same between the DC problem
and the 1/2WL RF problem, the DC current in the middle of
the feedline is zero while the RF current in the middle
of the 1/2WL section is at a maximum.
--
73, Cecil, w5dxp.com

2664. Re: One word answers...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 20:30:58 UTC
From: Dan Bloomquist <public21@lakeweb.com>
Message-ID: <62iKh.5015$ya1.3976@news02.roc.ny>
Source record: 44580

Owen Duffy wrote:

> Dan Bloomquist <public21@lakeweb.com> wrote in news:4khKh.5006$ya1.3770
> @news02.roc.ny:
>
>
>>Owen Duffy wrote:
>>
>>
>>>Dan Bloomquist <public21@lakeweb.com> wrote in
>>>news:AVgKh.4894$B25.3178@news01.roc.ny:
>>>
>>>
>>>
>>>>>Are the principles that apply to this example inconsistent with the
>>>>>general case (eg dc, ac, transient, steady state etc)?
>>>>
>>>>Yes.
>>>
>>>
>>>I would have thought the answer was NO, the principles are *not*
>>>inconsistent with the general case.
>>
>>Hi Owen,
>>See the example I posted where a pulse is sent down the line. In that
>>case all the energy is dissipated in the source resistor.
>
>
> Dan, I don't deny there may be cases where that may happen, but it is not
> true that reflected power is necessarily dissipated (or partly
> dissipated) in the equivalent source resistance.

And I answered accordingly when you asked the very question, I agreed
with you. And I showed just that in the step example of a previous post.

> Owen

Best, Dan.

2665. Re: One word answers...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 20:31:20 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F54C825D743nonenowhere@61.9.191.5>
Source record: 44581

Cecil Moore <nospam@w5dxp.com> wrote in news:KGhKh.7646$yW.5893
@newssvr11.news.prodigy.net:

> Owen Duffy wrote:
>> You could devise an example with an AC source that had exactly the same
>> outcome, more complicated mathematics to solve it, but the exactly the
>> same outcome.
>
> But the point is that I can devise an example with an
> AC source that has the opposite outcome simply by using
> a Norton equivalent source. When the reflection arrives,
> the dissipation doubles.

Your Norton equivalent doesn't pretend to replicate my (real) source in
every way, it only pretends to supply the same voltage and current to its
load... and it does that.

Owen

2666. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 20:31:23 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <s9hKh.484$rj1.352@newssvr23.news.prodigy.net>
Source record: 44670

Gene Fuller wrote:
> Your desperate attempts at evasion are showing. 8-)

I'm not evading anything, Gene. I assert that a standing
wave cannot exist without its component traveling waves.
I can give any number of examples.

You are the one who refuses to provide just one example
of a standing wave existing without its component
traveling waves so exactly who is evading?
--
73, Cecil, w5dxp.com

2667. Re: One word answers...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 20:32:45 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F54CBFEA270nonenowhere@61.9.191.5>
Source record: 44582

Dan Bloomquist <public21@lakeweb.com> wrote in news:xYhKh.5014$ya1.2122
@news02.roc.ny:

> But your underlying principle is that the source steps and doesn't
> change. So any general case where the source is at some different level
> is now not covered.

It semantics Dan, the excitation is part of the scenario or example, it is
not a principle of circuits or transmisssion lines.

Owen

2668. Re: One word answers...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 20:35:44 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ydhKh.486$rj1.231@newssvr23.news.prodigy.net>
Source record: 44671

Owen Duffy wrote:
> I would have thought the answer was NO, the principles are *not*
> inconsistent with the general case.

Even considering the dissipation within a Thevenin
equivalent circuit is inconsistent with any valid
significance according to Ramo and Whinnery.
--
73, Cecil, w5dxp.com

2669. Re: One word answers...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 20:38:48 UTC
From: Dan Bloomquist <public21@lakeweb.com>
Message-ID: <s9iKh.4901$B25.1693@news01.roc.ny>
Source record: 44586

Owen Duffy wrote:

> Dan Bloomquist <public21@lakeweb.com> wrote in news:xYhKh.5014$ya1.2122
> @news02.roc.ny:
>
>
>>But your underlying principle is that the source steps and doesn't
>>change. So any general case where the source is at some different level
>>is now not covered.
>
>
> It semantics Dan, the excitation is part of the scenario or example, it is
> not a principle of circuits or transmisssion lines.

Like saying the impedance of a capacitor is the same no matter what the
frequency......

From here, I'll let you have the last word. I'm not into hand waving....

> Owen

Best, Dan.

2670. Re: One word answers...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 20:43:54 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F54EA3F44A9nonenowhere@61.9.191.5>
Source record: 44583

Dan Bloomquist <public21@lakeweb.com> wrote in
news:62iKh.5015$ya1.3976@news02.roc.ny:

> Owen Duffy wrote:
>
>> Dan Bloomquist <public21@lakeweb.com> wrote in
>> news:4khKh.5006$ya1.3770 @news02.roc.ny:
>>
>>
>>>Owen Duffy wrote:
>>>
>>>
>>>>Dan Bloomquist <public21@lakeweb.com> wrote in
>>>>news:AVgKh.4894$B25.3178@news01.roc.ny:
>>>>
>>>>
>>>>
>>>>>Are the principles that apply to this example inconsistent with
>>>>>the general case (eg dc, ac, transient, steady state etc)?
>>>>>
>>>>>Yes.
>>>>
>>>>
>>>>I would have thought the answer was NO, the principles are *not*
>>>>inconsistent with the general case.
>>>
>>>Hi Owen,
>>>See the example I posted where a pulse is sent down the line. In that
>>>case all the energy is dissipated in the source resistor.
>>
>>
>> Dan, I don't deny there may be cases where that may happen, but it is
>> not true that reflected power is necessarily dissipated (or partly
>> dissipated) in the equivalent source resistance.
>
> And I answered accordingly when you asked the very question, I agreed
> with you. And I showed just that in the step example of a previous
> post.
>

Dan we are agreed!

My conclusion is that the view put by some that reflected power is
(necessarily) fully or partly dissipated in the PA equivalent source
resistance, (possibly overheating the PA,) is a simplistic view, the

explanation doesn't apply in general and although apparently appealing,
it is wrong.

Owen

2671. Re: One word answers...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 20:56:19 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <TpiKh.8877$FG1.2884@newssvr27.news.prodigy.net>
Source record: 44584

Owen Duffy wrote:
> Dan, I don't deny there may be cases where that may happen, but it is not
> true that reflected power is necessarily dissipated (or partly
> dissipated) in the equivalent source resistance.

The question is whether reflected power is ever dissipated
in the source. I can come up with a black box source that
dissipates 100% of the reflected power. All it takes is
a circulator and a load resistor. How does your DC
principles handle a circulator?
--
73, Cecil, w5dxp.com

2672. Re: One word answers...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 20:58:33 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ZriKh.8878$FG1.3408@newssvr27.news.prodigy.net>
Source record: 44585

Owen Duffy wrote:
> Your Norton equivalent doesn't pretend to replicate my (real) source in
> every way, ...

I thought we were discussing general principles, not
replicating a special case example in every way.
--
73, Cecil, w5dxp.com

2673. Re: One word answers...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 21:04:57 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ZxiKh.8879$FG1.8035@newssvr27.news.prodigy.net>
Source record: 44587

Owen Duffy wrote:
> My conclusion is that the view put by some that reflected power is
> (necessarily) fully or partly dissipated in the PA equivalent source
> resistance, (possibly overheating the PA,) is a simplistic view, the
> explanation doesn't apply in general and although apparently appealing,
> it is wrong.

The question is: Does any reflected joules/second ever
get dissipated in the PA? To ascertain the answer, one
must calculate the interference patterns in both directions.
If the energy is not dissipated anywhere else, it is
dissipated in the PA.
--
73, Cecil, w5dxp.com

2674. Soldering and Antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 21:12:03 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <45F9B6AD.F93D06B8@shaw.ca>
Source record: 44588

Is a copper to copper contact always necessary in
an antenna or does solder provide the necessary
continuity when joining wire?

I am disregarding the special case of magnetic
loops where RsubA must be kept low. I am also
disregarding the matter of mechanical integrity.

In my case I am looking at soldering radials to
a piece of copper wire at the base of an antenna, and
also adding a bit of length to the radiating
element.

What about the use of wire nuts to join wires?

The antenna is an HF marconi in an inverted-L configuration.

Thanks for any advice on the matter.

Irv VE6BP
--

Visit my HomePage at http://members.shaw.ca/finkirv/index.html
Visit my Baby Sofia website at http://members.shaw.ca/finkirv4/index.htm
Visit my OLDTIMERS website at http://members.shaw.ca/finkirv5/index.htm
---
Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

2675. Re: Soldering and Antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 21:20:41 UTC
From: Uncle Peter <radioconnection@cox.net>
Message-ID: <LMiKh.21291$Cp1.10609@newsfe14.lga>
Source record: 44589

"Irv Finkleman" <finkirv@shaw.ca> wrote in message
news:45F9B6AD.F93D06B8@shaw.ca...
> Is a copper to copper contact always necessary in
> an antenna or does solder provide the necessary
> continuity when joining wire?
>
>

Irv

I'd think you'd want a solid mechanical connection..
Even disregarding mechanical issues, a lightning
discharge would blow apart a soldered connection.
Have you considered using electricians' split bolt
type connectors to make the splices?

Pete

2676. Re: Soldering and Antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 21:30:27 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F5568896EFFnonenowhere@61.9.191.5>
Source record: 44590

Irv Finkleman <finkirv@shaw.ca> wrote in news:45F9B6AD.F93D06B8@shaw.ca:

> Is a copper to copper contact always necessary in
> an antenna or does solder provide the necessary
> continuity when joining wire?

Are you really asking are conductors other than copper (eg solder) are suitable for antennas? I think you know the answer to that.

>
> I am disregarding the special case of magnetic
> loops where RsubA must be kept low. I am also
> disregarding the matter of mechanical integrity.
>
> In my case I am looking at soldering radials to
> a piece of copper wire at the base of an antenna, and
> also adding a bit of length to the radiating
> element.

I note you excluded mechanical integrity, nevertheless...

I suggest you not depend solely on solder for retention of wires. One day, your antenna conductors might be called upon to carry high current (eg lightning), and it might be better if the solder didn't just melt and allow the wires to fall apart.

>
> What about the use of wire nuts to join wires?
>

In some ways, you might as well just twist the wires together. Some wire nuts come with a water+air exclusing medium (grease), but otherwise they are not a lot different to twisting the wires together except they may introduce another metal (in the case of the ones with a metallic spring inside) to the contact mix. Twisting wires together might be more successfull for power applications where there is sufficient voltage to overcome an oxide layer, for RF receive I would use solder or terminals that apply considerable pressure to the joined wires.

Remember that oxided wire connections can cause havoc with receivers and transmitters, the non-linear joint causing harmonic generation and mixing.

Owen

2677. coax measurement anomaly ??

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 21:37:28 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <KICdnYETH7AGIWTYnZ2dnUVZ_oCmnZ2d@comcast.com>
Source record: 44591

All,

The system is a vector network analyzer and a coax feedline. The analyzer does not have built in 'electronic line length' compensation. So to compensate for 'near' frequency measurements I have created coil of coax on the floor. The theory is when actual measurements are made on the antenna the phase can be normalized by zeroing the phase to the reference coax.

The issue is: Attempts measure the electrical length yield inconsistent results.

The first step was to determine the approximate length. This was done by setting the sweeper to a frequency and counting the phase inversions to the antenna feed - open ended. Lengths of coax were laid out on the floor until the phase inversion pattern was 'very close' visually.

Next the the frequency was set to 200 kc sweep at one meg on the antenna. A near phase inversion was centered on the phase display. Lengths were added or subtracted to the reference coax to get the same center inversion. (The inversion baseline was verified by looking at a larger sweep for reference.) So far so good.

Next the same thing was done at 10 meg. A slight modification to the baseline coax.

Finally the system was retested at 1 meg. Whoops. It was off.

The differences were small, 6 to 8 inches out of an estimated 125 feet. However it is not possible to get a common match between 1 meg and 10 meg - hence the anomaly.

The reference coax is coiled on the floor. Is it possible this created an inductance which affects phase?

Thanks - Dan

2678. Re: Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 21:47:31 UTC
From: Dave <noone@nowhere.com>
Message-ID: <T9jKh.11270$Hb6.4743@trndny03>
Source record: 44593

"art" <aunwin@insightbb.com> wrote in message
news:1173987071.281899.261260@e65g2000hsc.googlegroups.com...
> It is oftimes said that parasitic elements of a yagi absorb
> radiatiation
> and then reradiate half of what it received. Is this meaning that it
> only absorbs half of the radiation applied in its direction and where
> it
> then reradiates 100% of its radiation? It apears to be a simple
> question
> depending how one looks at it in terms of efficiency which could mean
> anything.
> Now in my unreleased Gaussian antenna array there is no interaction
> with respect to radiation as radiation cannot occur outside until the
> enclosed border is breached.
> On the face of it one then can assume that a yagi is not really
> efficient depending how one uses terms that have a special definition
> because of absorbed radiation.
> Thoughts! Auguments!. Trashing, or what ever trips your trigger.
> Just when you thought that Gaussian arrays would go away a thing like
> this comes along,
> go figure. (Don't forget Pointings vector and what it implies.grin)
> Art
>

what prevents me from drawing an imaginary Gaussian boundary around my yagi?

2679. Re: coax measurement anomaly ??

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 21:57:05 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <RijKh.13024$uo3.2979@newssvr14.news.prodigy.net>
Source record: 44594

dansawyeror wrote:
> The reference coax is coiled on the floor. Is it possible this created
> an inductance which affects phase?

Is it possible that common-mode currents are upsetting
your measurements?
--
73, Cecil http://www.w5dxp.com

2680. Re: Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 22:29:36 UTC
From: Dave <noone@nowhere.com>
Message-ID: <kNjKh.9694$t8.729@trndny02>
Source record: 44599

"art" <aunwin@insightbb.com> wrote in message
news:1173996900.042705.243260@n76g2000hsh.googlegroups.com...
> On 15 Mar, 14:47, "Dave" <n...@nowhere.com> wrote:
>> "art" <aun...@insightbb.com> wrote in message
>>
>> news:1173987071.281899.261260@e65g2000hsc.googlegroups.com...
>>
>>
>>
>>
>>
>> > It is oftimes said that parasitic elements of a yagi absorb
>> > radiatiation
>> > and then reradiate half of what it received. Is this meaning that it
>> > only absorbs half of the radiation applied in its direction and where
>> > it
>> > then reradiates 100% of its radiation? It apears to be a simple
>> > question
>> > depending how one looks at it in terms of efficiency which could mean
>> > anything.
>> > Now in my unreleased Gaussian antenna array there is no interaction
>> > with respect to radiation as radiation cannot occur outside until the
>> > enclosed border is breached.
>> > On the face of it one then can assume that a yagi is not really
>> > efficient depending how one uses terms that have a special definition
>> > because of absorbed radiation.
>> > Thoughts! Auguments!. Trashing, or what ever trips your trigger.
>> > Just when you thought that Gaussian arrays would go away a thing like
>> > this comes along,
>> > go figure. (Don't forget Pointings vector and what it implies.grin)
>> > Art
>>
>> what prevents me from drawing an imaginary Gaussian boundary around my
>> yagi?- Hide quoted text -
>>
>> - Show quoted text -
>
> A yagi cannot be in equilibrium because of parasitic elements.
> A simple dipole can be in equilibrium and can be placed inside
> an arbitary border.
> Art
>
ok, take each parasitic element on the yagi, break it in the middle to turn
it into a 'dipole', add a voltage source set at 0v to drive it. now draw

your imaginary boundary. i have satisfied your requirements, now why is my multi-dipole array not a gaussian array by your definition??

2681. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 22:40:39 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <srhjv2hql0gofco8241e10udvpjv1oj6lt@4ax.com>
Source record: 44592

On Thu, 15 Mar 2007 15:57:50 -0400, Michael Coslo <mjc5@psu.edu>
wrote:

>> On Thu, 08 Mar 2007 08:03:56 -0800, Richard Clark <kb7qhc@comcast.net>
>> wrote:
>>> Coming in late, did I miss someone's extravagant claim that a OCF
>>> could do better?

> The idea that an OCF is superior to a dipole, and certainly Richard's
>statements would indicate that; makes me wonder why everyone isn't using
>them!

Hi Mike,

With all the intervening comments removed, want to reconsider that
again?

An OCF is simply resonant at exactly (by modeling) the same points as
the dipole of the same length. Resonance resides in the wire, not the
drive point. Of Course, F***! (expletive deleted to explain the
meaning of OCF) as the drivepoint is moved through the length, its
fundamental Z (still real) varies from low (at midpoint) to high (near
endpoint) in much the same manner as we would expect for the
difference between a conventional halfwave dipole and conventional
halfwave end-fed. The harmonic drivepoint Zs follow their own
sinusoidal roller coaster through the shift in feed point.

73's
Richard Clark, KB7QHC

2682. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 22:47:54 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <u2kKh.80693$as2.13195@bgtnsc05-news.ops.worldnet.att.net>
Source record: 44600

Cecil Moore wrote:
> Gene Fuller wrote:
>> Your desperate attempts at evasion are showing. 8-)
>
> I'm not evading anything, Gene. I assert that a standing
> wave cannot exist without its component traveling waves.
> I can give any number of examples.
>
> You are the one who refuses to provide just one example
> of a standing wave existing without its component
> traveling waves so exactly who is evading?
> --
> 73, Cecil, w5dxp.com

And I say, "Big deal." You can set up any combination of components you wish. The physical reality remains exactly the same as that (fully) represented by the standing wave. You simply cannot derive new reality by manipulating the math.

73,
Gene
W4SZ

2683. Re: coax measurement anomaly ??

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 22:50:12 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12vjjd5o5tne765@corp.supernews.com>
Source record: 44601

1. The coax has loss, which is different at each frequency.

2. The coax's characteristic impedance is slightly different at each frequency.

3. Fringing at the open end is different at each frequency, so the capacitance at the end and hence the effective length of the coax is different at each frequency.

All of these make it impossible to use a simple model of a lossless coax with fixed impedance for very accurate results.

Coiling it doesn't create inductance or have any other effect on the inside of the coax where, hopefully, the signal from your network analyzer is going.

Roy Lewallen, W7EL

dansawyeror wrote:
> All,
>
> The system is a vector network analyzer and a coax feedline. The
> analyzer does not have built in 'electronic line length' compensation.
> So to compensate for 'near' frequency measurements I have created coil
> of coax on the floor. The theory is when actual measurements are made on
> the antenna the phase can be normalized by zeroing the phase to the
> reference coax.
>
> The issue is: Attempts measure the electrical length yield inconsistent
> results.
>
> The first step was to determine the approximate length. This was done by
> setting the sweeper to a frequency and counting the phase inversions to
> the antenna feed - open ended. Lengths of coax were laid out on the
> floor until the phase inversion pattern was 'very close' visually.
>
> Next the the frequency was set to 200 kc sweep at one meg on the
> antenna. A near phase inversion was centered on the phase display.
> Lengths were added or subtracted to the reference coax to get the same
> center inversion. (The inversion baseline was verified by looking at a
> larger sweep for reference.) So far so good.
>
> Next the same thing was done at 10 meg. A slight modification to the
> baseline coax.
>
> Finally the system was retested at 1 meg. Whoops. It was off.

>
> The differences were small, 6 to 8 inches out of an estimated 125 feet.
> However it is not possible to get a common match between 1 meg and 10
> meg - hence the anomaly.
>
> The reference coax is coiled on the floor. Is it possible this created
> an inductance which affects phase?
>
> Thanks - Dan

2684. Re: One word answers...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 22:58:37 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F5657B6D8C1nonenowhere@61.9.191.5>
Source record: 44602

Owen Duffy <none@no.where> wrote in
news:Xns98F53970076E1nonenowhere@61.9.191.5:

...
> When the switch is closed, current flows into the line. Until t=2T
> seconds, the current If that flows into the line equals 100V/(100+100
> ohms) = 0.5A, during which time the resistor dissipates heat at the
> rate of I^2*R = 100W. The voltage of the wave Vf travelling from the
> source is I*Zo = 50V. This situation is constant until t=2T seconds.
...

David Ryeburn is awake, even if I wasn't at 5.38 when I wrote this.

should be ...during which time the resistor dissipates heat at the
rate of I^2*R = 25W...

It doesn't materially change anything, but I messed up!

Owen

2685. Re: One word answers...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 22:59:01 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <07jjv2hjjj3683frb5kauf7kmb0ou0ai90@4ax.com>
Source record: 44595

On Thu, 15 Mar 2007 20:43:54 GMT, Owen Duffy <none@no.where> wrote:

>My conclusion is that the view put by some that reflected power is
>(necessarily) fully or partly dissipated in the PA equivalent source
>resistance, (possibly overheating the PA,) is a simplistic view, the
>explanation doesn't apply in general and although apparently appealing,
>it is wrong.

Hi Owen,

Was your example any more complex, or general? In fact it was heavily tailored for one simplistic answer only wasn't it? The subject line informs us it was.

You have in the past used the dictum that one counter-example devastates a poor hypothesis. What you have here is a two degree answer that fails for the other 358 degrees, where a one word answer is insufficient.

Reduce this to chance for haphazard line lengths and a spectrum of loads, then there's a 50% probability of cooling (absurd of course) and a 50% probability of heating. Reducing that generality to one word would give us "maybe."

The subject becomes 99.44% uninforming.

73's
Richard Clark, KB7QHC

2686. Re: Soldering and Antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 23:10:53 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <m1kjv25rru2gavracl4onunq2tv5klvf3e@4ax.com>
Source record: 44596

On Thu, 15 Mar 2007 21:12:03 GMT, Irv Finkleman <finkirv@shaw.ca>
wrote:

>Is a copper to copper contact always necessary in
>an antenna or does solder provide the necessary
>continuity when joining wire?

Hi Irv,

In the Navy, I taught (per the syllabus) that you made a gas-tight
electrical connection between conductors and sealed it with solder.
Solder was not expected to maintain the electrical or mechanical
connection. An example would be a Western Union Splice, then flowed
with solder.

>I am disregarding the special case of magnetic
>loops where RsubA must be kept low. I am also
>disregarding the matter of mechanical integrity.

That pretty much conforms to what I say above. However, having said
that, Lead, Tin and other alloys are usually good conductors when used
in suitable quantity (or with sufficient surface area). There is
nothing wrong with a soldered joint in a magnetic loop, although a
soldered loop can easily be done poorly.

There are other issues of weathering of solder, and galvanic
reactions. This argues sealing the solder with rubber or synthetic
coating, and/or examining the metals involved. This is usually a rare
issue to be concerned about.

>In my case I am looking at soldering radials to
>a piece of copper wire at the base of an antenna, and
>also adding a bit of length to the radiating
>element.
>
>What about the use of wire nuts to join wires?

They enforce the gas-tight connection and preserve the seal of that
interface through spring force, but usually in a dry environment (I
suppose you can find weather proof versions).
>
>The antenna is an HF marconi in an inverted-L configuration.
>
>Thanks for any advice on the matter.
>
>Irv VE6BP

73's
Richard Clark, KB7QHC

2687. Re: Soldering and Antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 23:13:02 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <45F9D308.19E45034@shaw.ca>
Source record: 44603

Thanks Pete -- I'm not really concerned about mechanical connection
as there will be no physical strain. Yes! I am definitely considering
'split bolt' (I call them wire nuts -- not sure where I got the
expression).

Uncle Peter wrote:
>
> "Irv Finkleman" <finkirv@shaw.ca> wrote in message
> news:45F9B6AD.F93D06B8@shaw.ca...
> > Is a copper to copper contact always necessary in
> > an antenna or does solder provide the necessary
> > continuity when joining wire?
> >
> >
>
> Irv
>
> I'd think you'd want a solid mechanical connection..
> Even disregarding mechanical issues, a lightning
> discharge would blow apart a soldered connection.
> Have you considered using electricians' split bolt
> type connectors to make the splices?
>
> Pete

--

Visit my HomePage at http://members.shaw.ca/finkirv/index.html
Visit my Baby Sofia website at http://members.shaw.ca/finkirv4/index.htm
Visit my OLDTIMERS website at http://members.shaw.ca/finkirv5/index.htm
---
Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

2688. Re: Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 23:17:13 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <rtkjv214540c39lup562unbveogmr7dfke@4ax.com>
Source record: 44597

On Thu, 15 Mar 2007 21:47:31 GMT, "Dave" <noone@nowhere.com> wrote:

>what prevents me from drawing an imaginary Gaussian boundary around my yagi?

It might violate the monopoly rights of patent pending!

2689. Re: Soldering and Antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 23:18:46 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <45F9D460.420A86F2@shaw.ca>
Source record: 44604

Owen Duffy wrote:
>
> Irv Finkleman <finkirv@shaw.ca> wrote in news:45F9B6AD.F93D06B8@shaw.ca:
>
> > Is a copper to copper contact always necessary in
> > an antenna or does solder provide the necessary
> > continuity when joining wire?
>
> Are you really asking are conductors other than copper (eg solder) are
> suitable for antennas? I think you know the answer to that.

No -- everything will be copper to copper.
>
> I note you excluded mechanical integrity, nevertheless...
>
> I suggest you not depend solely on solder for retention of wires. One
> day, your antenna conductors might be called upon to carry high current
> (eg lightning), and it might be better if the solder didn't just melt and
> allow the wires to fall apart.

There will be no mechanical strain on the wires. They will be connected
to a common ring of copper surrounding the base of the connected.
>
>
> In some ways, you might as well just twist the wires together. Some wire
> nuts come with a water+air exclusing medium (grease), but otherwise they
> are not a lot different to twisting the wires together except they may
> introduce another metal (in the case of the ones with a metallic spring
> inside) to the contact mix. Twisting wires together might be more
> successfull for power applications where there is sufficient voltage to
> overcome an oxide layer, for RF receive I would use solder or terminals
> that apply considerable pressure to the joined wires.

This is for a radial system, and I basically operate QRP or in a tough
fight might run 50w! I'll will consider a water/air excluding grease
if I use wire nuts - thanks for the tip!
>
> Remember that oxided wire connections can cause havoc with receivers and
> transmitters, the non-linear joint causing harmonic generation and
> mixing.

Oh yeah! Been there before! :-)
>
> Owen

--

Visit my HomePage at http://members.shaw.ca/finkirv/index.html
Visit my Baby Sofia website at http://members.shaw.ca/finkirv4/index.htm
Visit my OLDTIMERS website at http://members.shaw.ca/finkirv5/index.htm
---
Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

2690. Re: coax measurement anomaly ??

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 23:19:18 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <12ljv2hu7e7qcobgjvvc164qp15vvrcm28@4ax.com>
Source record: 44598

On Thu, 15 Mar 2007 14:37:28 -0700, dansawyeror
<dansawyeror@comcast.net> wrote:

>The reference coax is coiled on the floor. Is it possible this created
>an inductance which affects phase?

Hi Dan,

There is a vastly simpler way:
1. Measure to a short circuit.

73's
Richard Clark, KB7QHC

2691. Re: Soldering and Antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 23:30:19 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <45F9D715.542C7C53@shaw.ca>
Source record: 44605

Richard Clark wrote:
>
> On Thu, 15 Mar 2007 21:12:03 GMT, Irv Finkleman <finkirv@shaw.ca>
> wrote:
>
> >Is a copper to copper contact always necessary in
> >an antenna or does solder provide the necessary
> >continuity when joining wire?
>
> Hi Irv,
>
> In the Navy, I taught (per the syllabus) that you made a gas-tight
> electrical connection between conductors and sealed it with solder.
> Solder was not expected to maintain the electrical or mechanical
> connection. An example would be a Western Union Splice, then flowed
> with solder.

Yep! The good old 'Western Union Splice' one of the first things
I learned way back when.
>
> >I am disregarding the special case of magnetic
> >loops where RsubA must be kept low. I am also
> >disregarding the matter of mechanical integrity.
>
> That pretty much conforms to what I say above. However, having said
> that, Lead, Tin and other alloys are usually good conductors when used
> in suitable quantity (or with sufficient surface area). There is
> nothing wrong with a soldered joint in a magnetic loop, although a
> soldered loop can easily be done poorly.

I must have had a Senior's moment. I was thinking of a mechanical
joint rather than a soldered one. In a magloop, which is one of the
projects I'm working on now, I plan to use copper and silver-solder for
sure.
>
> There are other issues of weathering of solder, and galvanic
> reactions. This argues sealing the solder with rubber or synthetic
> coating, and/or examining the metals involved. This is usually a rare
> issue to be concerned about.

As per Owen's post I will consider a sealant or protection of some
sort. In any event, the major effort is installing radials which
will be soldered to a ring of copper wire around the base of the
antenna -- it will be readily accessible for inspection and
repair if required. I don't want to have to to that too often

though -- and I sure as heck don't want to run out and dig through
the snow when it's 30 below! :-)
>
> >In my case I am looking at soldering radials to
> >a piece of copper wire at the base of an antenna, and
> >also adding a bit of length to the radiating
> >element.
> >
> >What about the use of wire nuts to join wires?
>
> They enforce the gas-tight connection and preserve the seal of that
> interface through spring force, but usually in a dry environment (I
> suppose you can find weather proof versions).

Wire nuts with suitable protective coating after connection
may just be the easiest way to go. I only want to put out
8 radials. As for the radiating element, it doesn't have a lot
of strain on it either, but I think for temporary testing I'll just
use a quick twist of the wire and solder it until I find the
length I want -- then I'll do a Western Union bit with just a
few turns, then solder flood it. It is #12 and shouldn't
be a problem to twist in a fancy manner.

Thanks for the ideas.

Irv

> >
> >The antenna is an HF marconi in an inverted-L configuration.
> >
> >Thanks for any advice on the matter.
> >
> >Irv VE6BP
>
> 73's
> Richard Clark, KB7QHC

--

Visit my HomePage at http://members.shaw.ca/finkirv/index.html
Visit my Baby Sofia website at http://members.shaw.ca/finkirv4/index.htm
Visit my OLDTIMERS website at http://members.shaw.ca/finkirv5/index.htm
---
Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

2692. Re: Soldering and Antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-15 23:33:06 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F56B53E18ECnonenowhere@61.9.191.5>
Source record: 44606

Irv Finkleman <finkirv@shaw.ca> wrote in news:45F9D308.19E45034@shaw.ca:

> Thanks Pete -- I'm not really concerned about mechanical connection
> as there will be no physical strain. Yes! I am definitely considering
> 'split bolt' (I call them wire nuts -- not sure where I got the
> expression).

Here is a picture of what most of us understand to be wire nuts:
http://cableorganizer.com/wire-connectors/

Quite a different thing to split bolt line taps.
http://www.vk1od.net/post/post04.jpg shows a split bolt on the earth
electrode.

My comments about wire nuts were about wire nuts as most of us understand.

I would not use wire nuts for your earth system.

Split bolt connectors are fine for your purpose.

Owen

2693. Re: Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 00:02:20 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1174003340.917978.255770@l75g2000hse.googlegroups.com>
Source record: 44607

On Mar 15, 7:12 pm, "art" <aun...@insightbb.com> wrote:
> On 15 Mar, 15:29, "Dave" <n...@nowhere.com> wrote:
>
>
>
>
>
> > "art" <aun...@insightbb.com> wrote in message
>
> >news:1173996900.042705.243260@n76g2000hsh.googlegroups.com...
>
> > > On 15 Mar, 14:47, "Dave" <n...@nowhere.com> wrote:
> > >> "art" <aun...@insightbb.com> wrote in message
>
> > >>news:1173987071.281899.261260@e65g2000hsc.googlegroups.com...
>
> > >> > It is oftimes said that parasitic elements of a yagi absorb
> > >> > radiatiation
> > >> > and then reradiate half of what it received. Is this meaning that it
> > >> > only absorbs half of the radiation applied in its direction and where
> > >> > it
> > >> > then reradiates 100% of its radiation? It apears to be a simple
> > >> > question
> > >> > depending how one looks at it in terms of efficiency which could mean
> > >> > anything.
> > >> > Now in my unreleased Gaussian antenna array there is no interaction
> > >> > with respect to radiation as radiation cannot occur outside until the
> > >> > enclosed border is breached.
> > >> > On the face of it one then can assume that a yagi is not really
> > >> > efficient depending how one uses terms that have a special definition
> > >> > because of absorbed radiation.
> > >> > Thoughts! Auguments!. Trashing, or what ever trips your trigger.
> > >> > Just when you thought that Gaussian arrays would go away a thing like
> > >> > this comes along,
> > >> > go figure. (Don't forget Pointings vector and what it implies.grin)
> > >> > Art
>
> > >> what prevents me from drawing an imaginary Gaussian boundary around my
> > >> yagi?- Hide quoted text -
>
> > >> - Show quoted text -
>
> > > A yagi cannot be in equilibrium because of parasitic elements.
> > > A simple dipole can be in equilibrium and can be placed inside

> > > an arbitary border.
> > > Art
>
> > ok, take each parasitic element on the yagi, break it in the middle to turn
> > it into a 'dipole', add a voltage source set at 0v to drive it. now draw
> > your imaginary boundary. i have satisfied your requirements, now why is my
> > multi-dipole array not a gaussian array by your definition??- Hide quoted text -
>
> > - Show quoted text -
>
> Then your definitionor or my definition is incorrect. Remember at the
> cessation of time all movement of flux stops for the Gaussian logic to
> be sustained. I would venture that if the "Q" of the resident dipoles
> were varied then varience in polarity continues the movement of flux
> after the cessacition of time.
> Art- Hide quoted text -
>
> - Show quoted text -

Art said "Remember at the
cessation of time all movement of flux stops.

When is this going to happen. If it is anytime soon I need to
seriously re-evaluate my retirement plans.((:<))==

Jimmie

2694. Re: Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 00:09:49 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1174003789.101616.278310@y66g2000hsf.googlegroups.com>
Source record: 44608

On 15 Mar, 17:02, "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote:
> On Mar 15, 7:12 pm, "art" <aun...@insightbb.com> wrote:
>
>
>
>
>
> > On 15 Mar, 15:29, "Dave" <n...@nowhere.com> wrote:
>
> > > "art" <aun...@insightbb.com> wrote in message
>
> > >news:1173996900.042705.243260@n76g2000hsh.googlegroups.com...
>
> > > > On 15 Mar, 14:47, "Dave" <n...@nowhere.com> wrote:
> > > >> "art" <aun...@insightbb.com> wrote in message
>
> > > >>news:1173987071.281899.261260@e65g2000hsc.googlegroups.com...
>
> > > >> > It is oftimes said that parasitic elements of a yagi absorb
> > > >> > radiatiation
> > > >> > and then reradiate half of what it received. Is this meaning that it
> > > >> > only absorbs half of the radiation applied in its direction and where
> > > >> > it
> > > >> > then reradiates 100% of its radiation? It apears to be a simple
> > > >> > question
> > > >> > depending how one looks at it in terms of efficiency which could mean
> > > >> > anything.
> > > >> > Now in my unreleased Gaussian antenna array there is no interaction
> > > >> > with respect to radiation as radiation cannot occur outside until the
> > > >> > enclosed border is breached.
> > > >> > On the face of it one then can assume that a yagi is not really
> > > >> > efficient depending how one uses terms that have a special definition
> > > >> > because of absorbed radiation.
> > > >> > Thoughts! Auguments!. Trashing, or what ever trips your trigger.
> > > >> > Just when you thought that Gaussian arrays would go away a thing like
> > > >> > this comes along,
> > > >> > go figure. (Don't forget Pointings vector and what it implies.grin)
> > > >> > Art
>
> > > >> what prevents me from drawing an imaginary Gaussian boundary around my
> > > >> yagi?- Hide quoted text -
>
> > > >> - Show quoted text -
>

> > > > A yagi cannot be in equilibrium because of parasitic elements.
> > > > A simple dipole can be in equilibrium and can be placed inside
> > > > an arbitary border.
> > > > Art
>
> > > ok, take each parasitic element on the yagi, break it in the middle to turn
> > > it into a 'dipole', add a voltage source set at 0v to drive it. now draw
> > > your imaginary boundary. i have satisfied your requirements, now why is my
> > > multi-dipole array not a gaussian array by your definition??- Hide quoted text -
>
> > > - Show quoted text -
>
> > Then your definitionor or my definition is incorrect. Remember at the
> > cessation of time all movement of flux stops for the Gaussian logic to
> > be sustained. I would venture that if the "Q" of the resident dipoles
> > were varied then varience in polarity continues the movement of flux
> > after the cessacition of time.
> > Art- Hide quoted text -
>
> > - Show quoted text -
>
> Art said "Remember at the
> cessation of time all movement of flux stops.
>
> When is this going to happen. If it is anytime soon I need to
> seriously re-evaluate my retirement plans.((:<))==
>
> Jimmie- Hide quoted text -
>
> - Show quoted text -

Jimmie you can't consider retirement if you are already brain dead
Art

2695. Re: Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 00:35:28 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <etcon9qeh1@nnrp.linuxfan.it>
Source record: 44609

Dave wrote:

> ...
> what prevents me from drawing an imaginary Gaussian boundary around my yagi?
>
>

No one to enforce the borders? And, then "illegals" creep in? <grin>

JS
--
http://assemblywizard.tekcities.com

2696. Re: Soldering and Antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 00:50:21 UTC
From: Uncle Peter <radioconnection@cox.net>
Message-ID: <jRlKh.17540$zJ1.14405@newsfe24.lga>
Source record: 44610

"Owen Duffy" <none@no.where> wrote in message
news:Xns98F56B53E18ECnonenowhere@61.9.191.5...
> > Here is a picture of what most of us understand to be wire nuts:
> http://cableorganizer.com/wire-connectors/
>
> Quite a different thing to split bolt line taps.
> http://www.vk1od.net/post/post04.jpg shows a split bolt on the earth
> electrode.
>
>

Split bolt electrical connectors look like this Stateside:

http://ebusiness.ilsco.com/webapp/wcs/stores/servlet/CategoryDisplay?storeId=10001&langId=-1&catalogId=1&categoryId=1

Used a lot for electrical connections to utility power transformers,
etc.

Pete

2697. Re: Soldering and Antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 01:00:51 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F57A346CBE9nonenowhere@61.9.191.5>
Source record: 44611

"Uncle Peter" <radioconnection@cox.net> wrote in
news:jRlKh.17540$zJ1.14405@newsfe24.lga:

>
> "Owen Duffy" <none@no.where> wrote in message
> news:Xns98F56B53E18ECnonenowhere@61.9.191.5...
>> > Here is a picture of what most of us understand to be wire nuts:
>> http://cableorganizer.com/wire-connectors/
>>
>> Quite a different thing to split bolt line taps.
>> http://www.vk1od.net/post/post04.jpg shows a split bolt on the earth
>> electrode.
>>
>>
>
> Split bolt electrical connectors look like this Stateside:
>
> http://ebusiness.ilsco.com/webapp/wcs/stores/servlet/CategoryDisplay?st
> oreId=10001&langId=-1&catalogId=1&categoryId=1
>
> Used a lot for electrical connections to utility power transformers,
> etc.
>
Yes Pete, same as I showed, but better detail in your pic. Insulating
covers are also available which sort of hides the internals.

Owen

2698. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 01:21:09 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <9imKh.10236$jx3.5910@newssvr25.news.prodigy.net>
Source record: 44612

Gene Fuller wrote:
> You simply cannot derive new reality by manipulating the math.

But, Gene, that is exactly what you have done. Asserting
that two waves with different equations are the same
IS manipulating the math.
--
73, Cecil http://www.w5dxp.com

2699. Re: Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 01:45:15 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <etcsq7$5l6$1@nnrp.linuxfan.it>
Source record: 44613

art wrote:
> On 15 Mar, 17:35, John Smith I <assemblywiz...@gmail.com> wrote:
>> Dave wrote:
>>> ...
>>> what prevents me from drawing an imaginary Gaussian boundary around my yagi?
>> No one to enforce the borders? And, then "illegals" creep in? <grin>
>>
>> JS
>> --http://assemblywizard.tekcities.com
>
> Did you know that anybody can visit the U.S. on holiday can stay for
> ever like mexicans. The U.S. government is too broke to deport them or
> even arrest them. Polish people are not allowed a visa to visit
> Chicago now for any reason as the Feds say they all just stay. Now
> Chicago is a sanctuary city for Mexicans and the police protect them
> from the Feds. Illinois expects 30,000 new arrivals from Mexico this
> year and the buses are looking to accept pesos in the near future.When
> I came to the U.S. they gave me a green card but during the time I was
> required to carry it
> nobody asked to have a look at it, that is why Mexicans are willing to
> carry forgeries as everybody has forgotten what they look like. Our
> local hospitals has had record admittances last year as illegal
> immigrants are having anchor babies as soon as they can so we have to
> build a new school every year to accommodate them. Word is in Europe
> that the U.S, does not welcome Caucasians so few are even visiting on
> holiday from
> Western Europe. The message that you are either with us or you are
> against us is sure having an effect in Western Europe, I wonder if it
> will spread to ham radio.
> Art
> Art
>

Yes, it is a nightmare, I have heard at some hospitals in so. calif.
that the birth rate in some hospitals is 80% illegal alien children. If
the tax payers are so free with their money, maybe they would like to
pay for my grand childrens' children to be born? Wonder if anyone
notices it is driving medical costs SKY HIGH???

Hey, it never hurts to ask! <ROFLOL>

JS
--
http://assemblywizard.tekcities.com

2700. Re: Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 02:00:23 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1174010423.224159.113270@b75g2000hsg.googlegroups.com>
Source record: 44614

On 15 Mar, 18:45, John Smith I <assemblywiz...@gmail.com> wrote:
> art wrote:
> > On 15 Mar, 17:35, John Smith I <assemblywiz...@gmail.com> wrote:
> >> Dave wrote:
> >>> ...
> >>> what prevents me from drawing an imaginary Gaussian boundary around my yagi?
> >> No one to enforce the borders? And, then "illegals" creep in? <grin>
> >
> >> JS
> >> --http://assemblywizard.tekcities.com
> >
> > > Did you know that anybody can visit the U.S. on holiday can stay for
> > > ever like mexicans. The U.S. government is too broke to deport them or
> > > even arrest them. Polish people are not allowed a visa to visit
> > > Chicago now for any reason as the Feds say they all just stay. Now
> > > Chicago is a sanctuary city for Mexicans and the police protect them
> > > from the Feds. Illinois expects 30,000 new arrivals from Mexico this
> > > year and the buses are looking to accept pesos in the near future.When
> > > I came to the U.S. they gave me a green card but during the time I was
> > > required to carry it
> > > nobody asked to have a look at it, that is why Mexicans are willing to
> > > carry forgeries as everybody has forgotten what they look like. Our
> > > local hospitals has had record admittances last year as illegal
> > > immigrants are having anchor babies as soon as they can so we have to
> > > build a new school every year to accommodate them. Word is in Europe
> > > that the U.S, does not welcome Caucasians so few are even visiting on
> > > holiday from
> > > Western Europe. The message that you are either with us or you are
> > > against us is sure having an effect in Western Europe, I wonder if it
> > > will spread to ham radio.
> > > Art
> > > Art
> >
> > Yes, it is a nightmare, I have heard at some hospitals in so. calif.
> > that the birth rate in some hospitals is 80% illegal alien children. If
> > the tax payers are so free with their money, maybe they would like to
> > pay for my grand childrens' children to be born? Wonder if anyone
> > notices it is driving medical costs SKY HIGH???
> >
> > Hey, it never hurts to ask! <ROFLOL>
> >
> > JS
> > --http://assemblywizard.tekcities.com- Hide quoted text -
> >

> - Show quoted text -

Well the olympics are being held either in Chicago or Los Angeles
which should slow things down a bit. Mexico is not sending any teams
to compete as they say that all that can run, jump or swim are already
here
Art

2701. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 02:56:26 UTC
From: joseph2k <quiettechblue@yahoo.com>
Message-ID: <uHnKh.8007$Um6.4576@newssvr12.news.prodigy.net>
Source record: 44615
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Roy Lewallen wrote:

> David G. Nagel wrote:
>>>
>> If you want a quick lesson in high vswr find a ham with an old tube
>> transmitter and see if he will hook it up to a mismatched load. The
>> cherry red plates are the reflected energy being absorbed. Transistors
>> will just turn to smoke under the same conditions.
>
> Unfortunately, you'd be learning the wrong lesson.
>
> The cherry color is due to the transmitter being loaded with an
> impedance it's not designed for, causing the final to run at low
> efficiency. You can disconnect the antenna and replace it with a lumped
> RC or RL impedance of the same value and get exactly the same result.
> Alternatively, you can attach any combination of load and transmission
> line which give the same impedance, resulting in a wide variation of
> "reflected energy", and get exactly the same result. All that counts is
> the impedance seen by the transmitter, not the VSWR on the line or the
> "reflected power".
>
> The problem is that the idea of "reflected energy" turning the plates
> hot is so easy to understand, that people aren't willing to abandon it
> simply because it isn't true.
>
> See http://eznec.com/misc/Food_for_thought.pdf for more.
>
> Roy Lewallen, W7EL

Do us a favor, compute the S-vectors for an incandescent lamp with a linear
filament.
Then follow though with the same for a transmitter, transmission line and a
mismatched load.
You will find that is the reflected S-vector that adds heat to the plate.

--
JosephKK
Gegen dummheit kampfen die Gotter Selbst, vergebens.
--Schiller

2702. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 03:08:14 UTC
From: joseph2k <quiettechblue@yahoo.com>
Message-ID: <ySnKh.8010$Um6.4733@newssvr12.news.prodigy.net>
Source record: 44616
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Richard Fry wrote:

> "Roy Lewallen" wrote
>> The problem is that the idea of "reflected energy" turning the plates hot
>> is so easy to understand, that people aren't willing to abandon it simply
>> because it isn't true.
> ----------
>
> But reflected energy/power does exist.
>
> For an easy example, such reflections are evident in the picture seen on
> an analog TV receiver when the match between the transmit antenna and the
> transmission connected to it is bad enough.
>
> In analog TV transmit systems with a typical 500+ foot length transmission
> line from the tx to the antenna, a 5% reflection from a far-end mismatch
> can be quite visible, showing as a "ghost" image that is offset from the
> main image as related to the round-trip propagation time of the
> transmission line.
>
> RF

Poppycock, TV ghosting is caused by multipath length differences. Calculate the position ratio and the horizontal scan frequency (15750 Hz is close enough). That gives you the path length difference; it is generally on the order of miles (= major terrain features).

--
JosephKK
Gegen dummheit kampfen die Gotter Selbst, vergebens.
--Schiller

2703. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 03:14:41 UTC
From: joseph2k <quiettechblue@yahoo.com>
Message-ID: <BYnKh.8013$Um6.707@newssvr12.news.prodigy.net>
Source record: 44617
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

jimp@specsol.spam.sux.com wrote:

> In rec.radio.amateur.antenna Richard Clark <kb7qhc@comcast.net> wrote:
>> On Tue, 13 Mar 2007 16:05:02 GMT, jimp@specsol.spam.sux.com wrote:
>
>> >The fact that any transmission line and antenna combination can be
>> >replaced with an RLC lumped load at the transmitter output and the
>> >transmitter can't tell the difference is something that a lot of
>> >hams seem to have a problem understanding.
>
>> Hi Jim,
>
>> Would it be fair to say there are a number of Hams (no need to go into
>> proportionality, could be equal number) who have difficulties of
>> understanding with going from lumped, equivalent circuits to antennas
>> and transmission lines?
>
>> The two perspectives are not exclusionary nor mutually incompatible,
>> only the arguers are.
>
> I'd have to say that as soon as a circuit contains a radiator or a
> transmission line the arm waving begins.
>

Except for less than 1%. In the 1960's that would have been about 5% to
10%, and handwaving will never include Wes Hayward W7ZOI.
--
JosephKK
Gegen dummheit kampfen die Gotter Selbst, vergebens.
--Schiller

2704. Re: Soldering and Antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 03:22:11 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <45FA0D6E.1CAE468@shaw.ca>
Source record: 44618

Owen Duffy wrote:

>
> My comments about wire nuts were about wire nuts as most of us understand.
>
> I would not use wire nuts for your earth system.
>
> Split bolt connectors are fine for your purpose.
>
> Owen

Thanks for the learnin' sir! Now I know, and I wouldn't
use wire nuts either! I'm even leery about them in my
house wiring! The split-bolt connector is what I had in
mind.

Thanks again

Irv VE6BP

--

Visit my HomePage at http://members.shaw.ca/finkirv/index.html
Visit my Baby Sofia website at http://members.shaw.ca/finkirv4/index.htm
Visit my OLDTIMERS website at http://members.shaw.ca/finkirv5/index.htm
---
Irv Finkleman,
Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
Calgary, Alberta, Canada

2705. Re: Totally OT, yet very relevant

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 03:39:47 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <9koKh.55841$115.33289@newsfe10.phx>
Source record: 44619

"Cecil Moore" <mycall@hotmail.com> wrote in message
news:XibKh.5368$JZ3.361@newssvr13.news.prodigy.net...
> Denny wrote:
> > In fact, the ground where I am as I type
> > this, had 2 miles high of blue ice piled on top of it a mere 20,000
> > years ago...
>
> And probably the same 145,000 years ago, while 120,000
> years ago it was hotter than it is today. Every time
> in the past 400K yearswhen it got approximately as hot
> as it is today, an ice age "immediately" followed in
> cycles of between 80K and 120K years. Just the other
> day, Congress had to cancel their Global Warming
> meeting because of snow. :-)
> --
> 73, Cecil http://www.w5dxp.com

"Telltale signs are everywhere -from the unexpected persistence and
thickness of pack ice in the
waters around Iceland to the southward migration of a warmth-loving creature
like the armadillo from the
Midwest.Since the 1940s the mean global temperature has dropped about 2.7°
F."

The quotation above is from Time Magazine, June 24, 1974. They had a
feature article than included this dire warning: "But there is a peril more
immediate than the prospect of another ice age. Even if temperature and
rainfall patterns change only slightly in the near future in one or more of
the three major grain-exporting countries-the U.S., Canada and
Australia -global food stores would be sharply reduced."

Hey, man -- pick your peril ... and then hype it until you can't hype it no
mo'.

2706. Re: Tower design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 04:05:54 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <FIoKh.41529$S%2.21121@newsfe06.phx>
Source record: 44620

"JIMMIE" <JIMMIEDEE123@YAHOO.COM> wrote in message
news:1173624269.884477.154000@n33g2000cwc.googlegroups.com...
> I am trying to find information on build your own tower. As retirement
> nears I plan on having a lot more time for doing things like this and
> will have a few acres I can devote to an antenna farm. I wouldnt mind
> learning to design them from scratch but would prefer a computer
> program if one is available. I know to some building your own tower
> may not seem practical but my wife and I inherited a lot of the basic
> materials when her father passed away. I am especialy interested in
> building tubular foldover mast 50 to 70 ft tall. It seems like years
> ago I came across a magazine article on this that also had associated
> design software. Any help would be greatly appreciated.
>
> Jimmie
>

Go for it!

http://www.funnyphotos.net.au/userimages/user756_1169899532a.jpg

2707. Re: Soldering and Antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 05:57:28 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1174024648.867305.194840@e65g2000hsc.googlegroups.com>
Source record: 44621

On Mar 15, 11:22 pm, Irv Finkleman <fink...@shaw.ca> wrote:
> Owen Duffy wrote:
>
> > My comments about wire nuts were about wire nuts as most of us understand.
>
> > I would not use wire nuts for your earth system.
>
> > Split bolt connectors are fine for your purpose.
>
> > Owen
>
> Thanks for the learnin' sir! Now I know, and I wouldn't
> use wire nuts either! I'm even leery about them in my
> house wiring! The split-bolt connector is what I had in
> mind.
>
> Thanks again
>
> Irv VE6BP
>
> --
> ------------------------------------
> Visit my HomePage athttp://members.shaw.ca/finkirv/index.html
> Visit my Baby Sofia website athttp://members.shaw.ca/finkirv4/index.htm
> Visit my OLDTIMERS website athttp://members.shaw.ca/finkirv5/index.htm
> --------------------
> Irv Finkleman,
> Grampa/Ex-Navy/Old Fart/Ham Radio VE6BP
> Calgary, Alberta, Canada

16 guage and larger I tend to crimp, bolt, ect. smaller I solder.

Jimmie

2708. Re: Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 06:02:25 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1174024945.245251.46860@l77g2000hsb.googlegroups.com>
Source record: 44622

On Mar 15, 8:09 pm, "art" <aun...@insightbb.com> wrote:
> On 15 Mar, 17:02, "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote:
>
>
>
>
>
> > On Mar 15, 7:12 pm, "art" <aun...@insightbb.com> wrote:
>
> > > On 15 Mar, 15:29, "Dave" <n...@nowhere.com> wrote:
>
> > > > "art" <aun...@insightbb.com> wrote in message
>
> > > >news:1173996900.042705.243260@n76g2000hsh.googlegroups.com...
>
> > > > > On 15 Mar, 14:47, "Dave" <n...@nowhere.com> wrote:
> > > > >> "art" <aun...@insightbb.com> wrote in message
>
> > > > >>news:1173987071.281899.261260@e65g2000hsc.googlegroups.com...
>
> > > > >> > It is oftimes said that parasitic elements of a yagi absorb
> > > > >> > radiatiation
> > > > >> > and then reradiate half of what it received. Is this meaning that it
> > > > >> > only absorbs half of the radiation applied in its direction and where
> > > > >> > it
> > > > >> > then reradiates 100% of its radiation? It apears to be a simple
> > > > >> > question
> > > > >> > depending how one looks at it in terms of efficiency which could mean
> > > > >> > anything.
> > > > >> > Now in my unreleased Gaussian antenna array there is no interaction
> > > > >> > with respect to radiation as radiation cannot occur outside until the
> > > > >> > enclosed border is breached.
> > > > >> > On the face of it one then can assume that a yagi is not really
> > > > >> > efficient depending how one uses terms that have a special definition
> > > > >> > because of absorbed radiation.
> > > > >> > Thoughts! Auguments!. Trashing, or what ever trips your trigger.
> > > > >> > Just when you thought that Gaussian arrays would go away a thing like
> > > > >> > this comes along,
> > > > >> > go figure. (Don't forget Pointings vector and what it implies.grin)
> > > > >> > Art
>
> > > > >> what prevents me from drawing an imaginary Gaussian boundary around my
> > > > >> yagi?- Hide quoted text -
>

> > > > >> - Show quoted text -
>
> > > > > A yagi cannot be in equilibrium because of parasitic elements.
> > > > > A simple dipole can be in equilibrium and can be placed inside
> > > > > an arbitary border.
> > > > > Art
>
> > > > ok, take each parasitic element on the yagi, break it in the middle to turn
> > > > it into a 'dipole', add a voltage source set at 0v to drive it. now draw
> > > > your imaginary boundary. i have satisfied your requirements, now why is my
> > > > multi-dipole array not a gaussian array by your definition??- Hide quoted text -
>
> > > > - Show quoted text -
>
> > > Then your definitionor or my definition is incorrect. Remember at the
> > > cessation of time all movement of flux stops for the Gaussian logic to
> > > be sustained. I would venture that if the "Q" of the resident dipoles
> > > were varied then varience in polarity continues the movement of flux
> > > after the cessacition of time.
> > > Art- Hide quoted text -
>
> > > - Show quoted text -
>
> > Art said "Remember at the
> > cessation of time all movement of flux stops.
>
> > When is this going to happen. If it is anytime soon I need to
> > seriously re-evaluate my retirement plans.((:<))==
>
> > Jimmie- Hide quoted text -
>
> > - Show quoted text -
>
> Jimmie you can't consider retirement if you are already brain dead
> Art- Hide quoted text -
>
> - Show quoted text -

Ooh, name calling, well how do you get time to stop? this is the seond
time you have mentioned it so I know it is not a typo.

2709. Re: Tower design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 06:20:40 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1174026040.246706.229640@e65g2000hsc.googlegroups.com>
Source record: 44623

On Mar 16, 12:05 am, "Sal M. Onella" <salmone...@food.poisoning.org>
wrote:
> "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote in message
>
> news:1173624269.884477.154000@n33g2000cwc.googlegroups.com...
>
> > I am trying to find information on build your own tower. As retirement
> > nears I plan on having a lot more time for doing things like this and
> > will have a few acres I can devote to an antenna farm. I wouldnt mind
> > learning to design them from scratch but would prefer a computer
> > program if one is available. I know to some building your own tower
> > may not seem practical but my wife and I inherited a lot of the basic
> > materials when her father passed away. I am especialy interested in
> > building tubular foldover mast 50 to 70 ft tall. It seems like years
> > ago I came across a magazine article on this that also had associated
> > design software. Any help would be greatly appreciated.
>
> > Jimmie
>
> Go for it!
>
> http://www.funnyphotos.net.au/userimages/user756_1169899532a.jpg

Your pic reminded me, somewhere in all the junk ther are 4 35 ft long
steel street lamp poles. I know I have made the place sound like a
junk yard but it isnt by a long way. Most of this stuff is inside a 30
x 60 ft building that you could drive a big motorhome into.

Jimmie

2710. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 10:47:34 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <etdsk6$u6v$1@aioe.org>
Source record: 44625

"joseph2k" wrote
> Poppycock, TV ghosting is caused by multipath length differences.
> Calculate
> the position ratio and the horizontal scan frequency (15750 Hz is close
> enough). That gives you the path length difference; it is generally on
> the
> order of miles (= major terrain features).

Analog TV ghosts can be produced within the TV transmit antenna system as well as by reflections of the transmitted signal in the propagation environment. I know this from my experience as an RCA Broadcast Field Engineer, because I've evaluated and corrected many transmit antenna systems that had been the source of such ghosts.

For example, a reflection from a mismatch between a 1,000 foot long, air-dielectric transmission line and the TV transmit antenna connected to it produces a ghost with ~ 2 µs delay from the main image. The active scan width of an NTSC TV line is about 53 µs, so 2/53 = ~4% of the width of the screen, or maybe 5% counting overscan. This ghost is easy to see in a typical TV set/viewing setup.

RF

2711. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 11:01:03 UTC
From: joseph2k <quiettechblue@yahoo.com>
Message-ID: <AVtKh.15633$bb1.5943@newssvr17.news.prodigy.net>
Source record: 44624
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Dan Bloomquist wrote:

> billcalley wrote:
>
> <snip>
>
> I've been reading the posts on this. One poster said this has been going
> on for twenty years! (For the other groups, this thread has life on
> rec.radio.amateur.antenna) It doesn't need to be so.
>
> First, there should be no doubt that reflected power on a transmission
> line is real. Sure, you can replace the line with a lump but that
> doesn't clear up the question for others.
>
> For the next two examples, see page 179:
> http://cp.literature.agilent.com/litweb/pdf/54753-97015.pdf
> All examples assume the same impedance for source and line.
>
> First example, step into an open line with a Thevenin source. The energy
> is divided between the source and the line. Half the energy is moving
> down the line and when it returns changes the impedance the source sees
> to an open circuit. The energy does not flow back into the source, so,
> where did it go? It is stored in the capacitance of the line.
>
> Second example, step into a shorted line. When the energy returns the
> source now sees a short. The energy does not flow back into the source,
> so, where did it go? It is stored in the inductance of the line.
>
> So here are two examples where the energy sent down the line do not
> return to the source.

Wrong, wrong, wrong. Energy is not created or destroyed, but it can be
converted back and forth to mass. See mass defect and hydrogen fusion.

>
> Third example. Send a pulse down the line. The Thevenin voltage source
> will go to short, as it should, when the pulse falls. The pulse is
> reflected from either an open or a short at the end of the line. All the
> energy is dissipated in the source impedance when this pulse returns.
> That is where the energy goes. And it is obviously the _same_ energy
> created at the source.

Less wrong, line length makes no significant difference (unless it is really
lossy).

>
> Sure, non of the cases above represent steady state AC. But they do show
> that energy may or may not be returned to the real component of the
> source.
>

Yes they do. Same model, same reflected power, same heating effect on the
last amplifier stage.

> With the above in mind, it can be shown, (in some part II), that a real
> accounting of energy from source to load and back is possible.
> Equivalent circuits are just that, the trading of line for lump. But,
> and this is really important, the only reason the effective impedance at
> the input of a 50 ohm line is not 50 ohms is because of reflected energy.
>

Wrong, wrong, wrong again. Transmission line impedance is strictly a matter
of physical dimensions, and surrounding materials permitivity and
permeablity.

> Best, Dan.

--
JosephKK
Gegen dummheit kampfen die Gotter Selbst, vergebens.
--Schiller

2712. Re: Best HF Vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 11:32:32 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1174044752.126825.209370@d57g2000hsg.googlegroups.com>
Source record: 44526

>
> The Force12 page give an analysis and loosely claims 16dB improvement
> over the unloaded antenna, but that is probably based on ignoring ground
> resistance again.

Force 12 advertising has been ignoring the laws of physics since they
first went into business and started their fantasy gain baloney...
Now, that is not to take away from Tom's innovative approach to beam
design and beam construction... He has done some nice things...

denny / k8do

2713. Re: Best way to clean elements before assembly?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 11:35:52 UTC
From: mcalhoun@ksu.edu
Message-ID: <etdveo$nch@unix1.cc.ksu.edu>
Source record: 44527

>Calcium carbonate (Na2CO3), aka "washing soda"....

Interesting. CALCIUM carbonate with NO calcium in it!-)
Just sodium, carbon, and oxygen!
(table salt = NaCl = sodium chloride)
Is that where the "soda" part of the "washing soda" name comes from?

--
--Myron A. Calhoun; W0PBV; 2001 Dunbar Road; Manhattan, KS 66502-3907
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
NRA Life Member & Certified Instructor for Rifle, Pistol, & Home Firearm Safety
Also Certified Instructor for the Kansas Concealed-Carry Handgun (CCH) license

2714. Re: Tower design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 11:47:28 UTC
From: mcalhoun@ksu.edu
Message-ID: <ete04g$nj1@unix1.cc.ksu.edu>
Source record: 44528

>I am trying to find information on build your own tower....

"Design Data for Pipe Masts", Ham Radio, July 1989, pp. 38 ff.
"A One-Man Skyhook", QST, July 1947 pp. 19 ff.
"A Sturdy 55-Ft. Skyhook", QST, October 1947, pp. 28 ff.
"A Low-Cost Tilt-Over Tower", QST, November 1971, pp. 22 ff.
"A 40 Foot Non-Conductive Sky-Hook", 73 Magazine, July 1968, pp. 16 ff.
"Telescoping Antenna Mast", QST, March 1958, pp. 28 ff.
"The Beam Pole", 73 Magazine, date not on torn-out article, pp. 24 ff.
"A Self Supporting Antenna Mast", CQ, November 1962, pp. 44 ff.
"A Foldover Cheapie", 73 Amateur Radio, September 1987, pp. 19 ff.
"New Approach to the Fold-Over Tower", QST, date unknown, p. 36
"A Tilt-Over/Swivel Antenna Mount for Recreation Vehicles",
73 Amateur Radio Today, July 1993, pp. 28 ff.
"A Self-Supporting Antenna Tower", QST, March 1941, pp. 18 ff.
"A Counterweighted Antenna Tower", Radio, November 1941, pp. 44 ff.
"Sixty Cents Per Foot", QST, June 1959, pp. 30 ff.
"Lightweight Utility Mast", QST, July 1960, pp. 30 ff.
"A Telescoping Mast, Mark II", WST, April 1966, pp. 96 ff.

--
--Myron A. Calhoun; W0PBV; 2001 Dunbar Road; Manhattan, KS 66502-3907
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
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2715. Re: coax measurement anomaly ??

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 13:45:48 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <45FA9F8C.9040008@comcast.net>
Source record: 44529

Richard,

It would seem a short might reduce some end capacitive effects when
compared with an open circuit. However it would not help in the case of
'minor' frequency dependent changes in coax inductance.

Thanks,
Dan

Richard Clark wrote:
> On Thu, 15 Mar 2007 14:37:28 -0700, dansawyeror
> <dansawyeror@comcast.net> wrote:
>
>> The reference coax is coiled on the floor. Is it possible this created
>> an inductance which affects phase?
>
> Hi Dan,
>
> There is a vastly simpler way:
> 1. Measure to a short circuit.
>
> 73's
> Richard Clark, KB7QHC

2716. Re: Tower design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 13:50:14 UTC
From: Wes <n7ws@yahoo.com>
Message-ID: <1174053014.092719.209430@b75g2000hsg.googlegroups.com>
Source record: 44530

On Mar 14, 6:37 pm, "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote:
[snip]
>
> That is a great website you sent me to, much morethan just the pdf
> file I was looking for.
> k6mhe.com/

Yep, Danny has some good stuff there.

I tried sending a similar message to this before but this horrible
Google Groups swallowed it somewhere.

Another related resource would be Leeson's book, "Physical Design of
Yagi Antennas." Clearly, you are not designing a Yagi, but a lot of
the material strength, deflection, wind loading, etc is applicable.

There was also an Excel workbook offered by ARRL to accompany the
book. I have it someplace, but can't lay my hand on it at the moment.

Once you get the above ground part designed, you need to worry about
the anchor too. Here's a link to a paper that might help there:

http://k6mhe.com/n7ws/SizeConcrete.doc

Wes

2717. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 14:22:07 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <jKxKh.8064$Um6.3819@newssvr12.news.prodigy.net>
Source record: 44531

Richard Fry wrote:
> For example, a reflection from a mismatch between a 1,000 foot long,
> air-dielectric transmission line and the TV transmit antenna connected
> to it
> produces a ghost with ~ 2 µs delay from the main image. The active scan
> width of an NTSC TV line is about 53 µs, so 2/53 = ~4% of the width of the
> screen, or maybe 5% counting overscan. This ghost is easy to see in a
> typical TV set/viewing setup.

We performed that exact experiment at Texas A&M
in the 50's. The ghosts were right where the
reflected waves predicted they would be. I
wonder how the modulation in a reflected wave
moves up and down the line without the reflected
wave also moving up and down the line? :-)
--
73, Cecil, w5dxp.com

2718. Re: coax measurement anomaly ??

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 14:30:26 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <6SxKh.13$1a6.5@trnddc08>
Source record: 44532

Hi Dan

What would happen if you closed the coax shield around the open end of the coax?

Jerry

"dansawyeror" <dansawyeror@comcast.net> wrote in message news:45FA9F8C.9040008@comcast.net...
> Richard,
>
> It would seem a short might reduce some end capacitive effects when
> compared with an open circuit. However it would not help in the case of
> 'minor' frequency dependent changes in coax inductance.
>
> Thanks,
> Dan
>
> Richard Clark wrote:
>> On Thu, 15 Mar 2007 14:37:28 -0700, dansawyeror
>> <dansawyeror@comcast.net> wrote:
>>
>>> The reference coax is coiled on the floor. Is it possible this created
>>> an inductance which affects phase?
>>
>> Hi Dan,
>>
>> There is a vastly simpler way:
>> 1. Measure to a short circuit.
>>
>> 73's
>> Richard Clark, KB7QHC

2719. Re: VSWR doesn't matter? (Standing - travelling waves)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 15:01:43 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <CjyKh.45$QY4.20@newsfe12.lga>
Source record: 44533

"Cecil Moore" <mycall@hotmail.com> wrote
>
> Plus they need to be linked to reality. Standing waves existing
> without the component forward and reverse traveling waves is
> divorced from reality. Neither you nor anyone else has been able
> to provide even one real-world example of such.
>
> Forward traveling wave + reflected traveling wave = standing wave
>
> What happens to the standing wave when you take away the reflected
> wave?
>
> Forward traveling wave + nothing = forward traveling wave
>
> i.e. there is no standing wave. So please tell us again how
> you can build a standing wave from a single traveling wave.
>
>> ... so you can forget about bringing up all of your TV ghost arguments.
>
> That rug of yours under which you try to sweep all the
> reflected energy is going to explode one of these days. :-)
> --
> 73, Cecil, w5dxp.com

Which brings us back to the great loading coil dispute.

In the resonant quarter wave monopole (say 80m), loaded with solenoid coil, about 2/3 up the radiator, we experience significant (about 40%) current drop at the top end of the coil. This is also demonstrated by bottom of the coil getting warmer or hot proportionately, indicating that we have standing wave circuit and some real current in the system, fortifying Cecil's argument. RF is flowing along the radiator, "seeing" high impedance tip at the end, being reflected, flowing back and being superimposed with the forward wave. Reality that W8JI and other "defenders" had hard time to swallow.

In the case of traveling wave antenna, like Beverage, terminated with resistance, we can see the uniform current along the wire. Coil or slinky inserted in such system will show the same current along the coil (minus ohmic losses).

There is real life proof about what Cecil is saying above.

Relating to the standing wave circuit, I had question in my mind: how important is to control the resistance and consider it in standing wave antenna system. Example is that the current above the loading coil is

appreciably smaller than at the base, hinting that you perhaps do not need low resistance (copper tubing vs. SS whip).

But...
if the standing wave is made of forward and reverse traveling waves, should not we be trying to keep the resistance low in the system? Or is it insignificant?
My pet peeve tells me that it would gain significance in the multi element loaded arrays. Do the modeling programs capture that? They show slight increase of current at the bottom (few turns) of the coil (when loading inductance is properly modeled). Would that be due to the loss from that point on, when forward and reflected wave is "meeting" the losses to resistance and radiation and then with lesser amplitude superimposing with forward wave?

Yuri, K3BU.us

2720. Re: VSWR doesn't matter? (Standing - travelling waves)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 15:37:13 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <JQyKh.14423$uo3.12233@newssvr14.news.prodigy.net>
Source record: 44534

Yuri Blanarovich wrote:
> But...
> if the standing wave is made of forward and reverse traveling waves, should
> not we be trying to keep the resistance low in the system? Or is it
> insignificant?

The I^2*R losses in the conductors depend upon the net current which is the phasor sum of the forward current and reflected current. Since the net current is lower above the coil in a mobile center-loaded antenna, the resistance of the stinger is not as important as the resistance of the bottom shaft which carries maximum current. Whether the I^2*R losses in a stinger are significant or not is a subjective call. If one is looking for that last 0.1 dB that will win a mobile antenna shootout, replacing the stainless steel stinger with one-inch copper tubing might do the trick.

Incidentally, in a thin-wire 1/2WL dipole, the reflected current arriving back at the feedpoint is approximately 90% of the forward current, i.e. only about 10% of the current is lost to radiation in its round trip to the end of the antenna and back. The same is true of forward and reflected voltage. The feedpoint impedance of a 1/2WL dipole results from the superposition of and interference between the forward and reflected waves on the standing-wave antenna at the feedpoint.

If we made a Z0=600 ohm 1/4WL open stub out of resistance wire such that the feedpoint impedance is 73 ohms, we would have a pretty good simulation of an antenna where energy is converted to heat instead of being radiated. The voltages and currents on the stub would correlate closely with the voltages and currents on a 1/2WL dipole.
--
73, Cecil, w5dxp.com

2721. Re: Irregular Gaussian radiation fields

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 16:34:16 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <etegu8$d2n$1@aioe.org>
Source record: 44536

> I understand that broadcasting arrays are strictly controlled
> so I wondered if an array that could radiate in pre designated
> areas would be useful as it would not require a reflector to repell
> radiation.

Examples in use for many decades already are the directional arrays used in AM broadcasting, where all elements (towers) in the array are driven. The element spacings & orientations, and the relative power & phase applied to each element determine the net radiation pattern of the array.

RF

2722. Re: coax measurement anomaly ??

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 17:30:16 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <5hklv2p8t1rsuabhmtep0mhqoalqdllp9q@4ax.com>
Source record: 44535

On Fri, 16 Mar 2007 06:45:48 -0700, dansawyeror
<dansawyeror@comcast.net> wrote:

>It would seem a short might reduce some end capacitive effects when
>compared with an open circuit. However it would not help in the case of
>'minor' frequency dependent changes in coax inductance.

Hi Dan,

A short "might reduce some?" That is rather an understatement.

"It would not help... 'minor' changes?" That is even worse.

Trying a short in place of an open would have taken less time, and
proven these two statements are wrong. A short is also an excellent
way to measure Ohmic loss in the cable. If you read your user's
manual for your vector network analyzer (assuming it has one), you
would find that a short is the preferred method. Also, for vector
network analyzers that do not have built in correction, it is also
expected you repeat the measurement with a Zc load. Then, and only
then do you proceed to doing it with an open (which will reveal the
extent of fringing).

I wouldn't do an open anyway. Instead, I would measure a load
constructed to mimic the measurable (you must have some idea what it
is you are going to be measuring, don't you?) and put it in a shielded
enclosure. Then move this text fixture to the vector network analyzer
and repeat to see the effects of the line.

73's
Richard Clark, KB7QHC

2723. What is displacement current?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 18:27:04 UTC
From: David <nospam@nospam>
Message-ID: <au-dnYkOdYzofGfYnZ2dnUVZ8rOdnZ2d@bt.com>
Source record: 44537

What is displacement current? Antenna and electromagnetic books talk of displacement current flowing in an insulator or dielectric and providing a magnetic field like a real current. They make out that the magnetic field is distributed the same way as if a real current was flowing along a conductor. Displacement current is called a virtual current. Books refer to a real current flowing in a conductor, and being converted to a displacement current where the conductor stops. Wikepedia says that displacement current is proportional to the time derivative of the changing electric field, where a changing electric field induces a changing magnetic field. Diagrams show displacement currents flowing through the air in the near field of the antenna. Some scientists believe that displacement current is formed by virtual photons. It appears that virtual photons are hard to investigate in particle accelerators.

Displacement current is usually introduced as the virtual current that flows through the dielectric of a capacitor. Does such a current really exist?

2724. Re: Tower design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 18:32:43 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <3jolv2pprps5vahhrilb9ekq3ojg43jfo5@4ax.com>
Source record: 44538

On 16 Mar 2007 06:50:14 -0700, "Wes" <n7ws@yahoo.com> wrote:

>On Mar 14, 6:37 pm, "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote:
>[snip]
>>
>> That is a great website you sent me to, much morethan just the pdf
>> file I was looking for.
>> k6mhe.com/
>
>Yep, Danny has some good stuff there.
>
>I tried sending a similar message to this before but this horrible
>Google Groups swallowed it somewhere.
>
>Another related resource would be Leeson's book, "Physical Design of
>Yagi Antennas." Clearly, you are not designing a Yagi, but a lot of
>the material strength, deflection, wind loading, etc is applicable.
>
>There was also an Excel workbook offered by ARRL to accompany the
>book. I have it someplace, but can't lay my hand on it at the moment.
>
>Once you get the above ground part designed, you need to worry about
>the anchor too. Here's a link to a paper that might help there:
>
>http://k6mhe.com/n7ws/SizeConcrete.doc
>
>Wes
Sometimes it is best to back into the correct answer... The suppliers
are going to charge me for 5 yards of concrete in my area whether I
use it or not...
The other choice is to mix it myself.

John Ferrell W8CCW
"Life is easier if you learn to
plow around the stumps"

2725. Re: What is displacement current?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 19:04:19 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <TSBKh.9569$P47.1850@newssvr22.news.prodigy.net>
Source record: 44539

David wrote:
> Displacement current is usually introduced as the virtual current that flows
> through the dielectric of a capacitor. Does such a current really exist?

When one discharges a charged capacitor through a resistor,
the excess charge from one plate of the capacitor flows
through the resistor to the other plate of the capacitor
in order to equalize the charge on both plates. Since the
current is supposed to be the same all around a single
series circuit, it is *as if* current is flowing through
the capacitor's dielectric somewhat like current flows
through acid inside a car battery. Since actual current
flowing through the insulating dielectric would destroy
it, of course that current is only virtual and is called
displacement current. It can usually be treated *as if*
it were real.
--
73, Cecil http://www.w5dxp.com

2726. Re: Tower design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 19:32:13 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <1hCKh.13423$JI.6678@newsread3.news.pas.earthlink.net>
Source record: 44541

> Sometimes it is best to back into the correct answer... The suppliers
> are going to charge me for 5 yards of concrete in my area whether I
> use it or not...
> The other choice is to mix it myself.
>
> John Ferrell W8CCW
> "Life is easier if you learn to
> plow around the stumps"

It was about the same around here. I only wanted about a yard and where I wanted it a truck could not get in very easy. Had 50 bags (90 lb bags) delivered for around $ 300. Then rented a mixer for about $ 40. Spent about 6 hours transporting the bags with my riding lawnmower and cart about 150 feet to the tower hole and mixing it up and then cleaning the mixer. I did have water and electricity at the hole. Only put one bag in the mixer at a time as that was all I thought I could handle by myself. Used 43 bags in the tower and spent another part of a day putting the other bags in holes and pipes for the guy wires. It would have been cheeper to just get a load delivered and much faster, but just could not get a truck back there and I just could not see wheelborrowing it to the hole .

2727. Re: What is displacement current?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 20:28:23 UTC
From: chuck <nospam@nospam.org>
Message-ID: <1174073409_17@sp6iad.superfeed.net>
Source record: 44540

Cecil Moore wrote:
> David wrote:
>> Displacement current is usually introduced as the virtual current that
>> flows through the dielectric of a capacitor. Does such a current
>> really exist?
>
> When one discharges a charged capacitor through a resistor,
> the excess charge from one plate of the capacitor flows
> through the resistor to the other plate of the capacitor
> in order to equalize the charge on both plates. Since the
> current is supposed to be the same all around a single
> series circuit, it is *as if* current is flowing through
> the capacitor's dielectric somewhat like current flows
> through acid inside a car battery. Since actual current
> flowing through the insulating dielectric would destroy
> it, of course that current is only virtual and is called
> displacement current. It can usually be treated *as if*
> it were real.

Here's a fascinating (and, at the time, controversial) take on Maxwell's
displacement current, originally published in Wireless World:

http://www.ivorcatt.org/icrwiworld78dec1.htm
Ivor Catt Archive | Dinosaur Computers - Electronics World June 2003 p47

Chuck

-----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

2728. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 20:31:02 UTC
From: "mike-c@bulldoghome.com" <mike-c@bulldoghome.com>
Message-ID: <1174077062.249316.290940@d57g2000hsg.googlegroups.com>
Source record: 44542

On Mar 15, 10:40 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Thu, 15 Mar 2007 15:57:50 -0400, Michael Coslo <m...@psu.edu>
> wrote:
>
> >> On Thu, 08 Mar 2007 08:03:56 -0800, Richard Clark <kb7...@comcast.net>
> >> wrote:
> >>> Coming in late, did I miss someone's extravagant claim that a OCF
> >>> could do better?
> > > The idea that an OCF is superior to a dipole, and certainly Richard's
> > >statements would indicate that; makes me wonder why everyone isn't using
> > >them!
>
> Hi Mike,
>
> With all the intervening comments removed, want to reconsider that
> again?
>
> An OCF is simply resonant at exactly (by modeling) the same points as
> the dipole of the same length. Resonance resides in the wire, not the
> drive point. Of Course, F***! (expletive deleted to explain the
> meaning of OCF) as the drivepoint is moved through the length, its
> fundamental Z (still real) varies from low (at midpoint) to high (near
> endpoint) in much the same manner as we would expect for the
> difference between a conventional halfwave dipole and conventional
> halfwave end-fed. The harmonic drivepoint Zs follow their own
> sinusoidal roller coaster through the shift in feed point.
>
> 73's
> Richard Clark, KB7QHC

Fine Guys except for one point WHY does a caroliner Windom have 2
Balums? I suggest for one reason to heat the garden I have known
several catch fire. also the performance is not that great.
mike M0DMD

2729. Re: What is displacement current?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 20:57:24 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12vm15mk3368v59@corp.supernews.com>
Source record: 44543

David wrote:
> What is displacement current? Antenna and electromagnetic books talk of
> displacement current flowing in an insulator or dielectric and providing a
> magnetic field like a real current. They make out that the magnetic field is
> distributed the same way as if a real current was flowing along a
> conductor. Displacement current is called a virtual current. Books refer to
> a real current flowing in a conductor, and being converted to a displacement
> current where the conductor stops. Wikepedia says that displacement current
> is proportional to the time derivative of the changing electric field, where
> a changing electric field induces a changing magnetic field. Diagrams show
> displacement currents flowing through the air in the near field of the
> antenna. Some scientists believe that displacement current is formed by
> virtual photons. It appears that virtual photons are hard to investigate in
> particle accelerators.
>
> Displacement current is usually introduced as the virtual current that flows
> through the dielectric of a capacitor. Does such a current really exist?

"The concept of displacement current, or displacement current density,
was introduced by James Clerk Maxwell to account for the production of
magnetic fields in empty space. Here the conduction current is zero, and
the magnetic fields are due entirely to displacement currents." - Kraus,
Electromagnetics

There are two kinds of current, both arguably "real". One is
conventional or conduction current. This is the flow of charge from one
one point to another. The conventional current is the rate of charge
flow -- one ampere of current equals one coulomb of charge per second.(*)

The other kind of current is displacement current. This is the rate of
change of electric (field) flux passing through a surface. James Maxwell
is usually credited with connecting the two; his equations show that a
time-varying conduction current gives rise to a displacement current,
and vice-versa. Conduction current consisting of charge moving onto and
off a capacitor's plates creates displacement current within the
capacitor's dielectric, which then creates conduction current in the
plates on the other side. The effect is just as though charges are
moving right through the dielectric, although they don't. Only fields
move through the dielectric, constituting the displacement current.

(*) Although "conduction current" usually refers to charge flowing in a
conductor, charge can also flow through space or non-conducting
materials, as for example the electron beam of a CRT. This is a
conventional or conduction current, but sometimes called a "convection
current" when in space.

Roy Lewallen, W7EL

2730. Re: Irregular Gaussian radiation fields

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 21:09:44 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <etf12ohqu1@aioe.org>
Source record: 44544

"art" >
> Also with regard to the irregular radiation field the Gaussian
> array with a single feed point can duplicate the present
> broadcasting method.... Just a thought

All you need to do then is to prove it, and get the FCC to accept it.

RF

2731. Re: Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 21:10:47 UTC
From: Dave <noone@nowhere.com>
Message-ID: <rJDKh.1729$FS5.642@trndny09>
Source record: 44545

"art" <aunwin@insightbb.com> wrote in message
news:1174003659.760797.292350@e1g2000hsg.googlegroups.com...
> On 15 Mar, 15:29, "Dave" <n...@nowhere.com> wrote:
>> "art" <aun...@insightbb.com> wrote in message
>>
>> news:1173996900.042705.243260@n76g2000hsh.googlegroups.com...
>>
>>
>>
>> > On 15 Mar, 14:47, "Dave" <n...@nowhere.com> wrote:
>> >> "art" <aun...@insightbb.com> wrote in message
>>
>> >>news:1173987071.281899.261260@e65g2000hsc.googlegroups.com...
>>
>> >> > It is oftimes said that parasitic elements of a yagi absorb
>> >> > radiatiation
>> >> > and then reradiate half of what it received. Is this meaning that it
>> >> > only absorbs half of the radiation applied in its direction and
>> >> > where
>> >> > it
>> >> > then reradiates 100% of its radiation? It apears to be a simple
>> >> > question
>> >> > depending how one looks at it in terms of efficiency which could
>> >> > mean
>> >> > anything.
>> >> > Now in my unreleased Gaussian antenna array there is no interaction
>> >> > with respect to radiation as radiation cannot occur outside until
>> >> > the
>> >> > enclosed border is breached.
>> >> > On the face of it one then can assume that a yagi is not really
>> >> > efficient depending how one uses terms that have a special
>> >> > definition
>> >> > because of absorbed radiation.
>> >> > Thoughts! Auguments!. Trashing, or what ever trips your trigger.
>> >> > Just when you thought that Gaussian arrays would go away a thing
>> >> > like
>> >> > this comes along,
>> >> > go figure. (Don't forget Pointings vector and what it implies.grin)
>> >> > Art
>>
>> >> what prevents me from drawing an imaginary Gaussian boundary around my
>> >> yagi?- Hide quoted text -
>>
>> >> - Show quoted text -

>>
>> > A yagi cannot be in equilibrium because of parasitic elements.
>> > A simple dipole can be in equilibrium and can be placed inside
>> > an arbitary border.
>> > Art
>>
>> ok, take each parasitic element on the yagi, break it in the middle to
>> turn
>> it into a 'dipole', add a voltage source set at 0v to drive it. now draw
>> your imaginary boundary. i have satisfied your requirements, now why is
>> my
>> multi-dipole array not a gaussian array by your definition??- Hide quoted
>> text -
>>
>> - Show quoted text -
>
> David,
> You are obviously an immigrant to the U.K., Nigeria perhaps!
> I see you have made over 116,000 posts just on usenet and that is just
> counting one server, all in the search of a fight and goodness knows
> how many aliases you have used every day.
> How about providing one of your many amateur calls?

has it been that many posts? i'll bet you just searched for the alias i use on here, which is a common anti-spam alias used by many posters. i use only the one alias, though i did just recently switch isp's so the posting server has changed, oh and i do occasionally post via news.microsoft.com for some of their software development groups. if you really wanted to find out who i was you would have found it already... its right there if you really want it. every header (at least from this isp) has the real identity in it.

2732. Re: What is displacement current?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 21:23:11 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1174080191.855702.96590@d57g2000hsg.googlegroups.com>
Source record: 44546

On 16 Mar, 12:04, Cecil Moore <nos...@w5dxp.com> wrote:
> David wrote:
> > Displacement current is usually introduced as the virtual current that flows
> > through the dielectric of a capacitor. Does such a current really exist?
>
> When one discharges a charged capacitor through a resistor,
> the excess charge from one plate of the capacitor flows
> through the resistor to the other plate of the capacitor
> in order to equalize the charge on both plates. Since the
> current is supposed to be the same all around a single
> series circuit, it is *as if* current is flowing through
> the capacitor's dielectric somewhat like current flows
> through acid inside a car battery. Since actual current
> flowing through the insulating dielectric would destroy
> it, of course that current is only virtual and is called
> displacement current. It can usually be treated *as if*
> it were real.
> --
> 73, Cecil http://www.w5dxp.com

I seem to remember a capacitor defying gravity via displacement
current but I can't remember the details. Do you recall that Cecil?
Art
Art

2733. Re: Tower design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 21:33:53 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <12vm3afn9e5dp2a@corp.supernews.com>
Source record: 44547

John Ferrell wrote:
> On 16 Mar 2007 06:50:14 -0700, "Wes" <n7ws@yahoo.com> wrote:
>
>> On Mar 14, 6:37 pm, "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote:
>> [snip]
>>> That is a great website you sent me to, much morethan just the pdf
>>> file I was looking for.
>>> k6mhe.com/
>> Yep, Danny has some good stuff there.
>>
>> I tried sending a similar message to this before but this horrible
>> Google Groups swallowed it somewhere.
>>
>> Another related resource would be Leeson's book, "Physical Design of
>> Yagi Antennas." Clearly, you are not designing a Yagi, but a lot of
>> the material strength, deflection, wind loading, etc is applicable.
>>
>> There was also an Excel workbook offered by ARRL to accompany the
>> book. I have it someplace, but can't lay my hand on it at the moment.
>>
>> Once you get the above ground part designed, you need to worry about
>> the anchor too. Here's a link to a paper that might help there:
>>
>> http://k6mhe.com/n7ws/SizeConcrete.doc
>>
>> Wes
> Sometimes it is best to back into the correct answer... The suppliers
> are going to charge me for 5 yards of concrete in my area whether I
> use it or not...
> The other choice is to mix it myself.
>
> John Ferrell W8CCW
> "Life is easier if you learn to
> plow around the stumps"

You might want to see if you can rent a 1 yard cement delivery trailer.
Some tool rentals have them.

Dave N

2734. Re: Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 21:41:48 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1174081307.967405.187810@n76g2000hsh.googlegroups.com>
Source record: 44548

On 16 Mar, 14:10, "Dave" <n...@nowhere.com> wrote:
> "art" <aun...@insightbb.com> wrote in message
>
> news:1174003659.760797.292350@e1g2000hsg.googlegroups.com...
>
>
>
>
>
> > On 15 Mar, 15:29, "Dave" <n...@nowhere.com> wrote:
> >> "art" <aun...@insightbb.com> wrote in message
>
> >>news:1173996900.042705.243260@n76g2000hsh.googlegroups.com...
>
> >> > On 15 Mar, 14:47, "Dave" <n...@nowhere.com> wrote:
> >> >> "art" <aun...@insightbb.com> wrote in message
>
> >> >>news:1173987071.281899.261260@e65g2000hsc.googlegroups.com...
>
> >> >> > It is oftimes said that parasitic elements of a yagi absorb
> >> >> > radiatiation
> >> >> > and then reradiate half of what it received. Is this meaning that it
> >> >> > only absorbs half of the radiation applied in its direction and
> >> >> > where
> >> >> > it
> >> >> > then reradiates 100% of its radiation? It apears to be a simple
> >> >> > question
> >> >> > depending how one looks at it in terms of efficiency which could
> >> >> > mean
> >> >> > anything.
> >> >> > Now in my unreleased Gaussian antenna array there is no interaction
> >> >> > with respect to radiation as radiation cannot occur outside until
> >> >> > the
> >> >> > enclosed border is breached.
> >> >> > On the face of it one then can assume that a yagi is not really
> >> >> > efficient depending how one uses terms that have a special
> >> >> > definition
> >> >> > because of absorbed radiation.
> >> >> > Thoughts! Auguments!. Trashing, or what ever trips your trigger.
> >> >> > Just when you thought that Gaussian arrays would go away a thing
> >> >> > like
> >> >> > this comes along,
> >> >> > go figure. (Don't forget Pointings vector and what it implies.grin)
> >> >> > Art

>
> >> >> what prevents me from drawing an imaginary Gaussian boundary around my
> >> >> yagi?- Hide quoted text -
>
> >> >> - Show quoted text -
>
> >> > A yagi cannot be in equilibrium because of parasitic elements.
> >> > A simple dipole can be in equilibrium and can be placed inside
> >> > an arbitary border.
> >> > Art
>
> >> ok, take each parasitic element on the yagi, break it in the middle to
> >> turn
> >> it into a 'dipole', add a voltage source set at 0v to drive it. now draw
> >> your imaginary boundary. i have satisfied your requirements, now why is
> >> my
> >> multi-dipole array not a gaussian array by your definition??- Hide quoted
> >> text -
>
> >> - Show quoted text -
>
> > David,
> > You are obviously an immigrant to the U.K., Nigeria perhaps!
> > I see you have made over 116,000 posts just on usenet and that is just
> > counting one server, all in the search of a fight and goodness knows
> > how many aliases you have used every day.
> > How about providing one of your many amateur calls?
>
> has it been that many posts? i'll bet you just searched for the alias i use
> on here, which is a common anti-spam alias used by many posters. i use only
> the one alias, though i did just recently switch isp's so the posting server
> has changed, oh and i do occasionally post via news.microsoft.com for some
> of their software development groups. if you really wanted to find out
> who i was you would have found it already... its right there if you really
> want it. every header (at least from this isp) has the real identity in it.- Hide quoted
text -
>
> - Show quoted text -

I was putting you about 100 to 140 miles North by Northwest of London.
I suppose that would be towards the Derby area .

2735. Re: Tower design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 21:45:43 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F6591EA2F6Bnonenowhere@61.9.191.5>
Source record: 44549

John Ferrell <johnferrell@sprintmail.com> wrote in
news:3jolv2pprps5vahhrilb9ekq3ojg43jfo5@4ax.com:

> The other choice is to mix it myself.

What is the strength of "mix it yourself" concrete? You might need the five yards!

Down here, "mix it yourself" costs more than readymix (provided you are near a readymix plant), and if you "measure" the mix with a shovel, it will be rated lower in strength. If you mix it in a barrow, even worse.

Owen

2736. Re: Best way to clean elements before assembly?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 21:52:38 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12vm4d9dn99qtaa@corp.supernews.com>
Source record: 44550

mcalhoun@ksu.edu wrote:
>> Calcium carbonate (Na2CO3), aka "washing soda"....
>
> Interesting. CALCIUM carbonate with NO calcium in it!-)
> Just sodium, carbon, and oxygen!
> (table salt = NaCl = sodium chloride)
> Is that where the "soda" part of the "washing soda" name comes from?

Mea culpa. I did indeed type "calcium carbonate", while of course the "TSP substitute" -- "washing soda" -- is *sodium* carbonate. At least I gave the correct formula. I apologize for the error. Yes, I'm sure the "soda" is from sodium, as in "caustic soda" which is sodium hydroxide (lye) and "baking soda", which is sodium bicarbonate.

Roy Lewallen, W7EL

2737. Simps and wimps!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 22:07:10 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <etf4efbfa1@news.albasani.net>
Source record: 44551
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.misc

THE POST I WAS RESPONDING TO, AND MY POST IN RESPONSE:
||||||||||||||||||||||||||||||||||||||
Cecil Moore wrote:

> ...
> Legally, it is not a contract unless you agree to it.
> What would happen if you simply crossed out the antenna
> restrictions clause before signing the contract?
> --
> 73, Cecil, w5dxp.com
>

Wouldn't ya' rather stab the person who drafted it with a pen? <evil grin>

Regards,
JS
||||||||||||||||||||||||||||||||||||||
END OF MY RESPONSE POST

REASON WHY RRAM COULD NOT MORALLY/ETHICALLY ALLOW SUCH POST:
||||||||||||||||||||||||||||||||||||||
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Borderline inappropriate (advocacy of violence, even if joking, and
not much more). - K3FU

Your message has been rejected because it may require minor-to-moderate
rewriting. This may include things like "me too" posts with little
added content, excessive quoting on followup, credulous assertions with
insufficient documentary evidence, or even excessive spelling or grammar
errors affecting readability. The moderator reviewing your article has
provided specific diagnostic guidance at the beginning of this reply
message. Please consider incorporating this feedback into any
resubmission of this article such that it can eventually be approved for
posting to our moderated newsgroup.

Please read the charter of rec.radio.amateur.moderated at:

http://www.panix.com/~rram/usenet/rram/index.html

Please direct any queries to rec-radio-amateur-moderated-request@panix.com.

Thank you,

- Moderation Team.

========== Full text of your message follows
> > From news@alpha826.server4you.de Fri Mar 16 13:46:45 2007
> > Return-Path: <news@alpha826.server4you.de>
> > X-Spam-Checker-Version: SpamAssassin 3.1.6 (2006-10-03) on
> > mailcrunch2.panix.com
> > X-Spam-Level:
> > X-Spam-Status: No, score=0.0 required=5.0 tests=none
autolearn=disabled
> > version=3.1.6
> > X-Original-To: rram@panix.com
> > Delivered-To: rram@panix.com
> > Received: from mail2.panix.com (mail2.panix.com [166.84.1.73])
> > by mailproc1.panix.com (Postfix) with ESMTP id 98C7A7EDCB
> > for <rram@panix.com>; Fri, 16 Mar 2007 13:46:44 -0400 (EDT)
> > Received: by mail2.panix.com (Postfix)
> > id BF37BCACF1; Fri, 16 Mar 2007 13:46:44 -0400 (EDT)
> > Delivered-To: rec-radio-amateur-moderated@panix.com
> > Received: from pinatubo.switch.ch (pinatubo-2.switch.ch [130.59.1.10])
> > by mail2.panix.com (Postfix) with ESMTP id A1BACCACED
> > for <rec-radio-amateur-moderated@panix.com>; Fri, 16 Mar 2007
13:46:44 -0400 (EDT)
> > Received: from [85.25.133.70] (helo=alpha826.server4you.de)
> > by pinatubo.switch.ch with esmtp (Exim 4.50)
> > id 1HSGVX-00032D-NB
> > for rec-radio-amateur-moderated@moderators.isc.org; Fri, 16 Mar
2007 18:46:27 +0100
> > Received: from news by alpha826.server4you.de with local (Exim 4.50)
> > id 1HSGVW-0004jR-Ed
> > for rec-radio-amateur-moderated@moderators.isc.org; Fri, 16 Mar
2007 18:46:26 +0100
> > To: rec-radio-amateur-moderated@moderators.isc.org
> > Path: news.albasani.net!not-for-mail
> > From: John Smith I <assemblywizard@gmail.com>
> > Newsgroups: rec.radio.amateur.moderated
> > Subject: Re: PRB-1 and CCNR's
> > Organization: albasani.net
> > Message-ID: <etel5fhbv1@news.albasani.net>
> > References: <1173494973.507929.53550@j27g2000cwj.googlegroups.com>
<KTyIh.2893$uo3.2071@newssvr14.news.prodigy.net>
<1174064484.732450.54560@b75g2000hsg.googlegroups.com>
<bkAKh.9112$FG1.3787@newssvr27.news.prodigy.net>
> > Mime-Version: 1.0
> > Content-Type: text/plain; charset=ISO-8859-1; format=flowed
> > Content-Transfer-Encoding: 7bit
> > X-Trace: news.albasani.net
B1trX12ebOQbBbwPbv1Z6qFJ3cPnNdnAgGPk3uzrKJKS8GjZA+I9+9bN9Rxdd9Gis/+O2yfjx9JJYFIpArUPQte8I5
QRvASxNnz511Ey1hMDEkFLWpPGfLBD83EZDrQh
> > X-Complaints-To: abuse@albasani.net
> > NNTP-Posting-Date: Fri, 16 Mar 2007 17:46:26 +0000 (UTC)
> > X-User-ID: PeiIQ0s50Kx8tUQkoOLa99SPpx/E3fvPrifN3rd2FAk=

> > User-Agent: Thunderbird 1.5.0.9 (Windows/20061207)
> > X-NNTP-Posting-Host:
IfhgqsQb65afI8fKmDSv/K5Upt00pCx+WNDaMFgyNEZNn/53YIvAvSaUpgtGbwvatWt/En/vPOlUetJkKmCGnA==
> > X-Virus-Status: No
> >
> > Cecil Moore wrote:
> >
> > > ...
>> > > Legally, it is not a contract unless you agree to it.
>> > > What would happen if you simply crossed out the antenna
>> > > restrictions clause before signing the contract?
>> > > --
>> > > 73, Cecil, w5dxp.com
>> > >
> >
> > Wouldn't ya' rather stab the person who drafted it with a pen?
<evil grin>
> >
> > Regards,
> > JS
> >
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1.4.6 (NetBSD)

iQCVAwUBRfrhv0jvESE1wn77AQJDZgP+JTf2zxCx0u3qYAtPU2Kc0H8/v01HKXte
Ns7rNdOjl6wz6i16f8du8u5XqHYb8P2hXXjAf981/vErzjDv19Mb9p/8YaBJcEct
9saYvkdlWGAwquTg6kmM0acPe2G+FyCpIJw+7gF+cqBu4PprlpHxVLpENjaBJZSD
ANhEWW3LyYo=
=Chr2
-----END PGP SIGNATURE-----
||||||||||||||||||||||||||||||||||||||||||||
END OF THEIR GREAT MORAL/ETHICAL RESPONSIBILITIES!

Regards,
JS

2738. Re: Simps and wimps!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 22:10:44 UTC
From: an old freind <kb9rqz@hotmail.com>
Message-ID: <1174083044.302580.112340@e65g2000hsc.googlegroups.com>
Source record: 44552
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.misc

On Mar 16, 6:07 pm, John Smith I <assemblywiz...@gmail.com> wrote:
> THE POST I WAS RESPONDING TO, AND MY POST IN RESPONSE:
> ||||||||||||||||||||||||||||||||||||||
>
> Cecil Moore wrote:
>
> > ...
> > Legally, it is not a contract unless you agree to it.
> > What would happen if you simply crossed out the antenna
> > restrictions clause before signing the contract?
> > --
> > 73, Cecil, w5dxp.com
> >
>
> Wouldn't ya' rather stab the person who drafted it with a pen? <evil grin>
>
> Regards,
> JS
> ||||||||||||||||||||||||||||||||||||||
> END OF MY RESPONSE POST
>
> REASON WHY RRAM COULD NOT MORALLY/ETHICALLY ALLOW SUCH POST:
> ||||||||||||||||||||||||||||||||||||||
> -----BEGIN PGP SIGNED MESSAGE-----
> Hash: SHA1
>
> Borderline inappropriate (advocacy of violence, even if joking, and
> not much more). - K3FU

where is violence advocated?

well MD claims that in asking what problems see with the fact you can
pass the written test while missing all the rules and reg question is
advocating no change at all

2739. Re: Simps and wimps!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 22:21:16 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <etf58lclr1@news.albasani.net>
Source record: 44553
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.misc

an old freind wrote:

> ...
> where is violence advocated?
>
> well MD claims that in asking what problems see with the fact you can
> pass the written test while missing all the rules and reg question is
> advocating no change at all
>

Hey, we knew that it would be nothing but a group to amuse "at large."

They epitomize wacko leftist-ideas, ya' suppose they are all
closet-gay-democrats? :)

Regards,
JS

2740. Re: Simps and wimps!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 22:34:07 UTC
From: an old friend <kb9rqz@hotmail.com>
Message-ID: <1174084447.326994.264650@l75g2000hse.googlegroups.com>
Source record: 44554
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.misc

On Mar 16, 6:21 pm, John Smith I <assemblywiz...@gmail.com> wrote:
> an old freind wrote:
>
> > ...
>
> > where is violence advocated?
>
> > well MD claims that in asking what problems see with the fact you can
> > pass the written test while missing all the rules and reg question is
> > advocating no change at all
>
> Hey, we knew that it would be nothing but a group to amuse "at large."

indeed and that amazing part is some discussion is manging to go onn
that I find truely shocking

>
> They epitomize wacko leftist-ideas, ya' suppose they are all
> closet-gay-democrats? :)

dems most likely certainly
>
> Regards,
> JS

2741. Re: Simps and wimps!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 22:39:51 UTC
From: Not Lloyd <anon@anon>
Message-ID: <pbrsm.o12.17.1@news.alt.net>
Source record: 44555
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.misc

"an old freind" <kb9rqz@hotmail.com> wrote in message
news:1174083044.302580.112340@e65g2000hsc.googlegroups.com...
> On Mar 16, 6:07 pm, John Smith I <assemblywiz...@gmail.com> wrote:
> > THE POST I WAS RESPONDING TO, AND MY POST IN RESPONSE:
> > ||||||||||||||||||||||||||||||||||||||
> >
> > Cecil Moore wrote:
> >
> > > ...
> > > Legally, it is not a contract unless you agree to it.
> > > What would happen if you simply crossed out the antenna
> > > restrictions clause before signing the contract?
> > > --
> > > 73, Cecil, w5dxp.com
> > >
> >
> > Wouldn't ya' rather stab the person who drafted it with a pen? <evil
grin>
> >
> > Regards,
> > JS
> > ||||||||||||||||||||||||||||||||||||||||
> > END OF MY RESPONSE POST
> >
> > REASON WHY RRAM COULD NOT MORALLY/ETHICALLY ALLOW SUCH POST:
> > ||||||||||||||||||||||||||||||||||||||||
> > -----BEGIN PGP SIGNED MESSAGE-----
> > Hash: SHA1
> >
> > Borderline inappropriate (advocacy of violence, even if joking, and
> > not much more). - K3FU
>
> where is violence advocated?
>
> well MD claims that in asking what problems see with the fact you can
> pass the written test while missing all the rules and reg question is
> advocating no change at all
>
Of course, conversely, had somebody said, "Wouldn't ya' rather stab Mark
with a pen? " you can bet your Bagels Mark would have whined and cried that
somebody was threatening his life.

2742. Re: Simps and wimps!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 22:44:54 UTC
From: an old friend <kb9rqz@hotmail.com>
Message-ID: <1174085094.882859.271190@d57g2000hsg.googlegroups.com>
Source record: 44556
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.misc

```
On Mar 16, 6:39 pm, "Not Lloyd" <anon@anon> wrote:
> "an old freind" <kb9...@hotmail.com> wrote in
messagenews:1174083044.302580.112340@e65g2000hsc.googlegroups.com...
>
>
>
> > On Mar 16, 6:07 pm, John Smith I <assemblywiz...@gmail.com> wrote:
> > > THE POST I WAS RESPONDING TO, AND MY POST IN RESPONSE:
> > > ||||||||||||||||||||||||||||||||||||||
>
> > > Cecil Moore wrote:
>
> > > > ...
> > > > Legally, it is not a contract unless you agree to it.
> > > > What would happen if you simply crossed out the antenna
> > > > restrictions clause before signing the contract?
> > > > --
> > > > 73, Cecil, w5dxp.com
>
> > > Wouldn't ya' rather stab the person who drafted it with a pen? <evil
> grin>
>
> > > Regards,
> > > JS
> > > ||||||||||||||||||||||||||||||||||||||
> > > END OF MY RESPONSE POST
>
> > > REASON WHY RRAM COULD NOT MORALLY/ETHICALLY ALLOW SUCH POST:
> > > ||||||||||||||||||||||||||||||||||||||
> > > -----BEGIN PGP SIGNED MESSAGE-----
> > > Hash: SHA1
>
> > > Borderline inappropriate (advocacy of violence, even if joking, and
> > > not much more). - K3FU
>
> > where is violence advocated?
>
> > well MD claims that in asking what problems see with the fact you can
> > pass the written test while missing all the rules and reg question is
> > advocating no change at all
>
> Of course, conversely, had somebody said, "Wouldn't ya' rather stab Mark
> with a pen? " you can bet your Bagels Mark would have whined and cried that
```

> somebody was threatening his life
well that is more derect but you still lose other than you acidently
undid Mike eforts at thread jacking it was just another of your
worthless posts

2743. 3/8 double folded dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 23:00:38 UTC
From: Willy <n4wc@arrl.net>
Message-ID: <_jFKh.18257$sC.3865@bignews2.bellsouth.net>
Source record: 44557

Any idea what the impedance at the feedpoint might be at 60 feet above ground? 160 mtr 1850kc

Thanks

2744. Re: Irregular Gaussian radiation fields

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-16 23:25:58 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <etf926$3uh$1@aioe.org>
Source record: 44558

"art" quoting RF:
>> All you need to do then is to prove it, and get the FCC to accept it.
>>
>> RF
>
> What about the use of complex circuitry methods od design does that
> present any advantage? We now can insert lumped constants ?

Note the responsible party in this, which I re-post below with emphasis:

"All __YOU__ need to do then is to prove it,..."

If YOU, Art Unwin, want to be recogniz(s)ed for introducing a new application or concept about "Irregular Gaussian Radiation Fields," shouldn't that first be based upon your own theoretical and experimental research and proofs, which after your publication of same, are capable of being proven true by other scientific investigators?

If both of those situations exist, then maybe you will have a chance for the commercial and governmental acceptance/success of your concepts, and your personal recognition for the same.

But until then, you may wish to keep such revelations closer to your vest.

With respect to your claimed English background, I wish you the best, Sir, and
remain your humble and obedient servant etc, etc,

RF

2745. Re: What is displacement current?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 00:02:05 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1174089725.872113.112160@e65g2000hsc.googlegroups.com>
Source record: 44559

On Mar 16, 1:57 pm, Roy Lewallen <w...@eznec.com> wrote:
> David wrote:
> > What is displacement current? Antenna and electromagnetic books talk of
> > displacement current flowing in an insulator or dielectric and providing a
> > magnetic field like a real current. They make out that the magnetic field is
> > distributed the same way as if a real current was flowing along a
> > conductor. Displacement current is called a virtual current. Books refer to
> > a real current flowing in a conductor, and being converted to a displacement
> > current where the conductor stops. Wikepedia says that displacement current
> > is proportional to the time derivative of the changing electric field, where
> > a changing electric field induces a changing magnetic field. Diagrams show
> > displacement currents flowing through the air in the near field of the
> > antenna. Some scientists believe that displacement current is formed by
> > virtual photons. It appears that virtual photons are hard to investigate in
> > particle accelerators.
>
> > Displacement current is usually introduced as the virtual current that flows
> > through the dielectric of a capacitor. Does such a current really exist?
>
> "The concept of displacement current, or displacement current density,
> was introduced by James Clerk Maxwell to account for the production of
> magnetic fields in empty space. Here the conduction current is zero, and
> the magnetic fields are due entirely to displacement currents." - Kraus,
> _Electromagnetics_
>
> There are two kinds of current, both arguably "real". One is
> conventional or conduction current. This is the flow of charge from one
> one point to another. The conventional current is the rate of charge
> flow -- one ampere of current equals one coulomb of charge per second.(*)
>
> The other kind of current is displacement current. This is the rate of
> change of electric (field) flux passing through a surface. James Maxwell
> is usually credited with connecting the two; his equations show that a
> time-varying conduction current gives rise to a displacement current,
> and vice-versa. Conduction current consisting of charge moving onto and
> off a capacitor's plates creates displacement current within the
> capacitor's dielectric, which then creates conduction current in the
> plates on the other side. The effect is just as though charges are
> moving right through the dielectric, although they don't. Only fields
> move through the dielectric, constituting the displacement current.
>
> (*) Although "conduction current" usually refers to charge flowing in a
> conductor, charge can also flow through space or non-conducting
> materials, as for example the electron beam of a CRT. This is a

> conventional or conduction current, but sometimes called a "convection
> current" when in space.
>
> Roy Lewallen, W7EL

Hi Roy,

With regard to "James Maxwell is usually credited with connecting the two; his equations show that a time-varying conduction current gives rise to a displacement current, and vice-versa," need it be time-varying? I haven't given this a lot of thought in the past, but it appears to me that the laws cover the case of a constant current as well. If I'm not mistaken, which I could well be in this case, it's a time-varying electric field that "looks like" a current, and an electric field whose time derivative is constant "looks like" a constant current, at least with respect to the magnetic field to which it gives rise.

Cheers,
Tom

2746. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 00:11:27 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <PmGKh.8008$yW.6327@newssvr11.news.prodigy.net>
Source record: 44560

mike-c@bulldoghome.com wrote:
> Fine Guys except for one point WHY does a caroliner Windom have 2
> Balums?

One is to step down the feedpoint impedance and the
other is to choke common-mode current.
--
73, Cecil http://www.w5dxp.com

2747. Re: 3/8 double folded dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 00:19:01 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <VtGKh.8010$yW.7024@newssvr11.news.prodigy.net>
Source record: 44561

Willy wrote:
> Any idea what the impedance at the feedpoint might be at 60 feet above
> ground? 160 mtr 1850kc

EZNEC says about 19-j550
--
73, Cecil http://www.w5dxp.com

2748. Re: What is displacement current?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 00:48:39 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12vmenad384v503@corp.supernews.com>
Source record: 44562

K7ITM wrote:
>
> With regard to "James Maxwell is usually credited with connecting
> the two; his equations show that a time-varying conduction current
> gives rise to a displacement current, and vice-versa," need it be
> time-varying? I haven't given this a lot of thought in the past, but
> it appears to me that the laws cover the case of a constant current as
> well. If I'm not mistaken, which I could well be in this case, it's a
> time-varying electric field that "looks like" a current, and an
> electric field whose time derivative is constant "looks like" a
> constant current, at least with respect to the magnetic field to which
> it gives rise.

I'll be glad to defer to you on this. But it's important to see that the static field produced by a constant conduction current won't induce a conduction current in another conductor. So there's no static equivalent of what happens in a capacitor, which behaves as though the charge seemingly flows through the dielectric.

Roy Lewallen, W7EL

2749. Re: Tower design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 01:04:35 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45fb3ea2$0$18862$4c368faf@roadrunner.com>
Source record: 44563

<mcalhoun@ksu.edu> wrote in message news:ete04g$nj1@unix1.cc.ksu.edu...
> >I am trying to find information on build your own tower....
>
> "Design Data for Pipe Masts", Ham Radio, July 1989, pp. 38 ff.
> "A One-Man Skyhook", QST, July 1947 pp. 19 ff.
> "A Sturdy 55-Ft. Skyhook", QST, October 1947, pp. 28 ff.
> "A Low-Cost Tilt-Over Tower", QST, November 1971, pp. 22 ff.
> "A 40 Foot Non-Conductive Sky-Hook", 73 Magazine, July 1968, pp. 16 ff.
> "Telescoping Antenna Mast", QST, March 1958, pp. 28 ff.
> "The Beam Pole", 73 Magazine, date not on torn-out article, pp. 24 ff.
> "A Self Supporting Antenna Mast", CQ, November 1962, pp. 44 ff.
> "A Foldover Cheapie", 73 Amateur Radio, September 1987, pp. 19 ff.
> "New Approach to the Fold-Over Tower", QST, date unknown, p. 36
> "A Tilt-Over/Swivel Antenna Mount for Recreation Vehicles",
> 73 Amateur Radio Today, July 1993, pp. 28 ff.
> "A Self-Supporting Antenna Tower", QST, March 1941, pp. 18 ff.
> "A Counterweighted Antenna Tower", Radio, November 1941, pp. 44 ff.
> "Sixty Cents Per Foot", QST, June 1959, pp. 30 ff.
> "Lightweight Utility Mast", QST, July 1960, pp. 30 ff.
> "A Telescoping Mast, Mark II", WST, April 1966, pp. 96 ff.
>
> --
> --Myron A. Calhoun; W0PBV; 2001 Dunbar Road; Manhattan, KS 66502-3907
> Five boxes preserve our freedoms: soap, ballot, witness, jury, and
> cartridge
> NRA Life Member & Certified Instructor for Rifle, Pistol, & Home Firearm
> Safety
> Also Certified Instructor for the Kansas Concealed-Carry Handgun (CCH)
> license

Thanks a million I have been looking for an excuse to get back issues of QST
on a disk.

Jimmie

2750. Re: Shielded loop operation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 01:13:25 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F67C5522FFnonenowhere@61.9.191.5>
Source record: 44565

"K7ITM" <k7itm@msn.com> wrote in
news:1172204201.914401.191060@j27g2000cwj.googlegroups.com:

> On Feb 22, 12:23 pm, Owen Duffy <n...@no.where> wrote:
>> G'day all,
>>
>> I am trying to work through the magical claims that are made of
>> shielded loops. My interest in mainly their use for field strength
>> measurement, but understanding them in a general sense is the place
>> to start.
>>
>> I have not found a detailed description of operation in my text
>> books. The ARRL does contain information, but it is inconsistent and
>> IMHO sometimes just plain wrong.
>>
>> I have drafted an article with a proposed explanation of the
>> operation of a small single turn untuned shielded receiving loop. The
>> article is athttp://www.vk1od.net/shieldedloop/index.htm.
>>
>> Am I on the wrong tram?
>>
>> Comments appreciated.
>>
>> Owen
>
> Hi Owen,
>
> I have no time at the moment to read your draft, but I can tell you
> that there is a very good qualitative explanation in King, Mimno and
> Wing, "Transmission Lines, Antennas and Waveguides." I have a PDF of
> the antennas chapter... I also know that in Johnson and Jasik there's
> a corresponding explanation with a bit more detail. In a nutshell, in
> the so-called shielded loop antenna, the antenna is the outer surface
> of the outer conductor, and the feedpoint is the gap in this
> conductor. The center conductor is merely a transmission line to
> conduct the signal from the feedpoint to where it is used. It is
> balance that yields the "magical properties," and it is possible to
> build an antenna with good balance without making the loop out of
> coaxial cable. The magical properties are generally taken to be
> rejection of nearby electric fields (not electromagnetic fields), and
> a symmetrical pattern.
>

Thanks Tom for the extract from King etc.

They make it very clear when they state:

"The operation of the shielded loop is explained popularly by first stating that the desired loop current is due to the magnetic field, and then maintaining that the metal shield cannot be penetrated by the electric field but can be penetrated by the magnetic field. All these arguments are incorrect in the light of fundamental electromagnetic principles."

Thanks again for your valuable help... Owen

2751. Re: Just another Morkie stalking KH6HZ thread

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 01:13:38 UTC
From: Dloyd Lavies <N0vfpsucks@aol.com>
Message-ID: <1174094018.908039.84590@n76g2000hsh.googlegroups.com>
Source record: 44564
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.misc

```
On Mar 16, 6:44ï¿½pm, "an old friend" <kb9...@hotmail.com> wrote:
> On Mar 16, 6:39 pm, "Not Lloyd" <anon@anon> wrote:
>
>
>
> > "an old freind" <kb9...@hotmail.com> wrote in
messagenews:1174083044.302580.112340@e65g2000hsc.googlegroups.com...
>
> > > On Mar 16, 6:07 pm, John Smith I <assemblywiz...@gmail.com> wrote:
> > > > THE POST I WAS RESPONDING TO, AND MY POST IN RESPONSE:
> > > > ||||||||||||||||||||||||||||||||||||||
>
> > > > Cecil Moore wrote:
>
> > > >  > ...
> > > >  > Legally, it is not a contract unless you agree to it.
> > > >  > What would happen if you simply crossed out the antenna
> > > >  > restrictions clause before signing the contract?
> > > >  > --
> > > >  > 73, Cecil, w5dxp.com
>
> > > > Wouldn't ya' rather stab the person who drafted it with a pen?  <evil
> > grin>
>
> > > > Regards,
> > > > JS
> > > > ||||||||||||||||||||||||||||||||||||||||
> > > > END OF MY RESPONSE POST
>
> > > > REASON WHY RRAM COULD NOT MORALLY/ETHICALLY ALLOW SUCH POST:
> > > > ||||||||||||||||||||||||||||||||||||||||
> > > > -----BEGIN PGP SIGNED MESSAGE-----
> > > > Hash: SHA1
>
> > > >   Borderline inappropriate (advocacy of violence, even if joking, and
> > > > not much more). - K3FU
>
> > > where is violence advocated?
>
> > > well MD claims that in asking what problems see with the fact you can
> > > pass the written test while missing all the rules and reg question  is
> > > advocating no change at all
>
```

> > Of course, conversely, had somebody said, "Wouldn't ya' rather stab Mark
> > with a pen? " you can bet your Bagels Mark would have whined and cried that
> > somebody was threatening his life
>
> well that is more derect but you still lose other than you acidently
> undid Mike eforts at thread jacking it was just another of your
> worthless posts- Hide quoted text -
>
> - Show quoted text -

Morkie, will you learn how to use a spell checker. Your butcher the
English language worse than a turkish cab driver.

Dloyd

http://www.markmorgansucks.blogspot.com

2752. only in your dreams woger

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 01:15:46 UTC
From: Mark@kb9rqz.org
Message-ID: <58gmv29unju85nds45v108btq64u8p3n4j@4ax.com>
Source record: 44567
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.misc

On 16 Mar 2007 18:13:38 -0700, "Dloyd Lavies" <N0vfpsucks@aol.com>
wrote:

>On Mar 16, 6:44?pm, "an old friend" <kb9...@hotmail.com> wrote:
>> On Mar 16, 6:39 pm, "Not Lloyd" <anon@anon> wrote:
>>
>>

>> well that is more derect but you still lose other than you acidently
>> undid Mike eforts at thread jacking it was just another of your
>> worthless posts- Hide quoted text -
>>
>> - Show quoted text -
>
>Morkie, will you learn how to use a spell checker.
no stlaking of mike in my refusaul
> Your butcher the
>English language worse than a turkish cab driver.

still no stlaking by my
>
>Dloyd
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

2753. Re: What is displacement current?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 01:15:47 UTC
From: Tom Donaly <dtdonaly@sbcglobal.net>
Message-ID: <7jHKh.8022$yW.3863@newssvr11.news.prodigy.net>
Source record: 44566

K7ITM wrote:
> On Mar 16, 1:57 pm, Roy Lewallen <w...@eznec.com> wrote:
>> David wrote:
>>> What is displacement current? Antenna and electromagnetic books talk of
>>> displacement current flowing in an insulator or dielectric and providing a
>>> magnetic field like a real current. They make out that the magnetic field is
>>> distributed the same way as if a real current was flowing along a
>>> conductor. Displacement current is called a virtual current. Books refer to
>>> a real current flowing in a conductor, and being converted to a displacement
>>> current where the conductor stops. Wikepedia says that displacement current
>>> is proportional to the time derivative of the changing electric field, where
>>> a changing electric field induces a changing magnetic field. Diagrams show
>>> displacement currents flowing through the air in the near field of the
>>> antenna. Some scientists believe that displacement current is formed by
>>> virtual photons. It appears that virtual photons are hard to investigate in
>>> particle accelerators.
>>> Displacement current is usually introduced as the virtual current that flows
>>> through the dielectric of a capacitor. Does such a current really exist?
>> "The concept of displacement current, or displacement current density,
>> was introduced by James Clerk Maxwell to account for the production of
>> magnetic fields in empty space. Here the conduction current is zero, and
>> the magnetic fields are due entirely to displacement currents." - Kraus,
>> _Electromagnetics_
>>
>> There are two kinds of current, both arguably "real". One is
>> conventional or conduction current. This is the flow of charge from one
>> one point to another. The conventional current is the rate of charge
>> flow -- one ampere of current equals one coulomb of charge per second.(*)
>>
>> The other kind of current is displacement current. This is the rate of
>> change of electric (field) flux passing through a surface. James Maxwell
>> is usually credited with connecting the two; his equations show that a
>> time-varying conduction current gives rise to a displacement current,
>> and vice-versa. Conduction current consisting of charge moving onto and
>> off a capacitor's plates creates displacement current within the
>> capacitor's dielectric, which then creates conduction current in the
>> plates on the other side. The effect is just as though charges are
>> moving right through the dielectric, although they don't. Only fields
>> move through the dielectric, constituting the displacement current.
>>
>> (*) Although "conduction current" usually refers to charge flowing in a
>> conductor, charge can also flow through space or non-conducting
>> materials, as for example the electron beam of a CRT. This is a
>> conventional or conduction current, but sometimes called a "convection

>> current" when in space.
>>
>> Roy Lewallen, W7EL
>
>
> Hi Roy,
>
> With regard to "James Maxwell is usually credited with connecting
> the two; his equations show that a time-varying conduction current
> gives rise to a displacement current, and vice-versa," need it be
> time-varying? I haven't given this a lot of thought in the past, but
> it appears to me that the laws cover the case of a constant current as
> well. If I'm not mistaken, which I could well be in this case, it's a
> time-varying electric field that "looks like" a current, and an
> electric field whose time derivative is constant "looks like" a
> constant current, at least with respect to the magnetic field to which
> it gives rise.
>
> Cheers,
> Tom
>

Del cross H = j + dD/dt (pretend the lower case "d"s are the Greek letters
for partial differentiation). "dD/dt" is supposed to represent the
displacement current. Some people don't like the term "displacement
current" (Feynman), so be careful where you use it.
73,
Tom Donaly, KA6RUH

2754. Re: only in your dreams woger

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 01:25:39 UTC
From: Dloyd Lavies <N0vfpsucks@aol.com>
Message-ID: <1174094739.064327.288800@y80g2000hsf.googlegroups.com>
Source record: 44568
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.misc

On Mar 16, 9:15?pm, M...@kb9rqz.org wrote:

>
> no stlaking of mike in my refusaul
>
> still no stlaking by my
>
WTF???

LOL, my niece's two year old can spell better than you.

Dloyd
http://www.markmorgansucks.blogspot.com

2755. Re: only in your dreams woger

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 01:27:26 UTC
From: Mark@kb9rqz.org
Message-ID: <3vgmv2164rsvt7b1tj3lpa13demecm9rmq@4ax.com>
Source record: 44569
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.misc

On 16 Mar 2007 18:25:39 -0700, "Dloyd Lavies" <N0vfpsucks@aol.com>
wrote:

>On Mar 16, 9:15?pm, M...@kb9rqz.org wrote:
>
>>
>> no stlaking of mike in my refusaul
>>
>> still no stlaking by my
>>
>WTF???
>
still nothing of the stalking you alege occoured

it exists only in your dreams woger
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

2756. Another Hijacked Thread

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 01:41:34 UTC
From: Not Lloyd <anon@anon>
Message-ID: <pc6hd.k3e.19.1@news.alt.net>
Source record: 44570
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.misc

<Mark@kb9rqz.org> wrote in message
news:3vgmv2164rsvt7b1tj3lpa13demecm9rmq@4ax.com...
> On 16 Mar 2007 18:25:39 -0700, "Dloyd Lavies" <N0vfpsucks@aol.com>
> wrote:
>
> >On Mar 16, 9:15?pm, M...@kb9rqz.org wrote:
> >
> >>
> >> no stlaking of mike in my refusaul
> >>
> >> still no stlaking by my
> >>
> >WTF???
> >
> still nothing of the stalking you alege occoured
>
> it exists only in your dreams woger
> http://kb9rqz.blogspot.com/
>
Stalking exists only in your dreams, Mark.

2757. only in your dreams woger

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 01:44:29 UTC
From: Mark@kb9rqz.org
Message-ID: <2vhmv2hbq3a4ifmksosvgl0fapi6bqt09i@4ax.com>
Source record: 44571
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.misc

On Fri, 16 Mar 2007 20:41:34 -0500, "Not Lloyd" <anon@anon> wrote:

>
><Mark@kb9rqz.org> wrote in message
>news:3vgmv2164rsvt7b1tj3lpa13demecm9rmq@4ax.com...
>> On 16 Mar 2007 18:25:39 -0700, "Dloyd Lavies" <N0vfpsucks@aol.com>
>> wrote:
>>
>> >On Mar 16, 9:15?pm, M...@kb9rqz.org wrote:
>> >
>> >>
>> >> no stlaking of mike in my refusaul
>> >>
>> >> still no stlaking by my
>> >>
>> >WTF???
>> >
>> still nothing of the stalking you alege occoured
>>
>> it exists only in your dreams woger
>> http://kb9rqz.blogspot.com/
>>
>Stalking exists only in your dreams, Mark.

hardly woger but you are a stalker so you don't reconize it as a crime
>
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

2758. Disjointed Morgasms

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 02:00:20 UTC
From: Not Marque <anon@anon>
Message-ID: <pc7kj.7ct.17.1@news.alt.net>
Source record: 44573
Cross-posted to: alt.fan.ab8mq,rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.cb

<Mark@kb9rqz.org> wrote in message
news:2vhmv2hbq3a4ifmksosvgl0fapi6bqt09i@4ax.com...
> On Fri, 16 Mar 2007 20:41:34 -0500, "Not Lloyd" <anon@anon> wrote:
>
> >
> ><Mark@kb9rqz.org> wrote in message
> >news:3vgmv2164rsvt7b1tj3lpa13demecm9rmq@4ax.com...
> >> On 16 Mar 2007 18:25:39 -0700, "Dloyd Lavies" <N0vfpsucks@aol.com>
> >> wrote:
> >>
> >> >On Mar 16, 9:15?pm, M...@kb9rqz.org wrote:
> >> >
> >> >>
> >> >> no stlaking of mike in my refusaul
> >> >>
> >> >> still no stlaking by my
> >> >>
> >> >WTF???
> >> >
> >> still nothing of the stalking you alege occoured
> >>
> >> it exists only in your dreams woger
> >> http://kb9rqz.blogspot.com/
> >>
> >Stalking exists only in your dreams, Mark.
>
> hardly woger but you are a stalker so you don't reconize it as a crime
> >
To quote you just a week ago:
not stlaking just garden variety jerking you around it does not rise
to stalking till somebody makes a threat of violence so not quite

Get your home-brewed "definitions" straight, Mark.

2759. only in your dreams woger

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 02:03:11 UTC
From: Mark@kb9rqz.org
Message-ID: <81jmv25viues7p8mnv3jr2c3gkddi6bree@4ax.com>
Source record: 44574
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.cb

On Fri, 16 Mar 2007 21:00:20 -0500, "Not Marque" <anon@anon> wrote:

>
><Mark@kb9rqz.org> wrote in message
>news:2vhmv2hbq3a4ifmksosvgl0fapi6bqt09i@4ax.com...
>> On Fri, 16 Mar 2007 20:41:34 -0500, "Not Lloyd" <anon@anon> wrote:
>>

>> >Stalking exists only in your dreams, Mark.
>>
>> hardly woger but you are a stalker so you don't reconize it as a crime
>> >
>To quote you just a week ago:
>not stlaking just garden variety jerking you around it does not rise
>to stalking till somebody makes a threat of violence so not quite

your point
>
>
>
>Get your home-brewed "definitions" straight, Mark.

I do you don't bother to pay attention
>
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

2760. Best Yagi impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 02:20:10 UTC
From: ve2pid <ve2pid@videotron.ca>
Message-ID: <1174098010.745176.35010@e65g2000hsc.googlegroups.com>
Source record: 44575

Hi to all,

I read somewhere that, in the case of Yagis, ''in the range of 25-35
Ohm you get the
best balance between gain, pattern, bandwidth and element currents.'''

Is that true? And if so, I would like to have the theoretical
explanation behind this.

Thanks and 73 de Pierre ve2pid@videotron.ca

2761. Re: Best Yagi impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 02:56:57 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12vmm7s177gmm8c@corp.supernews.com>
Source record: 44477

Sorry, there's no theoretical basis for declaring what the "best balance" of those parameters is. So there's no theoretical basis for deciding what the feedpoint impedance will be for the "best balance".

But. . .

If the Yagi impedance is very low, it indicates very strong coupling between elements and high element currents. This indicates a sharply tuned antenna which might have high gain if the losses are minimized, but also narrow bandwidth. This is a common result of trying to squeeze too much gain from too small an antenna. To understand why, try googling "super gain" or "supergain" antennas or look this topic up in an antenna text.

If the Yagi impedance is high -- close to that of a dipole -- it means that there's very little coupling from the driven element to the parasitic elements. Consequently, the parasitic elements won't have much current with which to produce fields, and they won't do much. The antenna won't have much gain relative to a dipole, and its pattern won't be much different from a dipole.

So while a Yagi having an impedance outside very roughly the 25 - 35 ohm range can still perform well in one or more respects, you should look carefully at it to see what tradeoffs have been made.

Of course, this applies only to the resonant feedpoint resistance at the center of the driven element, which can be transformed over quite a wide range by various structures and networks.

Finally, the above comments are pretty broad generalizations, so they're subject to numerous exceptions. But they're a good starting point for understanding some basic properties of Yagis, and hold often enough to be reasonable rules of thumb.

Roy Lewallen, W7EL

ve2pid wrote:
> Hi to all,
>
> I read somewhere that, in the case of Yagis, ''in the range of 25-35
> Ohm you get the
> best balance between gain, pattern, bandwidth and element currents.'''
>
> Is that true? And if so, I would like to have the theoretical
> explanation behind this.
>
> Thanks and 73 de Pierre ve2pid@videotron.ca

>

2762. Re: Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 02:58:56 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <g9mmv2lb6je1c1s6lrfqckh7n9pudrkkfl@4ax.com>
Source record: 44572

On 16 Mar 2007 14:41:48 -0700, "art" <aunwin@insightbb.com> wrote:

> if you really wanted to find out
>> who i was you would have found it already... its right there if you really
>> want it. every header (at least from this isp) has the real identity in it.

>I was putting you about 100 to 140 miles North by Northwest of London.
>I suppose that would be towards the Derby area .

Hi Art,

Brooklyn. Not even close if you said New London, Conneticut.

73's
Richard Clark, KB7QHC

2763. Re: Best Yagi impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 03:01:46 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F68EB44618nonenowhere@61.9.191.5>
Source record: 44478

"ve2pid" <ve2pid@videotron.ca> wrote in news:1174098010.745176.35010
@e65g2000hsc.googlegroups.com:

> Hi to all,
>
> I read somewhere that, in the case of Yagis, ''in the range of 25-35
> Ohm you get the
> best balance between gain, pattern, bandwidth and element currents.'''
>
> Is that true? And if so, I would like to have the theoretical
> explanation behind this.

I don't understand why there is such a relationship, if there is.

Yagis are often designed for a feedpoint impedance that is relatively
easily transformed to 50 ohms for the main transmission line.

A quarter wave transformer from 28 ohms to 50 ohms is relatively easily
made from two parallel 75 ohm lines. Perhaps that is the attraction to
the impedance range you mention.

Owen

2764. If A Man Lie With Mankind

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 03:57:31 UTC
From: Jesus <anon@anon>
Message-ID: <pcega.j1q.19.1@news.alt.net>
Source record: 44479
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.cb

```
<Mark@kb9rqz.org> wrote in message
news:81jmv25viues7p8mnv3jr2c3gkddi6bree@4ax.com...
> On Fri, 16 Mar 2007 21:00:20 -0500, "Not Marque" <anon@anon> wrote:
>
> >
> ><Mark@kb9rqz.org> wrote in message
> >news:2vhmv2hbq3a4ifmksosvgl0fapi6bqt09i@4ax.com...
> >> On Fri, 16 Mar 2007 20:41:34 -0500, "Not Lloyd" <anon@anon> wrote:
> >>
>
> >> >Stalking exists only in your dreams, Mark.
> >>
> >> hardly woger but you are a stalker so you don't reconize it as a crime
> >> >
> >To quote you just a week ago:
> >not stlaking just garden variety jerking you around it does not rise
> >to stalking till somebody makes a threat of violence so not quite
>
> your point
> >
> >
> >
> >Get your home-brewed "definitions" straight, Mark.
>
> I do you don't bother to pay attention
> >
If a man also lie with mankind, as he lieth with a woman, both of them have
committed an abomination: they shall surely be put to death; their blood
shall be upon them.
```

2765. Re: If A Man Lie With Mankind

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 04:51:19 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <etfs40mnn1@news.albasani.net>
Source record: 44480
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.cb

Jesus wrote:
> <Mark@kb9rqz.org> wrote in message
> news:81jmv25viues7p8mnv3jr2c3gkddi6bree@4ax.com...
>> On Fri, 16 Mar 2007 21:00:20 -0500, "Not Marque" <anon@anon> wrote:
>>
>>> <Mark@kb9rqz.org> wrote in message
>>> news:2vhmv2hbq3a4ifmksosvgl0fapi6bqt09i@4ax.com...
>>>> On Fri, 16 Mar 2007 20:41:34 -0500, "Not Lloyd" <anon@anon> wrote:
>>>>
>>>>> Stalking exists only in your dreams, Mark.
>>>> hardly woger but you are a stalker so you don't reconize it as a crime
>>> To quote you just a week ago:
>>> not stlaking just garden variety jerking you around it does not rise
>>> to stalking till somebody makes a threat of violence so not quite
>> your point
>>>
>>>
>>> Get your home-brewed "definitions" straight, Mark.
>> I do you don't bother to pay attention
> If a man also lie with mankind, as he lieth with a woman, both of them have
> committed an abomination: they shall surely be put to death; their blood
> shall be upon them.
>
>

Well, it might say that in the bible alright, however, I can guarantee
the "feeling" won't be good for a real man ... and, their may indeed be
consequences to be paid elsewhere ... "youse' pays your money, youse'
take your chances"--has been told me by wise men ...

JS

2766. Re: Best Yagi impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 08:22:40 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <bkOz$RGQV6+FFAvT@ifwtech.co.uk>
Source record: 44481

Owen Duffy wrote:
>"ve2pid" <ve2pid@videotron.ca> wrote in news:1174098010.745176.35010
>@e65g2000hsc.googlegroups.com:
>
>> Hi to all,
>>
>> I read somewhere that, in the case of Yagis, ''in the range of 25-35
>> Ohm you get the
>> best balance between gain, pattern, bandwidth and element currents.'''
>>
>> Is that true? And if so, I would like to have the theoretical
>> explanation behind this.
>
>I don't understand why there is such a relationship, if there is.
>
I don't think there is such a relationship either. The feedpoint impedance is part of the results from the design process, along with the gain, pattern and beamwidth; but it does not determine any of those other properties.

The so-called "best balance" between all these properties will depend entirely on the personal priorities of the designer or the user. (Antenna optimization software demands very clear instructions about this, and forces you to think very hard about what you really mean by "best".)

Many good designs do have a feedpoint impedance in that 25-35 ohms region; but so do some real lemons, too, so it isn't a reliable indicator.

As Roy says, yagis with much lower feedpoint impedances tend to have high internal (I^2*R) losses, which increase rapidly as the impedance falls and element currents rise. Those can be classified as poor designs, simply because there are plenty of better alternatives.

Also, it is possible with many designs to increase the feedpoint impedance towards 50 ohms by adding a director at very close spacing (about 0.05 wl). That director has relatively little effect on other performance parameters, so it can be added fairly late in the design process as a means of matching. (After construction, that close-spaced director also allows final adjustment of the matching, by bending the ends towards or away from the driven element.)

>Yagis are often designed for a feedpoint impedance that is relatively
>easily transformed to 50 ohms for the main transmission line.
>

>A quarter wave transformer from 28 ohms to 50 ohms is relatively easily
>made from two parallel 75 ohm lines. Perhaps that is the attraction to
>the impedance range you mention.

That is a very reasonable strategy: if the impedance comes somewhere
close to a convenient value for matching, then optimize it to exactly
that value.

For example, DK7ZB has developed a range of yagi designs optimized for
28 ohms. There are links to these and several other designs from:
http://www.ifwtech.co.uk/g3sek/diy-yagi/index.htm

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

2767. Re: Irregular Gaussian radiation fields

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 11:00:02 UTC
From: Dave <noone@nowhere.com>
Message-ID: <SSPKh.350$742.172@trndny07>
Source record: 44482

"art" <aunwin@insightbb.com> wrote in message
news:1174090840.574568.215730@o5g2000hsb.googlegroups.com...
> On 16 Mar, 16:25, "Richard Fry" <r...@adams.net> wrote:
>> "art" quoting RF:>> All you need to do then is to prove it, and get the
>> FCC to accept it.
>>
>> >> RF
>>
>> > What about the use of complex circuitry methods od design does that
>> > present any advantage? We now can insert lumped constants ?
>>
>> ___________
>>
>> Note the responsible party in this, which I re-post below with emphasis:
>>
>> "All __YOU__ need to do then is to prove it,..."
>>
>> If YOU, Art Unwin, want to be recogniz(s)ed for introducing a new
>> application or concept about "Irregular Gaussian Radiation Fields,"
>> shouldn't that first be based upon your own theoretical and experimental
>> research and proofs, which after your publication of same, are capable of
>> being proven true by other scientific investigators?
>>
>> If both of those situations exist, then maybe you will have a chance for
>> the
>> commercial and governmental acceptance/success of your concepts, and your
>> personal recognition for the same.
>>
>> But until then, you may wish to keep such revelations closer to your
>> vest.
>>
>> With respect to your claimed English background, I wish you the best,
>> Sir,
>> and
>> remain your humble and obedient servant etc, etc,
>>
>> RF
>
> Thanks for the warning but the patent application is well along on
> it's progress. Even if it wasn't the denial of it's possibility is so
> strong I could wait another year before I processed it and I will
> still be first in line. Frankly the Dr from MIT convinced most of the
> group on the first part as being valid but they still have to be
> convinced of the second part so time is very much on my side. When the

> PTO office prints it industry will then take over and the people on
> this newsgroup will be after my autograph instead of the blithering
> idiot type comments.

the only autograph anyone will be after is the signature on the check for
the application fee.

2768. Re: What is displacement current?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 11:53:17 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1174132397.263659.145770@d57g2000hsg.googlegroups.com>
Source record: 44483

Well, Feynman might have been impressed with the 'displacement'
currents we are currently generating across the variable cap of a
parallel tuned circuit at 14 megacycles... Acrylic will droop and melt
in seconds and glass heats so rapidly it shatters almost instantly
when the RF is keyed... Yes, I can be convinced that there is no real
'current' flowing, in that no electrons are passing through the
dielectric (i.e. we don't get an arc until the dielectric fails)...
But, the varying electric field across the dielectric as the cap
plates load and unload electrons is certainly pumping the outer
electrons in the dielectric rapidly enough that they dump off
considerable heat as they change state...
Did you know that you can heat an acrylic plate of 0.125" thickness so
fast and so hard that the acrylic boils in the center of the plate,
leaving frozen cavitation bubbles behind when the RF is cut off, while
the faces of the plate remain smooth and shiny? Amazing to look at...

Meanwhile, back to the drawing board...

denny / k8do

2769. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 12:16:54 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1174133814.401385.192340@d57g2000hsg.googlegroups.com>
Source record: 44484

On Mar 16, 10:22 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Richard Fry wrote:
> > For example, a reflection from a mismatch between a 1,000 foot long,
> > air-dielectric transmission line and the TV transmit antenna connected
> > to it
> > produces a ghost with ~ 2 µs delay from the main image. The active scan
> > width of an NTSC TV line is about 53 µs, so 2/53 = ~4% of the width of the
> > screen, or maybe 5% counting overscan. This ghost is easy to see in a
> > typical TV set/viewing setup.
>
> We performed that exact experiment at Texas A&M
> in the 50's. The ghosts were right where the
> reflected waves predicted they would be. I
> wonder how the modulation in a reflected wave
> moves up and down the line without the reflected
> wave also moving up and down the line? :-)
> --
> 73, Cecil, w5dxp.com

Awww come on Cecil - think it through...
First the standing wave is only standing by stroboscopic effect, i.e.
the instantaneous alignment (constructive and destructive) of the
forward and reflected wave fronts at a given point along the line...
The currents continue to stream past the standing point (in both
directions) carrying both the carrier and it's instantaneous
modulation products with it...
Also, the ghosts should be multiple... In the example cited of 2 uS
delay, there should be a ghost every 2 uS across the screen, albeit
each subsequent ghost a fixed number of dB weaker that the one before
due to the % radiated (plus line losses) for each round trip...

denny / k8do

2770. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 13:51:19 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <rnSKh.8804$Um6.311@newssvr12.news.prodigy.net>
Source record: 44485

Denny wrote:
> Cecil Moore <nos...@w5dxp.com> wrote:
>> I
>> wonder how the modulation in a reflected wave
>> moves up and down the line without the reflected
>> wave also moving up and down the line? :-)
>
> Awww come on Cecil - think it through...
> First the standing wave is only standing by stroboscopic effect, i.e.
> the instantaneous alignment (constructive and destructive) of the
> forward and reflected wave fronts at a given point along the line...
> The currents continue to stream past the standing point (in both
> directions) carrying both the carrier and it's instantaneous
> modulation products with it...

OK, I'll change my wondering - I wonder how any rational
person can believe that the modulation in a reflected wave
moves up and down the line without the reflected wave also
moving up and down the line? :-)

> Also, the ghosts should be multiple... In the example cited of 2 uS
> delay, there should be a ghost every 2 uS across the screen, albeit
> each subsequent ghost a fixed number of dB weaker that the one before
> due to the % radiated (plus line losses) for each round trip...

Yes, that's exactly the way it appeared to be. Multiple
ghosting getting fainter across the screen.
--
73, Cecil http://www.w5dxp.com

2771. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 14:23:10 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <etgtke$8lh$1@aioe.org>
Source record: 44486

"Denny" wrote
>Also, the ghosts should be multiple... In the example cited of 2 uS
>delay, there should be a ghost every 2 uS across the screen, albeit
>each subsequent ghost a fixed number of dB weaker that the one
>before due to the % radiated (plus line losses) for each round trip...

The ghost image needs to be at least 1% of the peak amplitude possible for the primary video signal before it becomes noticeable So in order for the 2nd and successive ghosts in my example to be visible to a TV viewer, the reflection producing the first ghost would be so objectionable that a TV station would not tolerate it, and fix the problem.

RF

2772. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 15:11:22 UTC
From: richardharrison@webtv.net
Message-ID: <1337-45FC051A-473@storefull-3252.bay.webtv.net>
Source record: 44490

Denny, K8DO wrote:
"The currents continue to stream past the standing point (in both directions) carrying both the carrier and its instantaneous modulation products with it."

Yes. Point is the a-c amplitudes of both forward and reflected currents are varing at the r-f frequency but their phase relationship is fixed so that the two currents may be represented by vectors (phasors) at the point.

Amplitude modulation is a mixing process which produces sum and difference frequencies that are not synchronized with either original frequency. Stable frequency generators produce fixed locations for maxima and minima along the transmission line, however.

Cecil`s tests were designed to demonstrate atanding waves and phasor addition. They likely worked as intended.

Best regards, Richard Harrison, KB5WZI

2773. Re: Best Yagi impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 15:14:27 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <eth0l0$fm6$1@aioe.org>
Source record: 44487

"Roy Lewallen" <w7el@eznec.com> wrote

> Sorry, there's no theoretical basis for declaring what the "best balance"
> of those parameters is. So there's no theoretical basis for deciding what
> the feedpoint impedance will be for the "best balance".
>
> But. . .
>
> If the Yagi impedance is very low, it indicates very strong coupling
> between elements and high element currents. This indicates a sharply tuned
> antenna which might have high gain if the losses are minimized, but also
> narrow bandwidth. This is a common result of trying to squeeze too much
> gain from too small an antenna. To understand why, try googling "super
> gain" or "supergain" antennas or look this topic up in an antenna text.
>
> If the Yagi impedance is high -- close to that of a dipole -- it means
> that there's very little coupling from the driven element to the parasitic
> elements. Consequently, the parasitic elements won't have much current
> with which to produce fields, and they won't do much. The antenna won't
> have much gain relative to a dipole, and its pattern won't be much
> different from a dipole.
>
> So while a Yagi having an impedance outside very roughly the 25 - 35 ohm
> range can still perform well in one or more respects, you should look
> carefully at it to see what tradeoffs have been made.
>

When we design antennas, we try to optimize the design for desired gain, F/B, bandwidth. The impedance is secondary consideration, we can match it to the feedline, but any transformation, matching adds losses. All the parameters are interdependent and we can always try to aim for the best desired compromise. In a typical Yagi, as Roy indicated we end up with range of impedances that are appropriate for particular design.

I realized that Yagi has low impedance and I generally do not like any matching and introducing unnecessary loses. The way for maximum gain, clean pattern, great F/B, 50 ohm feedpoint impedance and no matching gizmos to me was to go Quad and Quad/Yagi element combinations. Quads have higher impedance and by adding elements, the impedance would drop to around 50 ohms.
My design goals were to in order of priorities: close to 50 ohms impedance, best possible clean pattern and F/B, broad bandwidth and maximum gain. I prefer better pattern over max gain. In order to get max gain one can tweak the design for about +- 1 dB, while differences in major vs. minor lobes can be in order of 10s dBs, which means much better S/N ratio and capability to

dig weak signals.
The results was series of designs from 3 el Quad, through 5 el. Razor (3Q, 2 Y), to 7 (8, 10) element Razors with log cell driven element and quad and yagi parasitic elements, while achieving 50 ohm feedpoint.
I would not claim that 50 ohm was the indicative of best performance design and should be considered "rule" for design, but that I managed to optimize the arrays for best performance and minimum loses while achieving 50 ohms.
Later, when I wanted to further improve the designs or check them in software modeling (the original designs were done on 2m antenna test range) and started with 3 el Quad comparison and optimization, the results were off and I did not get the chance to go back and follow the process in soft and hard modeling and see where the discrepancies are.
Pictures of my 15m 7 el. stacked Log Razors are at
http://www.k3bu.us/razor_beams.htm
showing the 7 el. design having Yagi Reflector, Quad Reflector, dual Quad driven log cell, Quad Director and two Yagi directors. Impedance was 50 ohms and SWR 1:1.1 at the band edges. In real life, the Razors were head and shoulders above the Yagi variety and helped me to cream bunch of world records from VE3BMV.
So I guess the lesson is, one can achieve desired compromise and use any of the design parameters as priority and work around, but there are limitations as what would be the results. Back to Yagi, as Roy outlined, You could have 50 ohm dipole like Yagi (lousy F/B and gain, but "good" impedance and match) or great pattern and gain at the price of lower impedance and some lossy matching, which still outweighs the former.

73 Yuri, K3BU

2774. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 15:19:26 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <2GTKh.8157$M65.5489@newssvr21.news.prodigy.net>
Source record: 44488

Richard Fry wrote:
> The ghost image needs to be at least 1% of the peak amplitude possible
> for the primary video signal before it becomes noticeable So in order
> for the 2nd and successive ghosts in my example to be visible to a TV
> viewer, the reflection producing the first ghost would be so
> objectionable that a TV station would not tolerate it, and fix the problem.

As I remember, the Texas A&M experiment used a reflection
coefficient of 0.707, i.e. 50% of the signal energy was
reflected at the TV receiver. There also had to be considerable
reflections at the source but that fact was never discussed.
--
73, Cecil http://www.w5dxp.com

2775. only in your dreams woger

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 15:22:55 UTC
From: Mark@kb9rqz.org
Message-ID: <5u1ov2h2r2kcmnf2n9rnee7rlnjsm6g8dh@4ax.com>
Source record: 44489
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.cb

```
On Fri, 16 Mar 2007 22:57:31 -0500, "Jesus" <anon@anon> wrote:

>
><Mark@kb9rqz.org> wrote in message
>news:81jmv25viues7p8mnv3jr2c3gkddi6bree@4ax.com...
>> On Fri, 16 Mar 2007 21:00:20 -0500, "Not Marque" <anon@anon> wrote:
>>
>> >
>> ><Mark@kb9rqz.org> wrote in message
>> >news:2vhmv2hbq3a4ifmksosvgl0fapi6bqt09i@4ax.com...
>> >> On Fri, 16 Mar 2007 20:41:34 -0500, "Not Lloyd" <anon@anon> wrote:
>> >>
>>
>> >> >Stalking exists only in your dreams, Mark.
>> >>
>> >> hardly woger but you are a stalker so you don't reconize it as a crime
>> >> >
>> >To quote you just a week ago:
>> >not stlaking just garden variety jerking you around it does not rise
>> >to stalking till somebody makes a threat of violence so not quite
>>
>> your point
>> >
>> >
>> >
>> >Get your home-brewed "definitions" straight, Mark.
>>
>> I do you don't bother to pay attention
>> >
> If a man also lie with mankind, as he lieth with a woman, both of them have
>committed an abomination: they shall surely be put to death; their blood
>shall be upon them.
>
only in your dreams woger
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com
```

2776. only in your dreams woger

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 15:24:43 UTC
From: Mark@kb9rqz.org
Message-ID: <av1ov218ial2k51brlmmm0l7tavcqcfv6n@4ax.com>
Source record: 44491
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.cb

On Fri, 16 Mar 2007 20:51:19 -0800, John Smith I
<assemblywizard@gmail.com> wrote:

>Jesus wrote:
>> <Mark@kb9rqz.org> wrote in message
>> news:81jmv25viues7p8mnv3jr2c3gkddi6bree@4ax.com...
>>> On Fri, 16 Mar 2007 21:00:20 -0500, "Not Marque" <anon@anon> wrote:
>>>
>>>> <Mark@kb9rqz.org> wrote in message
>>>> news:2vhmv2hbq3a4ifmksosvgl0fapi6bqt09i@4ax.com...
>>>>> On Fri, 16 Mar 2007 20:41:34 -0500, "Not Lloyd" <anon@anon> wrote:
>>>>>
>>>>>> Stalking exists only in your dreams, Mark.
>>>>> hardly woger but you are a stalker so you don't reconize it as a crime
>>>> To quote you just a week ago:
>>>> not stlaking just garden variety jerking you around it does not rise
>>>> to stalking till somebody makes a threat of violence so not quite
>>> your point
>>>>
>>>>
>>>> Get your home-brewed "definitions" straight, Mark.
>>> I do you don't bother to pay attention
>> If a man also lie with mankind, as he lieth with a woman, both of them have
>> committed an abomination: they shall surely be put to death; their blood
>> shall be upon them.
>>
>>
>
>Well, it might say that in the bible alright, however, I can guarantee
>the "feeling" won't be good for a real man ... and, their may indeed be
>consequences to be paid elsewhere ... "youse' pays your money, youse'
>take your chances"--has been told me by wise men ...

indeed although I do wish these asshole would stop comiting the
blasphemy of pretending to be God himself

I am KNOW that viiolates the decalogge more often called by gentiles
the 10 comndments
>
>JS
http://kb9rqz.blogspot.com/

--
Posted via a free Usenet account from http://www.teranews.com

2777. Re: What is displacement current?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 15:46:25 UTC
From: richardharrison@webtv.net
Message-ID: <2088-45FC0D51-587@storefull-3254.bay.webtv.net>
Source record: 44493

David wrote:
"Does such a current really exist?"

Yes. The sun is shining brightly here, so light is propagating in the void between the sun and the earth. Normally this void does not conduct such electric current as is involved in the energy flow from the sun. Light is an EM wave.

EM wave propagationin a void requires a magnetic field to generate an electric field which in turn generates a magnetic field and so on ad infinitum.

The ability of a charge to repel a like charge at a distance without conduction is displacement. It`s how a varying charge moves through a capacitor which passes a current.

Best regards, Richard Harrison, KB5WZI

2778. Re: Irregular Gaussian radiation fields

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 15:48:35 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1174146515.106548.6580@d57g2000hsg.googlegroups.com>
Source record: 44492

Hello Art,
Having a patent does not mean that one have something that really
works.

I did a survey on patents in the field of Electronic Article
Surveillance (EAS) and Sailboard Fins. Many of the patents I saw, are
useless, seen from a technical perspective. The problem with those
technically useless patents is that when you invent some really nice
operating principle, you may interfere with such a patent. In that
case it is the available money that counts only.

So for me, to be involved in a patent application does not support the
fitness of a new theory.

I'm one of the pseudo-experts that posted to one of your "very deep
question" on Faraday Rotation in NEC2 and/or NEC4.

Best Regards,

Wim

2779. Re: What is displacement current?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 17:06:59 UTC
From: "n3ox.dan@gmail.com" <n3ox.dan@gmail.com>
Message-ID: <1174151219.684147.25060@b75g2000hsg.googlegroups.com>
Source record: 44494

> If I'm not mistaken, which I could well be in this case, it's a
> time-varying electric field that "looks like" a current, and an
> electric field whose time derivative is constant "looks like" a
> constant current, at least with respect to the magnetic field to which
> it gives rise.

To get an electric field with a constant time derivative, you need an electric field that is forever slewing linearly. You need to keep piling electrons onto one plate of the capacitor forever. So, you're right that a constant conduction current can give rise to a constant displacement current, but in any real capacitor with a breakdown voltage, you can't get this to happen for very long, so it doesn't have much applicability in any real system, and wouldn't get talked about too much.

Dan

2780. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 17:24:22 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <avVKh.3753$Qw.1263@newssvr29.news.prodigy.net>
Source record: 44495

Richard Harrison wrote:
> Cecil`s tests were designed to demonstrate atanding waves and phasor
> addition. They likely worked as intended.

One fact to note is that the virtual impedance changes
all up and down a transmission line yet no additional
reflections occur while the Z0 is constant. Reflections
occur only at *actual* impedance discontinuities, e.g. at
a junction of two different Z0s.
--
73, Cecil http://www.w5dxp.com

2781. Re: What is displacement current?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 18:29:49 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1174156189.293380.21090@d57g2000hsg.googlegroups.com>
Source record: 44496

On Mar 17, 9:06 am, "n3ox....@gmail.com" <n3ox....@gmail.com> wrote:
> > If I'm not mistaken, which I could well be in this case, it's a
> > time-varying electric field that "looks like" a current, and an
> > electric field whose time derivative is constant "looks like" a
> > constant current, at least with respect to the magnetic field to which
> > it gives rise.
>
> To get an electric field with a constant time derivative, you need an
> electric field that is forever slewing linearly. You need to keep
> piling electrons onto one plate of the capacitor forever. So, you're
> right that a constant conduction current can give rise to a constant
> displacement current, but in any real capacitor with a breakdown
> voltage, you can't get this to happen for very long, so it doesn't
> have much applicability in any real system, and wouldn't get talked
> about too much.
>
> Dan

Well, when I posted the above quoted material, I actually gave that some thought. I have some 0.1uF polypropylene caps that I've been testing for self-discharge. Their self-discharge time constant is on the order of 50 to 100 YEARS. Polyprop is a good dielectric, but not the best (lowest leakage) available. So I considered that it's quite possible to charge a 1uF capacitor with a constant current of, say, 1e-14 amps for longer than I'll live, and only reach 3 volts or so, with negligible error from leakage currents. That comes pretty close to DC, as far as I'm concerned. It's still not DC on a geological time scale, but it is on a human life-span one--and for sure it's DC with respect to my attention span for tracking such things!

Cheers,
Tom

2782. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 20:11:07 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F74914886BBnonenowhere@61.9.191.5>
Source record: 44497

Cecil Moore <nospam@w5dxp.com> wrote in news:avVKh.3753$Qw.1263
@newssvr29.news.prodigy.net:

> One fact to note is that the virtual impedance changes
> all up and down a transmission line yet no additional
> reflections occur while the Z0 is constant. Reflections
> occur only at *actual* impedance discontinuities, e.g. at
> a junction of two different Z0s.

Cecil, that is a simple statement of a scenario in which reflections
may occur, but *not always* occur.

Think about it and you will think of examples where a reflection does not
occur at the "junction of two Zos".

I am not quite sure what you mean by an "impedance discontinuity" beyond
the simple "junction of two different Zos" case.

The magnitude of a reflection (zero or otherwise) is *always* and *only*
related to whether the ratio of V to I for the "thing" (whether it is
another line, a lumped circuit or some combination) attached to the end
of the line is equal to Zo. The magnitude is calculated from V/I (Zl) and
Zo using a well known expression.

Should your "rule" be more correctly stated as Reflections
may occur only at *actual* impedance discontinuities, e.g. at a junction
of two different Z0s. Since it has "may" in there, it isn't a rule, is it
worth stating? It is just one of those "may"s that people like to parrot
until they become a Rule of Thumb (ROT).

Owen

2783. Re: Irregular Gaussian radiation fields

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 20:55:08 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12voldfkq458t86@corp.supernews.com>
Source record: 44498

Wimpie wrote:
> Hello Art,
> Having a patent does not mean that one have something that really
> works.
>
> I did a survey on patents in the field of Electronic Article
> Surveillance (EAS) and Sailboard Fins. Many of the patents I saw, are
> useless, seen from a technical perspective. The problem with those
> technically useless patents is that when you invent some really nice
> operating principle, you may interfere with such a patent. In that
> case it is the available money that counts only.
>
> So for me, to be involved in a patent application does not support the
> fitness of a new theory.
> . . .

I've reviewed many patents in the course of my regular employment and as a consultant. Large numbers of them describe "inventions" that can't work at all, don't work as described, and/or don't solve the problems they're alleged to. It's clear that on very many occasions, neither the inventor, the patent attorney, nor the examiner understand the principles involved. The general practice seems to be to issue the patent unless there's a clear and obvious conflict with an existing patent or current art, then let the markeplace sort out the validity. There are no Einsteins at work in our patent office!

One of my favorites is U.S. patent #6,025,810, "Hyper-Light_Speed Antenna" (Strom). Besides sending the signal at a speed faster than light and penetrating known RF shielding devices, a side benefit is that it can be used to accelerate plant growth. I've read many patents which are as fundamentally flawed, but this one has the advantage of being so obviously wacko that nearly anyone but the overly credulous can see from it just how little a patent really means as an indication of technical merit.

Roy Lewallen, W7EL

2784. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-17 23:11:15 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <nA_Kh.8996$Um6.2980@newssvr12.news.prodigy.net>
Source record: 44499

Owen Duffy wrote:
> The magnitude of a reflection (zero or otherwise) is *always* and *only*
> related to whether the ratio of V to I for the "thing" (whether it is
> another line, a lumped circuit or some combination) attached to the end
> of the line is equal to Zo. The magnitude is calculated from V/I (Zl) and
> Zo using a well known expression.

I assume you are talking about virtual reflection
coefficients based on virtual V/I impedances, something
that has gotten hams into conceptual trouble for any
number of years. Let's take a look at the S-Parameter
equations.

```
Port 1 | Port 2
---Z0---+---Z1---
a1--> | <--a2
<--b1 | b2-->
```

```
b1 = s11*a1 + s12*a2
b2 = s21*a1 + s22*a2
```

As you probably know, s11 is a *physical* reflection
coefficient involving unequal impedances.
s11 = (Z1-Z0)/(Z1+Z0)
Z0 and Z1 are physical impedances, not virtual
impedances, i.e. *NOT* merely a V/I ratio.

a1 is the voltage wave incident upon Port 1.
s11*a1 is the reflection from Port 1.

If Z1 <> Z0, there exists an impedance discontinuity.
s11 <> 0, and s11*a1 <> 0, i.e. there exist reflections.
This is why I say: If there is a physical impedance
discontinuity, then reflections exist.

If reflections are to be canceled, then s12*a2
must be equal in magnitude and 180 degrees out of
phase with reflection s11*a1. Note that for
reflections to be canceled, they must first exist.

s12*a2 is the voltage not reflected from Port 2.

All this is covered in HP Application Note 95-1,
"S-Parameter Techniques" available from:

http://www.sss-mag.com/pdf/an-95-1.pdf
--

73, Cecil http://www.w5dxp.com

2785. Re: What is displacement current?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-18 01:44:40 UTC
From: chuck <nospam@nospam.org>
Message-ID: <1174178783_9025@sp6iad.superfeed.net>
Source record: 44500

K7ITM wrote:
> On Mar 17, 9:06 am, "n3ox....@gmail.com" <n3ox....@gmail.com> wrote:
>>> If I'm not mistaken, which I could well be in this case, it's a
>>> time-varying electric field that "looks like" a current, and an
>>> electric field whose time derivative is constant "looks like" a
>>> constant current, at least with respect to the magnetic field to which
>>> it gives rise.
>> To get an electric field with a constant time derivative, you need an
>> electric field that is forever slewing linearly. You need to keep
>> piling electrons onto one plate of the capacitor forever. So, you're
>> right that a constant conduction current can give rise to a constant
>> displacement current, but in any real capacitor with a breakdown
>> voltage, you can't get this to happen for very long, so it doesn't
>> have much applicability in any real system, and wouldn't get talked
>> about too much.
>>
>> Dan
>
> Well, when I posted the above quoted material, I actually gave that
> some thought. I have some 0.1uF polypropylene caps that I've been
> testing for self-discharge. Their self-discharge time constant is on
> the order of 50 to 100 YEARS. Polyprop is a good dielectric, but not
> the best (lowest leakage) available. So I considered that it's quite
> possible to charge a 1uF capacitor with a constant current of, say,
> 1e-14 amps for longer than I'll live, and only reach 3 volts or so,
> with negligible error from leakage currents. That comes pretty close
> to DC, as far as I'm concerned. It's still not DC on a geological
> time scale, but it is on a human life-span one--and for sure it's DC
> with respect to my attention span for tracking such things!
>
> Cheers,
> Tom
>

Tom, I read your description of that experiment on the web some time ago
and found it fascinating. As I recall, you used a 3456A for your
measurements. You might want to post a link to your writeup.

73,

Chuck NT3G

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http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

2786. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-18 02:17:00 UTC
From: Mike Coslo <mremovethiscoslo@adelphia.net>
Message-ID: <s9GdnYhmPueRDmHYnZ2dnUVZ_oOknZ2d@comcast.com>
Source record: 44501

Richard Clark wrote:
> On Thu, 15 Mar 2007 15:57:50 -0400, Michael Coslo <mjc5@psu.edu>
> wrote:
>
>>> On Thu, 08 Mar 2007 08:03:56 -0800, Richard Clark <kb7qhc@comcast.net>
>>> wrote:
>>>> Coming in late, did I miss someone's extravagant claim that a OCF
>>>> could do better?
>
>> The idea that an OCF is superior to a dipole, and certainly Richard's
>> statements would indicate that; makes me wonder why everyone isn't using
>> them!
>
> Hi Mike,
>
> With all the intervening comments removed, want to reconsider that
> again?
>
> An OCF is simply resonant at exactly (by modeling) the same points as
> the dipole of the same length. Resonance resides in the wire, not the
> drive point. Of Course, F***! (expletive deleted to explain the
> meaning of OCF) as the drivepoint is moved through the length, its
> fundamental Z (still real) varies from low (at midpoint) to high (near
> endpoint) in much the same manner as we would expect for the
> difference between a conventional halfwave dipole and conventional
> halfwave end-fed. The harmonic drivepoint Zs follow their own
> sinusoidal roller coaster through the shift in feed point.

Sorry for the delay in response Richard, but as a confessed not-so-wise guy, I've gone back to modeling to see exactly where I've erred and to discover the source of my density.

And darned if I can't figure it out!

I've modeled Both OCF and frequency cut dipoles, and darned if the frequency cut dipoles don't look better.

Your argument makes it sound as if the OCF has identical performance at those same points as a frequency cut dipole. Resonance or not, there are bands for which I still need a tuner, which makes the whole purpose a little moot. The SWR curve of the OCF really doesn't look all that hot, sometimes it is just passable at the frequencies of interest,and looks better off frequency. and it looks like something a radio with a *good* autotuner could take care of. That has been my experience with them. Sure seems like a compromise to me. YMMV.

- 73 de Mike KB3EIA -

2787. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-18 03:22:46 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F792434BAB6nonenowhere@61.9.191.5>
Source record: 44502

Mike Coslo <mremovethiscoslo@adelphia.net> wrote in
news:s9GdnYhmPueRDmHYnZ2dnUVZ_oOknZ2d@comcast.com:

...
> Sorry for the delay in response Richard, but as a confessed
> not-so-wise
> guy, I've gone back to modeling to see exactly where I've erred and to
> discover the source of my density.
>
> And darned if I can't figure it out!
>
> I've modeled Both OCF and frequency cut dipoles, and darned if
> the
> frequency cut dipoles don't look better.
>
> Your argument makes it sound as if the OCF has identical
> performance at
> those same points as a frequency cut dipole. Resonance or not, there
> are bands for which I still need a tuner, which makes the whole
> purpose a little moot. The SWR curve of the OCF really doesn't look
> all that hot, sometimes it is just passable at the frequencies of
> interest,and looks better off frequency. and it looks like something a
> radio with a *good* autotuner could take care of. That has been my
> experience with them. Sure seems like a compromise to me. YMMV.

Mike,

You seem to be considering just the flat-top of the OCF and that is not the only conductor of an OCF dipole antenna system carrying current, the other is the feedline.

If you offset the source in a halfwave dipole (zero length feedline), I expect you will just see an increase in feed point R, and no significant change in loss. So on that basis you could argue they are equivalent... but you haven't compared an OCF dipole antenna system with a centre fed dipole antenna system.

Then you talk about the SWR curve and ATU.

Aren't you trying to compare the entire system? Is there much point in comparing the flat-top of an OCF with a centre fed, it is only part of the picture.

Of course, the system performance will depend on assumptions that you make about the ground, feedline route, length, type, ATU etc... but having chosen a scenario, you can get to an overall performance figure

that properly deals with the complex interaction between components.

Owen

2788. Re: Best Yagi impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-18 03:41:58 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F79584FF0D9nonenowhere@61.9.191.5>
Source record: 44503

"Yuri Blanarovich" <K3BU@optonline.net> wrote in
news:eth0l0$fm6$1@aioe.org:

...
> I realized that Yagi has low impedance and I generally do not like any
> matching and introducing unnecessary loses. The way for maximum gain,
> clean pattern, great F/B, 50 ohm feedpoint impedance and no matching
> gizmos to me was to go Quad and Quad/Yagi element combinations. Quads
> have higher impedance and by adding elements, the impedance would drop
> to around 50 ohms.

Yuri, that is your approach, but it is not the only one.

Others of us quantify the expected transformation losses, and add them into the gain equation to deal with the effects, making a design selection on a rational basis rather that just excluding a whole bunch of solutions because of a prejudice about matching loss.

Owen

2789. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-18 08:43:08 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <a9upv2ln2584ip4a59ainu28bgd42lcp4g@4ax.com>
Source record: 44504

On Sat, 17 Mar 2007 21:17:00 -0500, Mike Coslo
<mremovethiscoslo@adelphia.net> wrote:

> Your argument makes it sound as if the OCF has identical performance at
>those same points as a frequency cut dipole.

Hi Mike,

Well, there are two "performances" to consider (and not just the
matinee and the evening show).

>Resonance or not, there are
>bands for which I still need a tuner, which makes the whole purpose a
>little moot.

For that, the tuner will be called to perform different chores for
different bands for different offsets. However, the resonances will
fall principally at the same frequencies.

>The SWR curve of the OCF really doesn't look all that hot,
>sometimes it is just passable at the frequencies of interest,and looks
>better off frequency.

Much the same could be said for any garden variety dipole.

> and it looks like something a radio with a *good*
>autotuner could take care of.

Much the same could be said for any garden variety dipole.

>That has been my experience with them.
>Sure seems like a compromise to me. YMMV.

Much the same could be said for any garden variety dipole.

The two performances would be tune-up and launch characteristics. If
modeling is any indication, the offset affects the magnitude of the R
at resonance (again, no different an experiance comparing a normally
fed half-wave dipole to an end-fed half-wave dipole). However, the
gain, number of nulls (or lobes) does vary at the higher frequencies
when offset is added to the variables. Higher gains for the near
end-fed (albeit 1dB).

73's
Richard Clark, KB7QHC

2790. Re: Irregular Gaussian radiation fields

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-18 09:34:13 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45fd079f$0$8937$4c368faf@roadrunner.com>
Source record: 44505

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:12voldfkq458t86@corp.supernews.com...
> Wimpie wrote:
>> Hello Art,
>> Having a patent does not mean that one have something that really
>> works.
>>
>> I did a survey on patents in the field of Electronic Article
>> Surveillance (EAS) and Sailboard Fins. Many of the patents I saw, are
>> useless, seen from a technical perspective. The problem with those
>> technically useless patents is that when you invent some really nice
>> operating principle, you may interfere with such a patent. In that
>> case it is the available money that counts only.
>>
>> So for me, to be involved in a patent application does not support the
>> fitness of a new theory.
>> . . .
>
> I've reviewed many patents in the course of my regular employment and as a
> consultant. Large numbers of them describe "inventions" that can't work at
> all, don't work as described, and/or don't solve the problems they're
> alleged to. It's clear that on very many occasions, neither the inventor,
> the patent attorney, nor the examiner understand the principles involved.
> The general practice seems to be to issue the patent unless there's a
> clear and obvious conflict with an existing patent or current art, then
> let the markeplace sort out the validity. There are no Einsteins at work
> in our patent office!
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> One of my favorites is U.S. patent #6,025,810, "Hyper-Light_Speed Antenna"
> (Strom). Besides sending the signal at a speed faster than light and
> penetrating known RF shielding devices, a side benefit is that it can be
> used to accelerate plant growth. I've read many patents which are as
> fundamentally flawed, but this one has the advantage of being so obviously
> wacko that nearly anyone but the overly credulous can see from it just how
> little a patent really means as an indication of technical merit.
>
> Roy Lewallen, W7EL

I remember hearing about this one. Nice that google allows you to look
things like this up so easily now. I used to have a paperback book on
patents like this. There are thousands of them.

Jimmie

2791. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-18 10:54:53 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <etj5pt$v0$1@aioe.org>
Source record: 44506

"Cecil Moore" wrote
> ...That's simply not true. When the load is connected directly to
> the source, incident power is often still rejected, it just doesn't
> have very far to "bounce". And since it is internal to the source,
> the "bouncing" is difficult if not impossible to quantitize. etc

---

Does the lack of a technical response to Cecil's post (so far) mean
that his analysis and conclusions are understood and accepted?

Hopefully so.

RF

2792. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-18 12:38:52 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <wpaLh.9054$Um6.475@newssvr12.news.prodigy.net>
Source record: 44507

Richard Fry wrote:
> "Cecil Moore" wrote
>> ...That's simply not true. When the load is connected directly to
>> the source, incident power is often still rejected, it just doesn't
>> have very far to "bounce". And since it is internal to the source,
>> the "bouncing" is difficult if not impossible to quantitize. etc
>
> Does the lack of a technical response to Cecil's post (so far) mean
> that his analysis and conclusions are understood and accepted?

The "eliminate the transmission line" sword cuts both
ways. If the source cannot tell the difference between
driving a one wavelength transmission line and driving
a lumped circuit load directly, it follows that the load
cannot tell if it is being driven by a one-wavelength
transmission line or being driven directly by a source.
The incident signal looks the same in either case and the
load rejects (reflects) the same amount of forward power
either way. Except for the energy stored in the one-
wavelength transmission line, conditions are the same
in either case.
--
73, Cecil http://www.w5dxp.com

2793. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-18 12:54:24 UTC
From: Dave <noone@nowhere.com>
Message-ID: <4EaLh.6170$282.4252@trndny04>
Source record: 44508

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:wpaLh.9054$Um6.475@newssvr12.news.prodigy.net...
> Richard Fry wrote:
>> "Cecil Moore" wrote
>>> ...That's simply not true. When the load is connected directly to
>>> the source, incident power is often still rejected, it just doesn't
>>> have very far to "bounce". And since it is internal to the source,
>>> the "bouncing" is difficult if not impossible to quantitize. etc
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>> Does the lack of a technical response to Cecil's post (so far) mean
>> that his analysis and conclusions are understood and accepted?
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> ways. If the source cannot tell the difference between
> driving a one wavelength transmission line and driving
> a lumped circuit load directly, it follows that the load
> cannot tell if it is being driven by a one-wavelength
> transmission line or being driven directly by a source.
> The incident signal looks the same in either case and the
> load rejects (reflects) the same amount of forward power
> either way. Except for the energy stored in the one-
> wavelength transmission line, conditions are the same
> in either case.
> --
> 73, Cecil http://www.w5dxp.com

in steady state... where your favorite s equations hold. this is true. it
is not true in the general case where you account for startup transients.

2794. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-18 13:42:04 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <LkbLh.9991$P47.3146@newssvr22.news.prodigy.net>
Source record: 44509

Dave wrote:
> in steady state... where your favorite s equations hold. this is true. it
> is not true in the general case where you account for startup transients.

Thanks Dave, since I was talking about steady-state,
I should have said so.
--
73, Cecil http://www.w5dxp.com

2795. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-18 18:25:48 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12vr11er149a356@corp.supernews.com>
Source record: 44510

Richard Fry wrote:
>
> Does the lack of a technical response to Cecil's post (so far) mean
> that his analysis and conclusions are understood and accepted?
>
> Hopefully so.

In my case, it's because I plonked him long ago.

Roy Lewallen, W7EL

2796. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-18 18:31:38 UTC
From: Fred McKenzie <fmmck@aol.com>
Message-ID: <fmmck-9C2AC4.14313718032007@nntp.aioe.org>
Source record: 44511

In article <srhjv2hql0gofco8241e10udvpjv1oj6lt@4ax.com>,
Richard Clark <kb7qhc@comcast.net> wrote:

> The harmonic drivepoint Zs follow their own
> sinusoidal roller coaster through the shift in feed point.

Richard-

Someone asked that if the OCF Dipole was so good, why didn't everyone use one? When I got my start back in the 50s, everyone did use one. I used my "Full Windom" for several years on 80/75/40/10 CW and AM. In today's world, the G5RV antenna appears to have taken over as the popular antenna of choice, and is probably equally as bad as the OCF Dipole.

As a teenager I knew little about SWR. I used a balanced tuner to match the 300 Ohm feed-line, tuning for maximum brightness of a pilot lamp connected to a loop of wire taped to the feed-line. I understood that the feed-point was chosen so impedance was reasonably close to 300 Ohms on all bands except 15 Meters. Your reference to a roller coaster suggests that it might not be reasonably close.

Using the modeling software, is there a feed-point where impedance is close to an available balanced feed-line on multiple bands? As close, I would accept a 2:1 SWR.

Fred
K4DII

2797. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-18 19:54:54 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <1q5rv2lf2g659km03kt3is67pqpe81qela@4ax.com>
Source record: 44512

On Sun, 18 Mar 2007 14:31:38 -0400, Fred McKenzie <fmmck@aol.com>
wrote:

>Using the modeling software, is there a feed-point where impedance is
>close to an available balanced feed-line on multiple bands? As close, I
>would accept a 2:1 SWR.

Hi Fred,

The usual designs include a BalUn that transforms from a higher drive
Z to the 50 Ohms of a line. In that sense, the Off Center Dipole
introduces accessible resonances at every harmonic instead of at odd
harmonics. Depending upon the offset, some come into play, some go
out and for a variety of transformations. Some suggest 2:1, others
4:1, and yet others higher.

And you would still need to decouple the line (if the BalUn design
doesn't already answer that). Given the field imbalance, it may
require an aggressive decoupling (a second choke, or a distributed
choking). I have a large document available to those whose mail box
can stand the load.

73's
Richard Clark, KB7QHC

2798. Re: Best way to clean elements before assembly?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-18 22:06:06 UTC
From: Mike Monett <No@email.adr>
Message-ID: <Xns98F7B8229A4A6Noemailadr@208.49.80.251>
Source record: 44513

Roy Lewallen <w7el@eznec.com> wrote:

> Mea culpa. I did indeed type "calcium carbonate", while of course
> the "TSP substitute" - "washing soda" - is *sodium* carbonate. At
> least I gave the correct formula. I apologize for the error. Yes,
> I'm sure the "soda" is from sodium, as in "caustic soda" which is
> sodium hydroxide (lye) and "baking soda", which is sodium
> bicarbonate.

> Roy Lewallen, W7EL

I've used washing soda in laundy. It is very alkaline, but I'm not
sure it would have much effect on aluminum.

Sodium hydroxide, NaOH, definitely eats aluminum. I use it in
various applications around the lab. Red Devil is no longer
available due to the meth heads, but I found a private Loblaws brand
that works just as good. The ingredients on the label are sodium
hydroxide, sodium silicate, and chlorine bleach.

You can tell the approximate strength by pouring a bit in a glass
and adding some canning salt. If the salt doesn't want to dissolve,
the solution is pretty much saturated at above 32%. Also, when you
first open it, you might notice a small wisp of condensation above
the lip, and a strong pungent smell.

If you let some dry on a glass surface, it is a bit difficult to
wash off with plain water, and has a soapy feel. If you add vinegar
to a dry portion, it instantly neutralizes the hydroxide to sodium
acetate and water. The equation is

CH3COOH(aq) + NaOH(aq) --> CH3COONa(aq) + H2O(l)

Of course, it should be stressed this stuff is very dangerous and
requires all the precautions for corrosive chemicals. As you know,
it will eat holes in your skin. It doesn't hurt much since it also
destroys the pain cells, but they take a long time to heal. Some
eyeglasses are made with a plastic that dissolves with NaOH. A few
drops in your eye can cause permanent blindess in seconds, so wear
protective glasses.

Good luck!

Regards,

Mike Monett

2799. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-18 22:10:13 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <9NiLh.10917$jx3.7666@newssvr25.news.prodigy.net>
Source record: 44514

Roy Lewallen wrote:
> Richard Fry wrote:
>> Does the lack of a technical response to Cecil's post (so far) mean
>> that his analysis and conclusions are understood and accepted?
>>
>> Hopefully so.
>
> In my case, it's because I plonked him long ago.

For pointing out that an antenna is a distributed
network, not a lumped circuit.
--
73, Cecil http://www.w5dxp.com

2800. Re: Best Yagi impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-18 22:32:53 UTC
From: Wes <n7ws@yahoo.com>
Message-ID: <1174257173.016773.158920@e1g2000hsg.googlegroups.com>
Source record: 44515

On Mar 17, 1:22 am, Ian White GM3SEK <gm3...@ifwtech.co.uk> wrote:
> Owen Duffy wrote:
> >"ve2pid" <ve2...@videotron.ca> wrote in news:1174098010.745176.35010
> >@e65g2000hsc.googlegroups.com:
>
> >> Hi to all,
>
> >> I read somewhere that, in the case of Yagis, ''in the range of 25-35
> >> Ohm you get the
> >> best balance between gain, pattern, bandwidth and element currents.'''
>
> >> Is that true? And if so, I would like to have the theoretical
> >> explanation behind this.
>
> >I don't understand why there is such a relationship, if there is.
>
> I don't think there is such a relationship either. The feedpoint
> impedance is part of the results from the design process, along with the
> gain, pattern and beamwidth; but it does not determine any of those
> other properties.
>
> The so-called "best balance" between all these properties will depend
> entirely on the personal priorities of the designer or the user.
> (Antenna optimization software demands very clear instructions about
> this, and forces you to think very hard about what you really mean by
> "best".)

Hmmm. Interesting comments considering below.

>
> Many good designs do have a feedpoint impedance in that 25-35 ohms
> region; but so do some real lemons, too, so it isn't a reliable
> indicator.
>
> As Roy says, yagis with much lower feedpoint impedances tend to have
> high internal (I^2*R) losses, which increase rapidly as the impedance
> falls and element currents rise. Those can be classified as poor
> designs, simply because there are plenty of better alternatives.
>
> Also, it is possible with many designs to increase the feedpoint
> impedance towards 50 ohms by adding a director at very close spacing
> (about 0.05 wl). That director has relatively little effect on other
> performance parameters, so it can be added fairly late in the design
> process as a means of matching. (After construction, that close-spaced
> director also allows final adjustment of the matching, by bending the

> ends towards or away from the driven element.)
>
> >Yagis are often designed for a feedpoint impedance that is relatively
> >easily transformed to 50 ohms for the main transmission line.
>
> >A quarter wave transformer from 28 ohms to 50 ohms is relatively easily
> >made from two parallel 75 ohm lines. Perhaps that is the attraction to
> >the impedance range you mention.
>
> That is a very reasonable strategy: if the impedance comes somewhere
> close to a convenient value for matching, then optimize it to exactly
> that value.
>
> For example, DK7ZB has developed a range of yagi designs optimized for
> 28 ohms.

And there he says: "For the VHF-Bands (50-50.5MHz, 144-146MHz,
430-440MHz) a radiation resistance of 25-30Ohm has the best balance
for gain, back- and sidelobes, bandwidth and SWR at tenable losses."

We have come full-circle. [g]

Also, DK7ZB in describing what is clearly an unbalanced connection of
parallel lengths of coax ("Classic" match) says, "2. This line is a
simplified coaxial sleeve balun to avoid sleeve-waves on the braid of
the cable running to the station.", which it is clearly not.

>There are links to these and several other designs
from:http://www.ifwtech.co.uk/g3sek/diy-yagi/index.htm
>
> --
>
> 73 from Ian GM3SEK 'In Practice' columnist for RadCom
(RSGB)http://www.ifwtech.co.uk/g3sek

N7WS

2801. Diamond X510NJ

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-18 23:42:47 UTC
From: bobhardt <bobhardt.43b2c7@radiobanter.com>
Message-ID: <bobhardt.43b2c7@radiobanter.com>
Source record: 44521

I just put up a Diamond x510nj for 2 meters and 70 cm. Im seeing very high swr on my local 444.8 repeater. Now I hear that this is the European version and that I need the xj510na. Can anyone help me out? Thanks..Bob/KB9IOY/AG

--
bobhardt

2802. Test

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 00:14:50 UTC
From: Spin <noemail@alone.invalid>
Message-ID: <_BkLh.7152$zx.2229@trndny05>
Source record: 44516

[No readable article body recovered]

2803. Re: Best Yagi impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 00:47:56 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <e5lLh.41$Bx.9@newsfe12.lga>
Source record: 44517

"Owen Duffy" <none@no.where> wrote in message
news:Xns98F79584FF0D9nonenowhere@61.9.191.5...
> "Yuri Blanarovich" <K3BU@optonline.net> wrote in
> news:eth0l0$fm6$1@aioe.org:
>
> ...
>> I realized that Yagi has low impedance and I generally do not like any
>> matching and introducing unnecessary loses. The way for maximum gain,
>> clean pattern, great F/B, 50 ohm feedpoint impedance and no matching
>> gizmos to me was to go Quad and Quad/Yagi element combinations. Quads
>> have higher impedance and by adding elements, the impedance would drop
>> to around 50 ohms.
>
> Yuri, that is your approach, but it is not the only one.
>
> Others of us quantify the expected transformation losses, and add them
> into
> the gain equation to deal with the effects, making a design selection on a
> rational basis rather that just excluding a whole bunch of solutions
> because of a prejudice about matching loss.
>
> Owen

What is "irrational" with my approach finding the best configuration AND
satisfying my desire for no loss 50 ohm impedance match?
It was not prejudice but "what if I succeed" approach and after over 3
months of fiddling with variety of designs in Canadian winter/spring I
managed to find solutions avoiding matching loss, that I would have to add
another director at X spacing to compensate for.
For example my 3 el. quad, 50 ohm, no matching beat 7 el. KLM Log Yagi with
balun on 2m.
If you can come up with whole bunch of better solutions, I would be glad to
learn about them.

73, Yuri, K3BU

2804. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 02:17:51 UTC
From: Fred McKenzie <fmmck@aol.com>
Message-ID: <fmmck-556C75.22175018032007@nntp.aioe.org>
Source record: 44519

In article <Xns98F84FBF5B8C5nonenowhere@61.9.191.5>,
Owen Duffy <none@no.where> wrote:

> Fred, I think the term "OCF Dipole" is usually used today to mean a
> dipole fed with coax and balun (often 4:1, usually not 1:1) fed offset
> from the centre and often operated at half wave resonance or harmonic
> multiples.
>
> ...
> > Using the modeling software, is there a feed-point where impedance is
> > close to an available balanced feed-line on multiple bands? As close,
> I
> > would accept a 2:1 SWR.
>
> If you are going to use an ATU and open wire line (as distinct from
> balanced line) why are you restricting the max VSWR to 2. Practical open
> wire lines can operate at much higher VSWR with acceptable losses.
>
> Once you have addressed that question, then ask yourself why you wouldn't
> just feed such a dipole in the centre and reduce the common mode current
> problem caused by the asymmetric feed.

Owen-

My friends with money used a 4-to-1 BalUn coil with their Windoms and drove them with rigs such as the DX-100 and Viking II. I think their Pi-network output stages matched a wider range of impedances than the modern solid state rigs can match, but I didn't know about that at the time. I thought the 300 Ohm TV feed-line was a close match to the antenna, and the BalUn transformed it to a nearly perfect 75 Ohms.

My current interest is two-fold. First, I was curious to know just how good the match might have been on the old antenna. Second, it would be handy to have a multi-band antenna that could be fed off-center so the feed-line didn't have to run parallel to the antenna wire before entering the shack.

I can afford a BalUn now. A little vertical radiation from the feed-line would be OK unless there was a problem with RF burns!

Fred
K4DII

2805. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 02:54:46 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <12vrurprv8f4187@corp.supernews.com>
Source record: 44520

Points well taken.

In my "Food for thought" essay (http://eznec.com/misc/Food_for_thought.pdf) I use a voltage source in series with a resistor for most examples. Among the calculations are those showing the power dissipation in the resistor. I've used this simple circuit a number of times to illustrate various points regarding transmission line operation and the effects of traveling voltage and current waves.

People who aren't willing to accept the points being made borrow from the politicians' play book and immediately declare the source to be a "Thevenin equivalent" and therefore any calculation of source power to be invalid and meaningless. This handily diverts the discussion from the fundamental topic to something more to the attacker's liking. It can then proceed to endless arguments about the magnitude and linearity of a transmitter's output impedance, and whether or not it constitutes a "dissipationless resistance". The discussion has followed this path many times, and I'm sure will do so many times more.

The essay shows that "reflected power" is NOT absorbed or dissipated by the source resistor in my simple circuit -- which is NOT a Thevenin equivalent of a transmitter or anything else (although, as I point out, it is a reasonable model for some signal generators). What remains for the people promoting the notion of waves of average energy propagating like voltage and current waves to show is how their theories can explain the resistor dissipation in the very simple circuit I used. (How about a single equation showing the resistor dissipation as a function of "reflected power"?) Only after that is done is it necessary to begin the argument about what the output of a transmitter looks like.

Roy Lewallen, W7EL

J. Mc Laughlin wrote:
> I teach my students that prior to analysis of an electrical, electronic, or
> EM network/system one must ask and answer a critical question. The question
> is: Is the network/system linear, close enough to linear for engineering
> purposes, or not linear?
>
> If linear, or essentially linear, one brings into play linear analysis.
> Thevenin equivalents, which are only equivalent as far as what they do to
> the outside world, are a part of linear analysis.
>
> Most RF power amplifiers that deliver more than one or two watts are
> non-linear circuits. Typically, the active device conducts for only a
> fraction of each cycle. How else could one get DC power to RF power

> efficiencies of over 50 %? Great care must be taken in modeling such
> circuits.
>
> A simple example: Consider a transformer fed bridge rectifier (very
> non-linear) that is connected to an (old fashion) series L, shunt C filter.
> In steady state, if L is large enough, one may model the rectifier as a
> series of series connected voltage sources with harmonically related
> frequencies (and a DC source). It is left as an exercise for the student to
> decide on the sizes, frequencies, and phases of the sources. (Because of
> the LPF properties of the LC network, one does not need many harmonics.)
> Then one may apply superposition (the essence of a linear process) to
> estimate the ripple on the load. However, the model just described is
> invalid if L is too small or if L is non-linear. The model is insufficient
> to predict the losses in the rectifier. This example is not likely to be
> found in current electronic texts, but we all know for whom they are
> written.
>
> Techniques exist for dealing with many non-linear networks. They must be
> used with great care. If one holds one's nose, one might find an
> "equivalent" for a transmitter that suffices for describing what happens
> outside of the transmitter, but not inside of the transmitter. Please do
> not make conclusions about the "equivalent" itself. Please discriminate
> between linear and non-linear networks.
>
> Thus ends the lecture. 73 Mac N8TT
>
> --
> J. Mc Laughlin; Michigan U.S.A.
> Home: JCM@Power-Net.Net
>
>

2806. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 03:04:28 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <AaudnYONxNI1cmDYnZ2dnUVZ_rSjnZ2d@bright.net>
Source record: 44518

I teach my students that prior to analysis of an electrical, electronic, or EM network/system one must ask and answer a critical question. The question is: Is the network/system linear, close enough to linear for engineering purposes, or not linear?

If linear, or essentially linear, one brings into play linear analysis. Thevenin equivalents, which are only equivalent as far as what they do to the outside world, are a part of linear analysis.

Most RF power amplifiers that deliver more than one or two watts are non-linear circuits. Typically, the active device conducts for only a fraction of each cycle. How else could one get DC power to RF power efficiencies of over 50 %? Great care must be taken in modeling such circuits.

A simple example: Consider a transformer fed bridge rectifier (very non-linear) that is connected to an (old fashion) series L, shunt C filter. In steady state, if L is large enough, one may model the rectifier as a series of series connected voltage sources with harmonically related frequencies (and a DC source). It is left as an exercise for the student to decide on the sizes, frequencies, and phases of the sources. (Because of the LPF properties of the LC network, one does not need many harmonics.) Then one may apply superposition (the essence of a linear process) to estimate the ripple on the load. However, the model just described is invalid if L is too small or if L is non-linear. The model is insufficient to predict the losses in the rectifier. This example is not likely to be found in current electronic texts, but we all know for whom they are written.

Techniques exist for dealing with many non-linear networks. They must be used with great care. If one holds one's nose, one might find an "equivalent" for a transmitter that suffices for describing what happens outside of the transmitter, but not inside of the transmitter. Please do not make conclusions about the "equivalent" itself. Please discriminate between linear and non-linear networks.

Thus ends the lecture. 73 Mac N8TT

--
J. Mc Laughlin; Michigan U.S.A.
Home: JCM@Power-Net.Net

2807. Re: VSWR doesn't matter?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 03:31:29 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <lunLh.14389$FG1.4295@newssvr27.news.prodigy.net>
Source record: 44522

Roy Lewallen wrote:
> What remains for
> the people promoting the notion of waves of average energy propagating
> like voltage and current waves to show is how their theories can explain
> the resistor dissipation in the very simple circuit I used.

Zero power dissipation in the source resistor is prima
facie evidence of "total destructive interference" in
the direction of the source as described by Hecht on
page 388 of "Optics", 4th edition. You see, optical
physicists don't have the luxury of dealing with voltages
and currents. They are forced to deal with power densities
and those irradiance equations work just as well for RF
as they do for light. The power equation describing the
dissipation in the source resistor is:

Pfor + Pref - 2*SQRT(Pfor*Pref) = zero

which is in perfect agreement with your calculations.
--
73, Cecil http://www.w5dxp.com

2808. open - short -- 0 - 180 ??

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 03:41:27 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <uJOdnZOerar0m2PYnZ2dnUVZ_hOdnZ2d@comcast.com>
Source record: 44523

All,

The setup is an 8407a network analyzer with an 8412a display. The forward and reflection detectors are mini circuits ZFDC 20 - 4's. These are power detectors.

The question is: With a short stub on the detector will the open or the short represent zero phase angel?

The setup basically is working. Open and short read 180 degrees apart. A cap and an inductor are plus and 180 apart and 90 out of phase with the open and short.

Thanks - Dan

2809. Re: open - short -- 0 - 180 ??

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 03:59:30 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <CUnLh.14393$FG1.1270@newssvr27.news.prodigy.net>
Source record: 44524

dansawyeror wrote:
> The question is: With a short stub on the detector will the open or the
> short represent zero phase angel?

Assuming the phase angle is between the voltages:

The phase angle between Vfor and Vref at an open circuit
is zero (all the energy is in the E-field).

The phase angle between Vfor and Vref at a short circuit
is 180 degrees (all the energy is in the H-field).
--
73, Cecil http://www.w5dxp.com

2810. Re: open - short -- 0 - 180 ??

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 04:26:04 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <QLidnT-6FsBDjWPYnZ2dnUVZ_revnZ2d@comcast.com>
Source record: 44525

Thanks.

The detectors are classified as power detectors. What effect would that
have?

If it would be the same then the open would be zero.

- Dan

Cecil Moore wrote:
> dansawyeror wrote:
>> The question is: With a short stub on the detector will the open or
>> the short represent zero phase angel?
>
> Assuming the phase angle is between the voltages:
>
> The phase angle between Vfor and Vref at an open circuit
> is zero (all the energy is in the E-field).
>
> The phase angle between Vfor and Vref at a short circuit
> is 180 degrees (all the energy is in the H-field).

2811. Log Spiral Grounds

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 04:52:48 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <DGoLh.49211$Ko5.33168@newsfe08.phx>
Source record: 44427

The discussion(s) of ground planes, ground radials, etc, reminds me of an antenna design that I saw about 20 years ago, when I was helping to establish a Navy shore facility in San Diego. We needed some HF antennas and researched existing building-mounted HF antennas in the area.. The research led us to a local entrepreneur who built a few antennas and sold them to the Navy. They worked well.

The radiator was a Slinky-like coil that was raised inside a fiber tube, which I believe is the way the SteppIR tunes. To the point, the ground plane for this antenna was described to us as Log Spiral, a shape found in Nature from the curls of a conch shell up to the arms of a spiral galaxy.

At a price of $14,000 per copy, our program could not afford his antenna and we made do with a base tuned whip. It worked.

Because we never bought and installed the antenna, I've forgotten all the pertinent details of how many ground wires were involved, how long the wires were, how they were spaced, etc. I'm pretty much a blank slate. <:-(

What, if anything, do we know about the concept of a log spiral ground plane? Genius or snake oil or something in-between???

Google is no help. The closest I got was a log spiral HF antenna for NVIS operation described by L.B. Cebik, W4RNL, cited often here.

But then, that's the _antenna_, not the counterpoise. It's tempting to imagine that the dimensions of that antenna might be the dimensions for a corresponding counterpoise.

73,
"Sal"
(KD6VKW)

2812. software oscilloscope

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 05:28:18 UTC
From: Dave Pitzer <dpitzer@sonic.net>
Message-ID: <45fe1f73$0$27202$742ec2ed@news.sonic.net>
Source record: 44428

I'm looking for a freeware oscilloscope program. Nothing fancy, just a simple, single channel scope that will display my computer's audio output on screen.

Thanks,

Dave P.

2813. Re: software oscilloscope

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 05:52:19 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <etl8d3$t0e$1@nnrp.linuxfan.it>
Source record: 44429

Dave Pitzer wrote:
> I'm looking for a freeware oscilloscope program. Nothing fancy, just a
> simple, single channel scope that will display my computer's audio output on
> screen.
>
> Thanks,
>
> Dave P.
>
>
Maybe you will find this useful, look for the PROGRAM and MANUAL
download in english and click the link, 25mb download though ...

http://www.zeitnitz.de/Christian/Scope/Scope_en.html

JS

2814. Re: software oscilloscope

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 06:07:31 UTC
From: Dave Pitzer <dpitzer@sonic.net>
Message-ID: <45fe28a6$0$27193$742ec2ed@news.sonic.net>
Source record: 44430

"John Smith I" <assemblywizard@gmail.com> wrote in message
news:etl8d3$t0e$1@nnrp.linuxfan.it...
> Dave Pitzer wrote:
> > I'm looking for a freeware oscilloscope program. Nothing fancy, just a
> > simple, single channel scope that will display my computer's audio
output on
> > screen.
> >
> > Thanks,
> >
> > Dave P.
> >
> >
> Maybe you will find this useful, look for the PROGRAM and MANUAL
> download in english and click the link, 25mb download though ...
>
> http://www.zeitnitz.de/Christian/Scope/Scope_en.html
>
> JS

Sorry, but I see no way to download. But this looks like what I'm after.

DP

2815. Re: software oscilloscope

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 06:22:47 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <etla67$t0e$2@nnrp.linuxfan.it>
Source record: 44431

Dave Pitzer wrote:

> Sorry, but I see no way to download. But this looks like what I'm after.
>
> DP
>
>

This is the direct link to the program:

http://www.zz-plan.eu/scope/scope_122_en.zip

However, it is on that page:
Version 1.22

* Changes
o Peak hold function in frequency analysis
o Signal generator allows now to generate white noise and a
frequency sweep
o Cue points are no longer written to the .wav file by the
sound recorder. The Media Player was confused by these extra data
* Program and manual of version 1.22: scope122_en (approx. 25MB)
* Deutsche Version 1.22 des Programms: scope122_ger (ca. 25MB)
* Only the Manual for Version 1.22

in the above, you would click on the "scope122_en" in the above--on that
page ...

Regards,
JS

2816. Matching a helix antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 08:20:06 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45fe47b5$0$16990$4c368faf@roadrunner.com>
Source record: 44432

Been cleaning out the garage this weekend and came across an old attempt at build a 432Mhz helix antenna. As I remember I gave up on it because I was having trouble building the matching section which was a 11/4wl long fin that attches to the helix as it apprached the feed point. It was proving difficult for me to fabricate. I was wondering if the fin could not be attached to the counterpoise instead of the helix, adjusting the space beteen the fin and the helix to get a match.

Jimmie.

2817. Re: Best Yagi impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 09:23:27 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <WyfEUAHPaI$FFA3C@ifwtech.co.uk>
Source record: 44433

Wes wrote:
>> >A quarter wave transformer from 28 ohms to 50 ohms is relatively easily
>> >made from two parallel 75 ohm lines. Perhaps that is the attraction to
>> >the impedance range you mention.
>>
>> That is a very reasonable strategy: if the impedance comes somewhere
>> close to a convenient value for matching, then optimize it to exactly
>> that value.
>>
>> For example, DK7ZB has developed a range of yagi designs optimized for
>> 28 ohms.
>
>And there he says: "For the VHF-Bands (50-50.5MHz, 144-146MHz,
>430-440MHz) a radiation resistance of 25-30Ohm has the best balance for
>gain, back- and sidelobes, bandwidth and SWR at tenable losses."
>
>We have come full-circle. [g]
>
Why, so we have...

At the risk of going round again, I definitely wouldn't agree with that statement as written. However, it is valuable to point out that 28 ohms is one of those "convenient" impedances, which might otherwise have been overlooked.

>Also, DK7ZB in describing what is clearly an unbalanced connection of
>parallel lengths of coax ("Classic" match) says, "2. This line is a
>simplified coaxial sleeve balun to avoid sleeve-waves on the braid of
>the cable running to the station.", which it is clearly not.
>
Agreed. However, there is an alternative for 50MHz because the paralleled quarter-wave sections are a convenient length to be coiled up to make a small, neat choke.

I had a 3-element 50MHz beam which had been thrown together using existing gamma match parts, but it was picking up a lot of noise and crud - on surprising on thinking about it, because the coax shield, the boom and the mast were all connected together and acting as an antenna for local noise. Since the feedpoint impedance happened to be about 28 ohms, it was very easy to convert it to a fully balanced feed with a choke, and all the noise problems went away.

>
>>There are links to these and several other designs
from:http://www.ifwtech.co.uk/g3sek/diy-yagi/index.htm

>>

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

2818. Re: Best Yagi impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 10:11:44 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <EC0Ao+LgHm$FFAnD@ifwtech.co.uk>
Source record: 44434

Ian White GM3SEK wrote:
>I had a 3-element 50MHz beam which had been thrown together using
>existing gamma match parts, but it was picking up a lot of noise and
>crud - on surprising on thinking about it, because the coax shield, the
>boom and the mast were all connected together and acting as an antenna
>for local noise.

Sorry, made a t6po. That should read: "NOT surprising, on thinking
about it."

--

73 from Ian GM3SEK

2819. Re: Antenna Performance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 12:36:28 UTC
From: "gnewsaccount@googlemail.com" <gnewsaccount@googlemail.com>
Message-ID: <1174307788.216809.35120@n59g2000hsh.googlegroups.com>
Source record: 44435

On Mar 14, 8:17 pm, "Wimpie" <wim...@tetech.nl> wrote:
> Hi Paul,
>
> About your 868 MHz project (probably european [ETSI] SRD application).
>
> The datasheet gives impedance requirement that should function when
> connected directly to 50 Ohms. I saw (little bit surprised) the
> datasheet doesn't give a reference design.
>
> If the design is to be terminated with 50 Ohms, and you run a coaxial
> cable from bulkhead to PCB (both sides bread of cable connected), it
> should be OK (irrespective of cable length). I assume that the antenna
> that you are using is a 50 Ohms antenna (a quarter wave?). The antenna
> will us the metal casing as ground plane avoiding RF currents inside
> the housing.
>
> Sometimes, circuits may become instable (out of band or just out of
> band) when changing the cable length. You may check this by adding a 3
> or 6 dB attenuation. Normally spoken, adding 6 dB will reduce the
> range with about a factor 2 (assuming free space, not close to
> ground).
>
> Other things can be interference on the IF (directly onto the chip)
> from a switching regulator or digital HW. Is it possible that you are
> close to other applications (for example 2W UHF RFID, or UHF broadcast
> stations). You should see that on the analog I&Q outputs, If you move
> with the antenna, with no transmitter present, the output noise should
> not change (so not become more or becoming less).
>
> When this a commercial application, and have some budget, you may hire
> a specialist. Many of the single chip TRX are difficult to get in
> line with EN300220, though the datasheet does mention compliance.
>
> Best Regards,
>
> Wim
> PA3DJS.

Thanks for the Info. We do use UHF and VHF systems as well however I
don't believe this is the problem here as turning of the transmitter
causes the IQ signals to go to close to DC. There is some ripple due
to ripplet from a switcher though we have reduced this to 5mA and a
large cap by the transmitter reduces this further. In addition the
switched is i a separate compartment to the transceiver.

Cutting the tracks at the tx module to the SMA connector and wiring coax directly seems to do the job, so I guess that the PCB package did not do a good job of calculating 50 Ohm. Mind you I think it was probably my fault I should have copied the module and tracks were on the inside surrounded by planes where as from the module to the SMA connector the tracks were on the outer layers of PCB. I assume the 50Ohms would also be affected once the board was in the metal box.

Paul.

2820. Re: open - short -- 0 - 180 ??

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 14:29:28 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <c7xLh.1301$rj1.1189@newssvr23.news.prodigy.net>
Source record: 44436

dansawyeror wrote:
> The detectors are classified as power detectors. What effect would that
> have?

Power is a scalar and doesn't have a phase. If phase
is required in a power equation, it is normally the
phase between the associated voltages, e.g. the phase
used in the interference term in the irradiance equation
in optics is the phase between the (visible) E-fields.
I would assume the power detector phase convention would
be the same as in optics, but I'm not absolutely sure.
--
73, Cecil http://www.w5dxp.com

2821. Re: software oscilloscope

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 14:34:12 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <etm71ghur1@aioe.org>
Source record: 44437

"Dave Pitzer" wrote
> I'm looking for a freeware oscilloscope program. Nothing fancy, just a
> simple, single channel scope that will display my computer's audio
> output on screen.

You might check this out (freeware)...

http://www.hitsquad.com/smm/programs/VA/download/win95/rd.shtml?http://digilander.libero.it/hsoft/VA.zip

2822. Re: Log Spiral Grounds

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 14:41:02 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <2ixLh.14417$FG1.13163@newssvr27.news.prodigy.net>
Source record: 44438

Sal M. Onella wrote:
> What, if anything, do we know about the concept of a log spiral ground
> plane? Genius or snake oil or something in-between???

I believe it's called the "Golden Ratio" based on
Fibonacci numbers and works as well as any other
ground plane including fractal ground planes. It,
like a fractal, is based on packing the most stuff
in the least amount of space. One sees the pattern
in pinecones, pineapples and sunflower seed heads.

http://www.psc.cornell.edu/gssop/courses/Patterns_In_Nature/2005/index.php?page=4
--
73, Cecil http://www.w5dxp.com

2823. Hyper-light speed antenna (#6025810)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 15:37:57 UTC
From: jimlux@earthlink.net
Message-ID: <1174318677.017864.283550@l77g2000hsb.googlegroups.com>
Source record: 44439

Re Roy's post:
One of my favorites is U.S. patent #6,025,810, "Hyper-Light_Speed Antenna" (Strom). Besides sending the signal at a speed faster than light and penetrating known RF shielding devices, a side benefit is that it can be used to accelerate plant growth. I've read many patents which are as fundamentally flawed, but this one has the advantage of being so obviously wacko that nearly anyone but the overly credulous can see from it just how little a patent really means as an indication of technical merit.

Roy Lewallen, W7EL

I am convinced that this application was intentionally filed to point up the bogosity(?) of the system. It was the claim for improving plant growth that convinced me.

In general, I agree with your contention that patents are granted unless there's some clear problem (perpetual motion), with the idea that they'll let the would-be infringer fight it out to invalidate it.

The PTO is full of good people, but grossly underfunded, and without sufficient institutional gumption to try and fight the tide of patents for the unpatentable and obvious.

Jim, W6RMK

2824. Re: Log Spiral Grounds

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 15:39:05 UTC
From: kd5sak <kd5sak@sbcglobal.net>
Message-ID: <t8yLh.9272$Um6.3325@newssvr12.news.prodigy.net>
Source record: 44440

In my (shudder) early days on the Dark Side (11 meters) I once shaped a half wave length of house wiring into a conical spiral (roughly 30 inches high), hung it from a ceiling using a refigerator top as groundplane. I communicated well with folk in the White Rock Lake area from my Carrollton home (approx 20 miles) with a legal unaltered 4 watt transceiver. Fiddling about with antennas has always been an interest of mine.

Harold
KD5SAK

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:2ixLh.14417$FG1.13163@newssvr27.news.prodigy.net...
> Sal M. Onella wrote:
>> What, if anything, do we know about the concept of a log spiral ground
>> plane? Genius or snake oil or something in-between???
>
> I believe it's called the "Golden Ratio" based on
> Fibonacci numbers and works as well as any other
> ground plane including fractal ground planes. It,
> like a fractal, is based on packing the most stuff
> in the least amount of space.

2825. Re: Crosstalk from ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 18:37:05 UTC
From: Ceriel Nosforit <ceriel@gmail.com>
Message-ID: <pan.2007.03.19.18.37.05.83609@gmail.com>
Source record: 44441

On Mon, 12 Mar 2007 19:05:27 +0200, Ceriel Nosforit wrote:

> On Sun, 11 Mar 2007 15:31:19 -0700, Roy Lewallen wrote:
>
>> Most handheld receivers are designed to be used with a very short duckie
>> antenna. The front end is totally overwhelmed if connected to an antenna
>> of reasonable size. Besides having a whole lot of extra gain to
>> accommodate the short antenna, compromises have to be made in the front
>> end filtering because of the unit's small physical size. Keeping the
>> power consumption low further limits the dynamic range of the stages.
>>
>> I have an Icom R1 and it's full of crossmod birdies even with its own
>> antenna. When connected to a real antenna, it's totally unusable, the
>> front end being overloaded and blocked by just about anything. I have to
>> use a 20 or more dB pad if I ever connect it to a decent antenna. I'll
>> bet a substantial attenuation pad would do wonders for yours.
>>
>> Roy Lewallen, W7EL
>
> Hm. I _thought_ it looked kinda funny having such a puny receiver for such
> a long antenna...
>
> Thanks for the tip on the attenuator. I'll look into that. =)

An update, for the sake of archiving if nothing else; I made a high-pass
filter of nothing but a varicap at its lowest capacitance and now the 80
meter band is a joy listening to. I decided to try this since I noticed
that signals were much more powerful at lower frequencies, and suspected
that getting rid of those would improve my reception.

I did try various types of attenuation, but I wasn't quite happy with the
result. The high-pass filter is better. I'm going to make a low-pass
as well to put in series to see if I can improve reception further, and
look into better high-pass filters.

--
Nos

2826. ((روـــص)) إيرانيي يفعل الفاحشة باألطفال .. أنظـر ام كان جزء فعلته

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 18:44:55 UTC
From: "noof3000sa@gmail.com" <noof3000sa@gmail.com>
Message-ID: <1174329895.690720.303280@b75g2000hsg.googlegroups.com>
Source record: 44442

((روـــص)) إيرانيي يفعل الفاحشة باألطفال .. أنظـر ام كان جزء
فعلته

http://www.hammss.com/vb/showthread.php?p=197221#post197221

محاكمة الفاسقات مع زبائنهن أمام الجمهور (روص)

http://www.hammss.com/vb/showthread.php?t=14314

2827. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 19:52:10 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <etmplr$se2$1@f04n12.cac.psu.edu>
Source record: 44443

Owen Duffy wrote:
> Fred McKenzie <fmmck@aol.com> wrote in news:fmmck-9C2AC4.14313718032007
> @nntp.aioe.org:
>
>> In article <srhjv2hql0gofco8241e10udvpjv1oj6lt@4ax.com>,
>> Richard Clark <kb7qhc@comcast.net> wrote:
>>
> ...
>> Someone asked that if the OCF Dipole was so good, why didn't everyone
>> use one? When I got my start back in the 50s, everyone did use one. I
>> used my "Full Windom" for several years on 80/75/40/10 CW and AM. In
>
> Fred, I think the term "OCF Dipole" is usually used today to mean a
> dipole fed with coax and balun (often 4:1, usually not 1:1) fed offset
> from the centre and often operated at half wave resonance or harmonic
> multiples.

That would be the type that I'm talking about. I've used them and like
them. For some reason I see them as a nice compromise antenna, and
Richard doesn't. Or maybe I'm talking about this type, and Richard is
speaking of the other, "classic" Windom. But then again, I'm way out of
me league here!

> ...
>> Using the modeling software, is there a feed-point where impedance is
>> close to an available balanced feed-line on multiple bands? As close,
>> I would accept a 2:1 SWR.
>
> If you are going to use an ATU and open wire line (as distinct from
> balanced line) why are you restricting the max VSWR to 2. Practical open
> wire lines can operate at much higher VSWR with acceptable losses.
>
> Once you have addressed that question, then ask yourself why you wouldn't
> just feed such a dipole in the centre and reduce the common mode current
> problem caused by the asymmetric feed.
>
> A dipole of more than about 35% wavelength at its lowest operating
> frequency, centre fed with practical open wire line and a good ATU will
> allow multiband operation with efficiency should be acceptable as part of
> the multiband compromise. For an example, look at Fig 10 in the article
> http://www.vk1od.net/G5RV/index.htm . Although the article is about the
> G5RV, Fig 10 is just a 100' dipole, centre fed with classic tuned feeder
> and ATU.

That is pretty much exactly what I am using now, and it works a charm.
It's a fine antenna, if a little tight to match on 75/80 meters.

- 73 de Mike KB3EIA -

2828. Re: software oscilloscope

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 20:03:56 UTC
From: charlie <wehatespam@wymsey.co.uk>
Message-ID: <2uWdnQwzCNYxcWPYnZ2dnUVZ8vWdnZ2d@pipex.net>
Source record: 44444

Dave Pitzer wrote:
<SNIP>
>
>
> Sorry, but I see no way to download. But this looks like what I'm after.
>
> DP
>
>

http://www.zz-plan.eu/scope/scope_122_en.zip

Charlie.

--
www.wymsey.co.uk

2829. Re: Best Yagi impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 20:06:32 UTC
From: nm5k@wt.net
Message-ID: <1174334792.133568.309340@d57g2000hsg.googlegroups.com>
Source record: 44445

On Mar 17, 2:22 am, Ian White GM3SEK <gm3...@ifwtech.co.uk> wrote:

> Also, it is possible with many designs to increase the feedpoint
> impedance towards 50 ohms by adding a director at very close spacing
> (about 0.05 wl). That director has relatively little effect on other
> performance parameters, so it can be added fairly late in the design
> process as a means of matching. (After construction, that close-spaced
> director also allows final adjustment of the matching, by bending the
> ends towards or away from the driven element.)
>

The cushcraft A4S yagi I have is designed to have a 50 ohm feed.
It's not half bad for a tribander.. So I think it's possible to have
fairly decent gain and f/b with such a design.
In the manual, they claim 25 db f/b and 8.9 dbd forward gain.
Of course, the gain they claim may be a tad optimistic, but
in using it, it does seem to do ok. We won 10m fone using
at field day about 5 years ago.
I've designed many yagi's using modeling, but can't remember
how many I've done that were designed to have a 50 ohm
feed.. I think I've done a few though.
In most all cases, I design the yagi for what I want in gain and
f/b, and then worry about the matching later. The only
exception might be if I showed a very low Z, which might
add extra matching losses. If you design for max gain, the
feedpoint Z will usually be quite a bit lower than 50 ohms.
I think as long as you are no lower than 10-12 ohms or so,
the losses in matching are fairly low. An NBS yagi shows
appx 12 ohms or so, and I've never noticed any large loss in
feeding one even using a simple gamma match.
The cushcraft A4S uses no matching device at all.
You just roll up some coax for a choke, or add a 1:1 balun.
I use the choke myself..
MK

2830. Re: Matching a helix antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 20:24:58 UTC
From: Tam/WB2TT <t-tammaru@c0mca$t.net>
Message-ID: <evudnRLphrkTbGPYnZ2dnUVZ_oSnnZ2d@comcast.com>
Source record: 44446

"Jimmie D" <GFENDER@carolina.rr.com> wrote in message
news:45fe47b5$0$16990$4c368faf@roadrunner.com...
> Been cleaning out the garage this weekend and came across an old attempt
> at build a 432Mhz helix antenna. As I remember I gave up on it because I
> was having trouble building the matching section which was a 11/4wl long
> fin that attches to the helix as it apprached the feed point. It was
> proving difficult for me to fabricate. I was wondering if the fin could
> not be attached to the counterpoise instead of the helix, adjusting the
> space beteen the fin and the helix to get a match.
>
> Jimmie.
>
One way is to run a single wire next to the reflector from the feedpoint to
the transmission line. If the Z0 of the helix is 120 Ohms, space the wire
from the refleector so that at that end it forms an impedance of 120 Ohms.
Space it at the coax end so the impedance is 50 Ohms. I think that
theoretically the impedance is supposed to change is some logarithmic
fashion, but linear reduction of distance works. If the reflectopr is not
solid, fasten a metal strip to it to get a smooth impedance. I can't
remember the minimum length for the conversion line; something like a
wavelength. Google helix antenna matching.

Tam/WB2TT

2831. Re: Matching a helix antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 21:03:41 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <NUCLh.743$Sf2.704@trnddc01>
Source record: 44447

"Jimmie D" <GFENDER@carolina.rr.com> wrote in message
news:45fe47b5$0$16990$4c368faf@roadrunner.com...
> Been cleaning out the garage this weekend and came across an old attempt
> at build a 432Mhz helix antenna. As I remember I gave up on it because I
> was having trouble building the matching section which was a 11/4wl long
> fin that attches to the helix as it apprached the feed point. It was
> proving difficult for me to fabricate. I was wondering if the fin could
> not be attached to the counterpoise instead of the helix, adjusting the
> space beteen the fin and the helix to get a match.
>
> Jimmie.

Hi Jimmie

AMSAT Journal, November/December 2005, published an article authored by
Clare Fowler, VE3NPC, related to matching axial mode helix antennas.
If you want a 'scanned copy' contact me at your convenience.

Jerry

2832. Re: software oscilloscope

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 21:14:21 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <45fefcfe$0$21939$834e42db@reader.greatnowhere.com>
Source record: 44449

John Smith I wrote:
> Dave Pitzer wrote:
>
>> Sorry, but I see no way to download. But this looks like what I'm after.
>>
>> DP
>>
>>
>
> This is the direct link to the program:
>
> http://www.zz-plan.eu/scope/scope_122_en.zip
> ...
>
> Regards,
> JS

I should have pointed out, this commerical application is FREE to use
for PERSONAL USE ...

JS

2833. Re: Crosstalk from ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 22:12:09 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <uh2uv25h19uo2dvqeth22ei652jip18had@4ax.com>
Source record: 44448

On Mon, 19 Mar 2007 20:37:05 +0200, Ceriel Nosforit <ceriel@gmail.com>
wrote:

>I did try various types of attenuation, but I wasn't quite happy with the
>result. The high-pass filter is better. I'm going to make a low-pass
>as well to put in series to see if I can improve reception further, and
>look into better high-pass filters.

Hi Nos,

The standard antenna tuner (buy a cheap ham one, without the meters)
will do just as well and has served generations of SWLers. Better
yet, build one to suit your larger tuning range.

73's
Richard Clark, KB7QHC

2834. Re: open - short -- 0 - 180 ??

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-19 23:08:17 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <YK-dndE3vMp-imLYnZ2dnUVZ_uejnZ2d@comcast.com>
Source record: 44450

Cecil,

Thanks for the pointer. I split the sweep signal input and fed the analyzer with 'in phase' signals. I then set the analyzer phase to a known reading, line on the phase display. I then tested this by comparing it to short and open. It was almost identical to the short reading, less then about 4% difference.

This is being used to analyze a loaded dipole without any input network. With above setup the antenna is now reading 'inductive' which is consistent for this network.

The next step is to determine the amount of capacitance to bring the reflection to 0j at the frequency of interest. This could result in a reading of 0 or +/-180 degrees phase. If it is 0 then the impedance is less then 50 Ohms, if it is 180 then the impedance is greater the 50 Ohms.

Thanks - Dan

Cecil Moore wrote:
> dansawyeror wrote:
>> The detectors are classified as power detectors. What effect would
>> that have?
>
> Power is a scalar and doesn't have a phase. If phase
> is required in a power equation, it is normally the
> phase between the associated voltages, e.g. the phase
> used in the interference term in the irradiance equation
> in optics is the phase between the (visible) E-fields.
> I would assume the power detector phase convention would
> be the same as in optics, but I'm not absolutely sure.

2835. Discone element needed.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 00:58:21 UTC
From: Boozo <boozo@bogpond.com>
Message-ID: <45ff31b1_1@news.iprimus.com.au>
Source record: 44452

Does anyone know where I can get a few elements for my discone antenna ?

I bought it from Tandy(a.k.a.Radio Shack) electronics in the late 80's
but don't know the manufacturers name.

Tandy was bought by Dick Smith electronics so I can't go back and ask.

The elements are stainless steel hollow tubes;
4.80mm OD x 81cm(approx) long.

Am in Australia so local would be best.
Any ideas would be appreciated.

Boozo.

2836. Re: Fan dipole..

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 01:01:39 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98F97A55C6D18nonenowhere@61.9.191.5>
Source record: 44454

"merlin-7" <merlin-7@sc.rr.com> wrote in
news:45ff2b0f$0$27105$4c368faf@roadrunner.com:

> I know that an inverted V is for the most part omni directional, but
> what
> about an inverted v that is only somewhat inverted? Would that not
> give you a pattern more shaped like an egg?
>
>

The directivity of a half wave dipole over real ground varies with height, and elevation angle. At the zenith it is omni directional, and at lower elevations it has some directivity, but nothing like a dipole in free space. Inclining the legs as in an inverted V dilutes the nulls further and so reduces directivity, less so for large included angle.

So, the combination of an inverted V and mounting low to real ground reduces directivity.

If you raise your dipole centre height, and decrease the included angle, I expect that one will offset the other's effect on the pattern to some extent.

Owen

2837. Re: Challenger DX opinions?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 01:01:53 UTC
From: Mike Coslo <mcoslo@youknow.comcast.net>
Message-ID: <Xns98F8CBC56417Dmcoslocomcastnet@216.196.97.136>
Source record: 44453

Richard Clark <kb7qhc@comcast.net> wrote in
news:49ehv2dqrmtgf632kevng5b5230efilg7h@4ax.com:

> On Thu, 15 Mar 2007 00:39:11 GMT, "west" <restccq2@verizon.net> wrote:
>
>>What about the ones that do not require ground radials or counter poise,
>>i.e. GAP Titan?
>
> Hi West,
>
> Two things:
> 1. Raise them up 3 or 4 meters;
> B. Don't use the bottom one or two bands.

Yeah, what Richard said.

- 73 de Mike KB3EIA -

2838. Re: Test

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 01:03:28 UTC
From: Mike Coslo <mcoslo@youknow.comcast.net>
Message-ID: <Xns98F8CC09AB83Dmcoslocomcastnet@216.196.97.136>
Source record: 44455

"Spin" <noemail@alone.invalid> wrote in news:_BkLh.7152$zx.2229@trndny05:

UR 5 of 9 OM.

73 de Mike KB3EIA -

2839. Re: Matching a helix antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 01:06:06 UTC
From: Boozo <boozo@bogpond.com>
Message-ID: <45ff3382$1_1@news.iprimus.com.au>
Source record: 44456

"Tam/WB2TT" <t-tammaru@c0mca$t.net> wrote in message
news:evudnRLphrkTbGPYnZ2dnUVZ_oSnnZ2d@comcast.com...
>
> "Jimmie D" <GFENDER@carolina.rr.com> wrote in message
> news:45fe47b5$0$16990$4c368faf@roadrunner.com...
>> Been cleaning out the garage this weekend and came across an old attempt
>> at build a 432Mhz helix antenna. As I remember I gave up on it because I
>> was having trouble building the matching section which was a 11/4wl long
>> fin that attches to the helix as it apprached the feed point. It was
>> proving difficult for me to fabricate. I was wondering if the fin could
>> not be attached to the counterpoise instead of the helix, adjusting the
>> space beteen the fin and the helix to get a match.
>>
>> Jimmie.
>>
> One way is to run a single wire next to the reflector from the feedpoint
> to the transmission line. If the Z0 of the helix is 120 Ohms, space the
> wire from the refleector so that at that end it forms an impedance of 120
> Ohms. Space it at the coax end so the impedance is 50 Ohms. I think that
> theoretically the impedance is supposed to change is some logarithmic
> fashion, but linear reduction of distance works. If the reflectopr is not
> solid, fasten a metal strip to it to get a smooth impedance. I can't
> remember the minimum length for the conversion line; something like a
> wavelength. Google helix antenna matching.
>
> Tam/WB2TT

Pardon my ignorance but how can I work out what the Z0 of an antenna is?
As you say above, "If the Z0 of the helix is 120 Ohms".

I'm not totally stupid but could never work it out.
It isn't as simple as connecting an ohm meter to it......is it ?

Boozo.

2840. Fan dipole..

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 01:28:44 UTC
From: merlin-7 <merlin-7@sc.rr.com>
Message-ID: <45ff2b0f$0$27105$4c368faf@roadrunner.com>
Source record: 44451

A question for you experts out there...
I currently use a fan dipole (kind of a fan anyway)

It has 3 elements off of each side from the feed point.
A 66 foot or 132 feet total length
A 33 foot or 66 feet total length
and a 16 foot or 32 feet total length.(this is before it was tuned so measurements are not exact)

The wires are spread 1 foot apart from each other, 18 inches from the feed point. (where the wires are connected to the feed point, they V out from there, to a point 18 inches from the feed point where the 1st spreader is located, placing each wire 1 foot apart)

The wires are (hung) under each other from that point, 1 foot apart over the total length of each wire with the longest wire (the 66/132) on top (the 33/66) in the middle and (16/32) on the bottom.

I used the longest wire to support the (pvc) spreaders for the wires hanging under it.

The feed point is at about 40 feet with the ends of the (66/132) at about 22 feet (the ends of the shorter wires are higher, due to the fact they end higher up the inverted V.

It has an air wound choke at the feed point fed with 50 ohm coax.

I have several questions regarding this set up.

What are the pros and cons of fan dipoles like this? I have never heard of a fan dipole with each element being hung under each other so I have no data to compare it to.

I would like to keep this set up when I move to my new QTH in a few months but raise it to 60 feet or so.
I know that an inverted V is for the most part omni directional, but what about an inverted v that is only somewhat inverted? Would that not give you a pattern more shaped like an egg?

I really do not wish to put up a wire for each band as the one I have now can run everything from 10m to 80m and even the low side of 160, right around 1.8 mhz (I havent figured that one out yet)with a tuner.

What are the pros and cons of adding more wires? (other than tuneing the wires being more of a pain)

I get very little interaction between the wires (maybe due to the fact they are spread apart so close to the feed point) or I just got lucky, hi hi

I am looking for ideas or someone that is great with an antenna program, that can tell me what my antenna is doing now and how to improve it at around 60 feet at the feed point.

It looks like my shack will be up befor my new home will be ready (solar power has its advantages) So I need to plan the antenna and the mounting points for the ends of the wires.(angle or slope) in other words, how high the ends need to be.

I plan on placeing the wires east / west broadside but would like a bit of an omni pattern to reach the east coast(NY to FL) from jacksonville NC.

Sorry for the long post but I know of a few out there that can give me some ideas that I have overlooked. It is better to plan ahead .....

Thanks
Joe
KI4ILB

2841. Re: Fan dipole..

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 02:07:07 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <ojeuv2ldmcegh8iqjfhde654n9rgrf6hii@4ax.com>
Source record: 44458

On Mon, 19 Mar 2007 20:28:44 -0500, "merlin-7" <merlin-7@sc.rr.com>
wrote:

>A question for you experts out there...
> I currently use a fan dipole (kind of a fan anyway)
<<SNIP>>
>
> What are the pros and cons of fan dipoles like this? I have never heard of
>a fan dipole with each element being hung under each other so I have no data
>to compare it to.

I haven't used the inverted-V formation, but I have used the
multi-band parallel dipole since I was first licensed in 1978. The
pros are that if the elements are 8" or closer (I never ran them
further apart), I get a broader bandwidth per band. (That comes in
handy on 80 & 40 meters.) you don't need a tuner for the three bands
of your choice (adding more wires means additional bands). If you are
a cw buff, the 40 meter dipole also doubles as 15 meters.

The cons are that the antenna isn't very stealth (if that is an
issue.), if you are running an amplifier, you could be radiating the
harmonics more efficiently. It could get tangled in the wind or limbs
of a tree (I had to deal with that and place spacers closer together.)

I have never noticed a difference in the Multi-Band Parallel Dipole
MBPD (just what I call it, probably not an official name) and a mono
band dipole as far as signal strength goes. I can't model one in my
program as it thinks that is one big fat wire.

>
> I would like to keep this set up when I move to my new QTH in a few months
>but raise it to 60 feet or so.

The higher the better...

>
> I really do not wish to put up a wire for each band as the one I have now
>can run everything from 10m to 80m and even the low side of 160, right
>around 1.8 mhz (I havent figured that one out yet)with a tuner.

80 should be a close double for 10 and 60 meters, 40 doubles with 15
meters and some combination of left and right wires double for the
other ward bands (I suppose - wag) unless 80 tunes for it. I don't
know about 160 as I have never tried to tune one to it.

>
>What are the pros and cons of adding more wires? (other than tuneing the

>wires being more of a pain)

Pros: instant switch to more bands without having to use tuner,

Cons: more harmonic risk, more wind load, more visible wire, more
weight, more expense.

>
> I get very little interaction between the wires (maybe due to the fact they
>are spread apart so close to the feed point) or I just got lucky, hi hi
>
> I am looking for ideas or someone that is great with an antenna program,
>that can tell me what my antenna is doing now and how to improve it at
>around 60 feet at the feed point.
>
> It looks like my shack will be up befor my new home will be ready (solar
>power has its advantages) So I need to plan the antenna and the mounting
>points for the ends of the wires.(angle or slope) in other words, how high
>the ends need to be.
>
> I plan on placeing the wires east / west broadside but would like a bit of
>an omni pattern to reach the east coast(NY to FL) from jacksonville NC.
>
> Sorry for the long post but I know of a few out there that can give me some
>ideas that I have overlooked. It is better to plan ahead .....
>
> Thanks
> Joe
> KI4ILB
>

I don't know what the radiation pattern will look like, but I suspect
it will be pretty much round. I would think, for the effort, it might
be well to put up two antennas, each with either three or four bands.
I mostly used 4 bands, each additional wire gets considerably more
difficult to deal with. I usually design them and space the wires
with PVC pipe which means I have to cut the pipe and add all the wires
at once or create a whole new antenna at the end.

Personally, I use #14 THHN wire which is coated and can be purchased
in various colors. I could choose different colors for each band if I
like. However, the noise factor during winter weather (ice, etc.) if
I keep them all insulated. I found that if I spaced the wires 8
inches apart, I get to reverse engineer the formula for adding bands.
This means I trim out the ten and 15 meter bands (I didn't use this
for ward bands) and then reverse engineer the formula...

x/F=L

x=468, F=Frequency in MHz, L=length in Feet.

L*F=x

Next, calculate with the new x for the additional band you desire to add. This will narrow your trimming down to a minimum.

Good luck, I am looking forward to reading all the replies.

Buck
N4PGW
www.lumpuckeroo.com

73

--
73 for now
Buck, N4PGW
www.lumpuckeroo.com
N4PGW

2842. Re: Hyper-light speed antenna (#6025810)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 02:18:00 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45ff4456$0$4924$4c368faf@roadrunner.com>
Source record: 44459

"J. Mc Laughlin" <jcm@power-net.net> wrote in message
news:9_GdnbWhyMebpWLYnZ2dnUVZ_smonZ2d@bright.net...
> Dear Jim (W6RMK): I have just returned from a conference where two of
> the
> speakers were senior officials of the USPTO. Among other things, they
> made
> clear that a large effort is being made to reduce what the PTO calls
> "errors." These measures include allowed applications being scrutinized
> by
> someone other than the examiner before being issued as a patent. While
> the
> backlog of applications increases, the fraction of examined applications
> that end up being issued as patents has precipitously decreased in the
> last
> few years.
>
> About 1200 new examiners are being hired each FY with a total of
> somewhat over 5000 examiners. Obviously, the turnover is large with over
> 20% of the examiner corps being replaced each year.
>
> In short, the USPTO has many of what they call "challenges," but they
> are trying to manage the challenges. That includes implementing means for
> reducing "errors."
>
> Every time an "error" is patented, it seems to make it more difficult
> to
> secure a legitimate patent. Your contention that the error rate is large
> is
> not supported by facts. With a vigorous review process, in the last FY
> only
> 3.5% of approved applications were deemed to be "errors" and did not pass
> to
> issue. I am confident that the number of errors that managed to slip by
> is
> small indeed.
>
> All that said, the USPTO is considering having interested parties
> comment by the internet during the prosecution of applications. This
> might
> start with applications in business-methods and computer related
> applications. This scheme would allow knowledgeable persons in the art to
> tell the PTO well in advance of allowance that the art in the application
> is
> old because of such and such. Other similar schemes are being considered.

>
> We all realize that the Republic's balance of payments is kept from
> being catastrophic because of the export of intellectual property.
>
> The process needs improvement. It is being improved. Really bad
> patents are becoming rare.
>
> Warm regards, Mac N8TT
>
> --
> J. Mc Laughlin; Michigan U.S.A.
> Home: JCM@Power-Net.Net
>
> <jimlux@earthlink.net> wrote in message
>>
>> I am convinced that this application was intentionally filed to point
>> up the bogosity(?) of the system. It was the claim for improving
>> plant growth that convinced me.
>>
>> In general, I agree with your contention that patents are granted
>> unless there's some clear problem (perpetual motion), with the idea
>> that they'll let the would-be infringer fight it out to invalidate it.
>>
>> The PTO is full of good people, but grossly underfunded, and without
>> sufficient institutional gumption to try and fight the tide of patents
>> for the unpatentable and obvious.
>>
>> Jim, W6RMK
>>
>
>

While the overall percentage of errors is quite small even 1% or .01% would
still be a lot.Certainly enough to realise that one can not validate the
worthiness of on ides on the basis that it is patented.

2843. Re: Hyper-light speed antenna (#6025810)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 02:25:25 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <9_GdnbWhyMebpWLYnZ2dnUVZ_smonZ2d@bright.net>
Source record: 44457

Dear Jim (W6RMK): I have just returned from a conference where two of the speakers were senior officials of the USPTO. Among other things, they made clear that a large effort is being made to reduce what the PTO calls "errors." These measures include allowed applications being scrutinized by someone other than the examiner before being issued as a patent. While the backlog of applications increases, the fraction of examined applications that end up being issued as patents has precipitously decreased in the last few years.

About 1200 new examiners are being hired each FY with a total of somewhat over 5000 examiners. Obviously, the turnover is large with over 20% of the examiner corps being replaced each year.

In short, the USPTO has many of what they call "challenges," but they are trying to manage the challenges. That includes implementing means for reducing "errors."

Every time an "error" is patented, it seems to make it more difficult to secure a legitimate patent. Your contention that the error rate is large is not supported by facts. With a vigorous review process, in the last FY only 3.5% of approved applications were deemed to be "errors" and did not pass to issue. I am confident that the number of errors that managed to slip by is small indeed.

All that said, the USPTO is considering having interested parties comment by the internet during the prosecution of applications. This might start with applications in business-methods and computer related applications. This scheme would allow knowledgeable persons in the art to tell the PTO well in advance of allowance that the art in the application is old because of such and such. Other similar schemes are being considered.

We all realize that the Republic's balance of payments is kept from being catastrophic because of the export of intellectual property.

The process needs improvement. It is being improved. Really bad patents are becoming rare.

Warm regards, Mac N8TT

--
J. Mc Laughlin; Michigan U.S.A.
Home: JCM@Power-Net.Net

<jimlux@earthlink.net> wrote in message
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> up the bogosity(?) of the system. It was the claim for improving

> plant growth that convinced me.
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> In general, I agree with your contention that patents are granted
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> that they'll let the would-be infringer fight it out to invalidate it.
>
> The PTO is full of good people, but grossly underfunded, and without
> sufficient institutional gumption to try and fight the tide of patents
> for the unpatentable and obvious.
>
> Jim, W6RMK
>

2844. Re: open - short -- 0 - 180 ??

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 02:40:33 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <bmluv2938ol6ioqtomh03lj8gunhcb3t1j@4ax.com>
Source record: 44460

On Mon, 19 Mar 2007 16:08:17 -0700, dansawyeror <dansawyeror@comcast.net> wrote:

>Cecil,
>
>Thanks for the pointer. I split the sweep signal input and fed the
>analyzer with 'in phase' signals. I then set the analyzer phase to a
>known reading, line on the phase display. I then tested this by
>comparing it to short and open. It was almost identical to the short
>reading, less then about 4% difference.
>
>This is being used to analyze a loaded dipole without any input network.
>With above setup the antenna is now reading 'inductive' which is
>consistent for this network.
>
>The next step is to determine the amount of capacitance to bring the
>reflection to 0j at the frequency of interest. This could result in a
>reading of 0 or +/-180 degrees phase. If it is 0 then the impedance is
>less then 50 Ohms, if it is 180 then the impedance is greater the 50 Ohms.
>
>Thanks - Dan

Dan, a short represents zero impedance, thus if resistance is less than Zo with zero reactance, the phase of
the reflection coefficient is 180ï¿½. Conversely, an open represents an infinite impedance, thus if the
resistance is greater than Zo, the reflection coefficient is 0ï¿½.

Walt, W2DU

2845. Re: Hyper-light speed antenna (#6025810)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 03:25:56 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1174361156.078104.46440@e65g2000hsc.googlegroups.com>
Source record: 44461

On 19 Mar, 19:18, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
> "J. Mc Laughlin" <j...@power-net.net> wrote in
messagenews:9_GdnbWhyMebpWLYnZ2dnUVZ_smonZ2d@bright.net...
>
>
>
>
>
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> > someone other than the examiner before being issued as a patent. While
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> > reducing "errors."
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> > not supported by facts. With a vigorous review process, in the last FY
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> > 3.5% of approved applications were deemed to be "errors" and did not pass
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> > small indeed.
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> > being catastrophic because of the export of intellectual property.
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> > patents are becoming rare.
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> > Warm regards, Mac N8TT
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> > J. Mc Laughlin; Michigan U.S.A.
> > Home: J...@Power-Net.Net
>
> > <jim...@earthlink.net> wrote in message
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> >> I am convinced that this application was intentionally filed to point
> >> up the bogosity(?) of the system. It was the claim for improving
> >> plant growth that convinced me.
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> >> In general, I agree with your contention that patents are granted
> >> unless there's some clear problem (perpetual motion), with the idea
> >> that they'll let the would-be infringer fight it out to invalidate it.
>
> >> The PTO is full of good people, but grossly underfunded, and without
> >> sufficient institutional gumption to try and fight the tide of patents
> >> for the unpatentable and obvious.
>
> >> Jim, W6RMK
>
> While the overall percentage of errors is quite small even 1% or .01% would
> still be a lot.Certainly enough to realise that one can not validate the
> worthiness of on ides on the basis that it is patented.- Hide quoted text -
>
> - Show quoted text -

Jimmie, the patent office is not interested in worthiness, it is
interested in providing a service and protection in exchange
for findings to be printed for the advance of science. Obviously
they are not going to waste time on perpetual motion and at the same
time they would not invalidate an invention of earmuffs as being
trivial since 1/2 million were sold the first year of production. Now
that patent offices in different countries have joined together in a
loose sort of way changes have been made with respect to dormant
patents with claims of an idea without

acknoweledgment as to how the idea would come to fruition. Also if a claim was sufficiently fague the patent holder has to show that he was taking advantage of his claim i.e. manufacturing
facilities. The PTO have now documented all patents on a computor such that prominent adjectives and processes in a new request can be compared to prior patents with the same words quite easily which allows the PTO to ask for more intimate detailsfrom the applicant as to why his should be allowednow knowing of existing patents.So Jimmie to summarize the PTO is offering protection as a service such that the divuljence of the application will further the advance of science, so yes some patents will be considered useless in the eyes of some yet in the eyes of an entranapour it can be the source of riches. In terms of true science advances are made in little steps and not by a
significant myrical thus it is important that each step
be publicised until the ultimate is reached on behalf of the nation. The patent office by the way is a cash cow in that it generates more revenue that it costs to operate i.e a patent cost money by all aplicants which is why Crystal city is so influent with high cost buildings but at the same time the Government has control of the PTO and thus removes cash returns each year from the PTO for cancelling other government losses.
Art

2846. Re: Matching a helix antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 12:05:04 UTC
From: gwatts <gwatts@frontiernet.net>
Message-ID: <Q5QLh.5265$ya1.3232@news02.roc.ny>
Source record: 44462

Jimmie D wrote:
> Been cleaning out the garage this weekend and came across an old attempt at
> build a 432Mhz helix antenna. As I remember I gave up on it because I was
> having trouble building the matching section which was a 11/4wl long fin
> that attches to the helix as it apprached the feed point. It was proving
> difficult for me to fabricate. I was wondering if the fin could not be
> attached to the counterpoise instead of the helix, adjusting the space
> beteen the fin and the helix to get a match.

I've always had success matching a helix by running the first 1/4 turn
(starting at the feed point) parallel to the reflector and changing the
spacing between the 1/4 turn and the reflector until I get a low SWR.
If the reflector is mesh I put a piece of sheet metal on the mesh under
that 1/4 turn. It's worked every time, no fins, no 1/4 wave sections of
coax, etc. For my 432 MHz helix it ended up with about 1/4 inch
spacing, using #10 solid wire for the helix.

-W8LNA

2847. transmission down a tunnel

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 13:44:13 UTC
From: dangerd <duncanelliot@breathe.com>
Message-ID: <1174398253.861063.205050@n76g2000hsh.googlegroups.com>
Source record: 44463

Hi there,

Could someone explain in simple terms (I know next to nothing about radio waves or electricity) what interference and attenuation problems might arise in the following scenario:

A remote controlled vehicle in a cable tunnel environment housing several 400 kV circuits, communicating to an operator located in a control room 5 km away.

The remote control vehicle is a monorail carriage and the information relayed back to the control room includes commands (forward/backward) and a video feed.

The reason why I am asking is because I went down such a tunnel and the chap who was in charge of operations mentionned that they had to install light reflectors to convert the radio signal into an optical signal because of signal attenuation and that there was a problem with interference with the electrical field generated by the cables.

I guess what I want to know is what is happening to that radio signal (I think it is a UHF signal) which means that they have to convert it to a light signal?

Also, can you beam a signal down a tunnel (40m below ground) which twists and turns both in the vertical and horizontal directions?

Thanks

2848. Re: Matching a helix antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 13:57:19 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45ffe83c$0$1352$4c368faf@roadrunner.com>
Source record: 44464

"gwatts" <gwatts@frontiernet.net> wrote in message
news:Q5QLh.5265$ya1.3232@news02.roc.ny...
> Jimmie D wrote:
>> Been cleaning out the garage this weekend and came across an old attempt
>> at build a 432Mhz helix antenna. As I remember I gave up on it because I
>> was having trouble building the matching section which was a 11/4wl long
>> fin that attches to the helix as it apprached the feed point. It was
>> proving difficult for me to fabricate. I was wondering if the fin could
>> not be attached to the counterpoise instead of the helix, adjusting the
>> space beteen the fin and the helix to get a match.
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> spacing between the 1/4 turn and the reflector until I get a low SWR. If
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> 1/4 turn. It's worked every time, no fins, no 1/4 wave sections of coax,
> etc. For my 432 MHz helix it ended up with about 1/4 inch spacing, using
> #10 solid wire for the helix.
>
> -W8LNA

Thats what I did yesterday sort of. I. took the piece of metal I was going to fasten to the helix and fastened it to the reflector and then adjusted the spacing for best SWR. The difference is I moved the counterpoise instead of the antenna to get the match. I do see why others have opted to put the fin on the wire. The spacing is so close doing it the ways we did that you may get arcing when using high power. If I ever build another one I will probably use copper instead of Al tubing for the antenna and solder the fin on the antenna.

Jimmie

2849. Re: Hyper-light speed antenna (#6025810)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 14:04:29 UTC
From: Allodoxaphobia <bit-bucket@config.com>
Message-ID: <slrnevvqfd.ieg.bit-bucket@shell.config.com>
Source record: 44465

On Mon, 19 Mar 2007 22:18:00 -0400, Jimmie D wrote:
> "J. Mc Laughlin" <jcm@power-net.net> wrote in message
> news:9_GdnbWhyMebpWLYnZ2dnUVZ_smonZ2d@bright.net...
>> Dear Jim (W6RMK): I have just returned from a conference where two of the
>> speakers were senior officials of the USPTO. Among other things, they made
>> clear that a large effort is being made to reduce what the PTO calls
>> "errors." These measures include allowed applications being scrutinized by
>> someone other than the examiner before being issued as a patent. While the
>> backlog of applications increases, the fraction of examined applications
>> that end up being issued as patents has precipitously decreased in the last
>> few years.
>>
>> About 1200 new examiners are being hired each FY with a total of
>> somewhat over 5000 examiners. Obviously, the turnover is large with over
>> 20% of the examiner corps being replaced each year.
>>
>> In short, the USPTO has many of what they call "challenges," but they
>> are trying to manage the challenges. That includes implementing means for
>> reducing "errors."
>>
>> Every time an "error" is patented, it seems to make it more difficult to
>> secure a legitimate patent. Your contention that the error rate is large is
>> not supported by facts. With a vigorous review process, in the last FY only
>> 3.5% of approved applications were deemed to be "errors" and did not pass to
>> issue. I am confident that the number of errors that managed to slip by
>> is small indeed.
>>
>> All that said, the USPTO is considering having interested parties
>> comment by the internet during the prosecution of applications. This
>> might
>> start with applications in business-methods and computer related
>> applications. This scheme would allow knowledgeable persons in the art to
>> tell the PTO well in advance of allowance that the art in the application is
>> old because of such and such. Other similar schemes are being considered.
>>
>> We all realize that the Republic's balance of payments is kept from
>> being catastrophic because of the export of intellectual property.
>>
>> The process needs improvement. It is being improved. Really bad
>> patents are becoming rare.
>>
>> jimlux wrote in message
>>>
>>> I am convinced that this application was intentionally filed to point

>>> up the bogosity(?) of the system. It was the claim for improving
>>> plant growth that convinced me.
>>>
>>> In general, I agree with your contention that patents are granted
>>> unless there's some clear problem (perpetual motion), with the idea
>>> that they'll let the would-be infringer fight it out to invalidate it.
>>>
>>> The PTO is full of good people, but grossly underfunded, and without
>>> sufficient institutional gumption to try and fight the tide of patents
>>> for the unpatentable and obvious.
>
> While the overall percentage of errors is quite small even 1% or .01% would
> still be a lot.Certainly enough to realise that one can not validate the
> worthiness of on ides on the basis that it is patented.

Especially if that one idea does not pass The Straight Face Test.

Jonesy
--
Marvin L Jones | jonz | W3DHJ | linux
38.24N 104.55W | @ config.com | Jonesy | OS/2
*** Killfiling google posts: <http://jonz.net/ng.htm>

2850. Re: transmission down a tunnel

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 14:04:58 UTC
From: Ralf Ballis - DL2MRB <dl2mrb@arcor.de>
Message-ID: <5766356.OK1M28MYEW@viviana>
Source record: 44466

dangerd wrote:

> I guess what I want to know is what is happening to that radio signal
> (I think it is a UHF signal) which means that they have to convert it
> to a light signal?
>
> Also, can you beam a signal down a tunnel (40m below ground) which
> twists and turns both in the vertical and horizontal directions?

The common to provide radio communication in a tunnel is to use a leakage coaxial cable which isn't 100% shielded and has slots along in the shielding.

Regards,

Ralf
--
Vy 73 es 55 de Ralf, DL2MRB

2851. Re: Matching a helix antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 14:28:34 UTC
From: gwatts <gwatts@frontiernet.net>
Message-ID: <mcSLh.5133$B25.4076@news01.roc.ny>
Source record: 44467

Jimmie D wrote:
> "gwatts" <gwatts@frontiernet.net> wrote in message
> news:Q5QLh.5265$ya1.3232@news02.roc.ny...
>
>>Jimmie D wrote:
>>
>>>Been cleaning out the garage this weekend and came across an old attempt
>>>at build a 432Mhz helix antenna. As I remember I gave up on it because I
>>>was having trouble building the matching section which was a 11/4wl long
>>>fin that attches to the helix as it apprached the feed point. It was
>>>proving difficult for me to fabricate. I was wondering if the fin could
>>>not be attached to the counterpoise instead of the helix, adjusting the
>>>space beteen the fin and the helix to get a match.
>>
>>I've always had success matching a helix by running the first 1/4 turn
>>(starting at the feed point) parallel to the reflector and changing the
>>spacing between the 1/4 turn and the reflector until I get a low SWR. If
>>the reflector is mesh I put a piece of sheet metal on the mesh under that
>>1/4 turn. It's worked every time, no fins, no 1/4 wave sections of coax,
>>etc. For my 432 MHz helix it ended up with about 1/4 inch spacing, using
>>#10 solid wire for the helix.
>>
>>-W8LNA
>
>
> Thats what I did yesterday sort of. I. took the piece of metal I was going
> to fasten to the helix and fastened it to the reflector and then adjusted
> the spacing for best SWR. The difference is I moved the counterpoise instead
> of the antenna to get the match. I do see why others have opted to put the
> fin on the wire. The spacing is so close doing it the ways we did that you
> may get arcing when using high power. If I ever build another one I will
> probably use copper instead of Al tubing for the antenna and solder the fin
> on the antenna.

You might be misunderstanding me, I didn't attach the piece of sheet
metal to the mesh as a fin but flat onto the mesh so what I ended up
with is a wire over a smooth, flat surface for a matching section.

- W8LNA

2852. Re: Discone element needed.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 14:32:32 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <45fff08a$0$16732$4c368faf@roadrunner.com>
Source record: 44468

"Boozo" <boozo@bogpond.com> wrote in message
news:45ff31b1_1@news.iprimus.com.au...
> Does anyone know where I can get a few elements for my discone antenna ?
>
> I bought it from Tandy(a.k.a.Radio Shack) electronics in the late 80's
> but don't know the manufacturers name.
>
> Tandy was bought by Dick Smith electronics so I can't go back and ask.
>
> The elements are stainless steel hollow tubes;
> 4.80mm OD x 81cm(approx) long.
>
> Am in Australia so local would be best.
> Any ideas would be appreciated.
>
> Boozo.
>

It hasnt been long ago that I saw a disk cone antenna in the local radio shack here in the US. They are not that hard to make. Google diskcone antenna and I am sure you will find plenty of plans.

Jimmie

2853. Re: open - short -- 0 - 180 ??

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 15:08:50 UTC
From: richardharrison@webtv.net
Message-ID: <2088-45FFF902-1117@storefull-3254.bay.webtv.net>
Source record: 44469

Walter Maxwell wrote:
"Dan, a short represents zero impedance, thus if resistance is less than Zo with zero reactance, the phase of the reflection coefficient is 180 degrees. Conversely, an open represents an infinite impedance thus if the impedance is greater than Zo, the reflection coefficient is zero degrees,"

Succinctly and well stated.

Graphics of the voltage vectors (phasors) along open-circuited and high-impedance terminated transmission lines are gicen by Terman on page 91 of his 1955 opus. At the high-resistance termination point, it is seen that the incindent and reflected voltages are in-phase and thus add.

I seem to recall that this results in voltage doubling at the open circuit due to interruption of current at the open circuit which forces the magnetic field energy to be temporarily transferred to the electric field (Cecil`s conservation of energy at work). Again relying on a very old memory, I believe we called this voltage doubling the "Ferranti effect".

Best regards, Richard Harrison, KB5WZI

2854. Re: open - short -- 0 - 180 ??

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 15:18:00 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1174403880.245583.22250@b75g2000hsg.googlegroups.com>
Source record: 44470

Again relying on a very
> old memory, I believe we called this voltage doubling the "Ferranti
> effect".
>
> Best regards, Richard Harrison, KB5WZI

Jeez, I always read it as the 'Ferrari effect", where having a red
Ferrari doubles your electric pull on young, nubile, females... Guess
my dyslexia let me down...

denny / k8do

2855. Re: open - short -- 0 - 180 ??

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 15:30:40 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <z6TLh.5803$tv6.3564@newssvr19.news.prodigy.net>
Source record: 44471

Richard Harrison wrote:
> Walter Maxwell wrote:
> "Dan, a short represents zero impedance, thus if resistance is less than
> Zo with zero reactance, the phase of the reflection coefficient is 180
> degrees. Conversely, an open represents an infinite impedance thus if
> the impedance is greater than Zo, the reflection coefficient is zero
> degrees,"
>
> Succinctly and well stated.
>
> Graphics of the voltage vectors (phasors) along open-circuited and
> high-impedance terminated transmission lines are gicen by Terman on page
> 91 of his 1955 opus. At the high-resistance termination point, it is
> seen that the incindent and reflected voltages are in-phase and thus
> add.

My 15th edition of The ARRL Antenna Book has those
phasor diagrams, Fig 8 and Fig 9, on page 24-5. Since
Walter Maxwell was a contributor, I'll bet that those
are Walt's phasor diagrams.
--
73, Cecil http://www.w5dxp.com

2856. Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 15:37:33 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <vi20031kbb1s7evd8qj9ch4i6o1l79elcm@4ax.com>
Source record: 44472

One of the issues discussed in this thread that Owen originated concerned whether or not reflected power
enters the power amp and dissipates as heat in the plates of the amp. Some of the posters apparently are
unable to appreciate that the reflected power does not cause heating of the amp, unless the reflected power
detunes the amp and the amp is left detuned from resonance, which of course is not the correct manner of
operating the amp.

In the last post of the original thread I presented the details of an experiment I performed (one of many
using the same procedure) on a Kenwood TS-830S transceiver that proves how and why reflected power in no way
causes heating of the amp when the amp is properly adjusted in the presence of the reflected power.

Usually, such a presentation as in the last post in that thread evokes a great deal of response, as for
example, Art Unwin's. So I'm somewhat surprised, and a little disappointed that my post has resulted in total
silence. Have my efforts in helping to solve the problem gone for naught?

Walt, W2DU

2857. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 15:55:12 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ytTLh.5804$tv6.3789@newssvr19.news.prodigy.net>
Source record: 44473

Walter Maxwell wrote:
> Some of the posters apparently are
> unable to appreciate that the reflected power does not cause heating of the amp, unless the reflected power
> detunes the amp and the amp is left detuned from resonance, which of course is not the correct manner of
> operating the amp.

Some would say that if "reflected power does not cause heating
of the amp", that proves that there is no power (or energy) in
the reflected waves. Those people obviously don't understand
the role of destructive and constructive interference during
the EM wave superposition process.
--
73, Cecil http://www.w5dxp.com

2858. Re: transmission down a tunnel

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 16:03:42 UTC
From: richardharrison@webtv.net
Message-ID: <14280-460005DE-1062@storefull-3251.bay.webtv.net>
Source record: 44475

Ralf Ballis, DL2MRB wrote:
"The common (method) to provide radio communication in a tunnel is to use a leakage coaxial cable which isn`t 100% shielded and has slots along in the shielding."

Yes. Andrew Corp. in the U.S.A. used to get a high price for such a special cable. 300-ohm TV twinlead is cheap and works very well too when used between a radio and a load to communicate with other 2-way radios along the twinlead route in tunnels and elsewhere.

Best regards, Richard Harrison, KB5WZI

2859. Re: Matching a helix antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 16:07:26 UTC
From: Tam/WB2TT <t-tammaru@c0mca$t.net>
Message-ID: <tdCdnXPEGMIsm53bnZ2dnUVZ_syunZ2d@comcast.com>
Source record: 44474

"Boozo" <boozo@bogpond.com> wrote in message
news:45ff3382$1_1@news.iprimus.com.au...
>
> "Tam/WB2TT" <t-tammaru@c0mca$t.net> wrote in message
> news:evudnRLphrkTbGPYnZ2dnUVZ_oSnnZ2d@comcast.com...
>>
>> "Jimmie D" <GFENDER@carolina.rr.com> wrote in message
>> news:45fe47b5$0$16990$4c368faf@roadrunner.com...
>>> Been cleaning out the garage this weekend and came across an old attempt
>>> at build a 432Mhz helix antenna. As I remember I gave up on it because I
>>> was having trouble building the matching section which was a 11/4wl long
>>> fin that attches to the helix as it apprached the feed point. It was
>>> proving difficult for me to fabricate. I was wondering if the fin could
>>> not be attached to the counterpoise instead of the helix, adjusting the
>>> space beteen the fin and the helix to get a match.
>>>
>>> Jimmie.
>>>
>> One way is to run a single wire next to the reflector from the feedpoint
>> to the transmission line. If the Z0 of the helix is 120 Ohms, space the
>> wire from the refleector so that at that end it forms an impedance of 120
>> Ohms. Space it at the coax end so the impedance is 50 Ohms. I think that
>> theoretically the impedance is supposed to change is some logarithmic
>> fashion, but linear reduction of distance works. If the reflectopr is not
>> solid, fasten a metal strip to it to get a smooth impedance. I can't
>> remember the minimum length for the conversion line; something like a
>> wavelength. Google helix antenna matching.
>>
>> Tam/WB2TT
>
> Pardon my ignorance but how can I work out what the Z0 of an antenna is?
> As you say above, "If the Z0 of the helix is 120 Ohms".
>
> I'm not totally stupid but could never work it out.
> It isn't as simple as connecting an ohm meter to it......is it ?
>
> Boozo.
>
Yoou need to find design equations for it. I think it was a function of
helix diameter and pitch. It is in either the Radio Amateurs Handbook, or
the ARRL Antenna book. Probably any book on antennas. Info should also be
available on the 'net.

You could measure the SWR. You know it is more than 50 Ohms; so, if the SWR is 3:1, that means 150 Ohms rather than 17.

Tam

2860. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 18:28:35 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <tad003lrnpbnadjuteo6d1i8su0coms7ij@4ax.com>
Source record: 44476

On Tue, 20 Mar 2007 10:55:12 -0500, Cecil Moore <nospam@w5dxp.com> wrote:

>Walter Maxwell wrote:
>> Some of the posters apparently are
>> unable to appreciate that the reflected power does not cause heating of the amp, unless the reflected power
>> detunes the amp and the amp is left detuned from resonance, which of course is not the correct manner of
>> operating the amp.
>
>Some would say that if "reflected power does not cause heating
>of the amp", that proves that there is no power (or energy) in
>the reflected waves. Those people obviously don't understand
>the role of destructive and constructive interference during
>the EM wave superposition process.

In addition, Cecil, the experiment also proves that the reflected power doesn't heat the plate, because the
output source resistance is non-dissipative.

Walt

2861. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 18:42:48 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <IWVLh.108060$as2.41667@bgtnsc05-news.ops.worldnet.att.net>
Source record: 44377

Cecil Moore wrote:
>
> Some would say that if "reflected power does not cause heating
> of the amp", that proves that there is no power (or energy) in
> the reflected waves. Those people obviously don't understand
> the role of destructive and constructive interference during
> the EM wave superposition process.

Cecil,

What reflected waves?

An equally valid description in steady state, after all the transients have died out, includes a standing wave containing the stored energy in the line plus a forward traveling wave carrying the energy that does make it through the load end of the line.

No need to account for any mythical power in the reflected waves.

This description matches your quotes from Hecht and from Ramo and Whinnery that I attached a few days ago.

73,
Gene
W4SZ

2862. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 19:33:52 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <AGWLh.53$u03.45@newssvr21.news.prodigy.net>
Source record: 44378

Gene Fuller wrote:
> No need to account for any mythical power in the reflected waves.

How can you possibly deny the existence of the reverse
traveling wave and then be incapable of providing an
example of a standing wave existing without a reverse
traveling wave? Sounds like smoke, mirrors, and arm-
waving to me.
--
73, Cecil http://www.w5dxp.com

2863. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 19:43:19 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <rPWLh.56$u03.53@newssvr21.news.prodigy.net>
Source record: 44379

Walter Maxwell wrote:
> In addition, Cecil, the experiment also proves that the reflected power doesn't heat the plate, because the
> output source resistance is non-dissipative.

I understand what happens to the direction and
momentum in the reflected wave when it encounters
an impedance discontinuity at some distance from
the source, e.g. a Z0-match.

What happens to the direction and momentum in the
reflected wave when it encounters a non-dissipative
resistance at the source?
--
73, Cecil http://www.w5dxp.com

2864. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 19:55:22 UTC
From: richardharrison@webtv.net
Message-ID: <15227-46003C2A-1061@storefull-3255.bay.webtv.net>
Source record: 44380

Gene, W4SZ wrote:
"No need to account for any mythical power in the reflected waves."

Cecil has an IEEE dictionary which defines power in terms of the voltage and in-phase current passing a point.

Terman says on page 96 of his 1955 opus:
"The reflected wave is identical with the incident wave except that it is traveling toward the generator."

Bird says of its Model 43 RF Directional "Thruline" Wattmeter:
"The forward wave travels (and its power flows) from the source to the load. It has RF Voltage Ef and current If in phase, with Ef/If=Zo.

The reflected wave originates by reflection at the load, travels (and its power flows) from the load back to the source, and also has an RF voltage Er and current Ir in phase, with Er/Ir=Zo."

Best regards, Richard Harrison, KB5WZI

2865. Re: Matching a helix antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 20:17:50 UTC
From: richardharrison@webtv.net
Message-ID: <15228-4600416E-178@storefull-3255.bay.webtv.net>
Source record: 44381

Tam, WB2TT wrote:
"It is in either the Radio Amateurs Handbook, or the ARRL Antenna Book."

My ARRL Antenna Book is the 19th edition. Feed-point assembly and matching are diagrammed on page 19-32 for a 435 MHz axial-mode helix.

Best regards, Richard Harrison, KB5WZI

2866. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 21:24:19 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <7iYLh.73$Kd3.72@newssvr27.news.prodigy.net>
Source record: 44382

Richard Harrison wrote:
> Terman says on page 96 of his 1955 opus:
> "The reflected wave is identical with the incident wave except that it
> is traveling toward the generator."

Gene needs to tell us how the TV modulation that
causes ghosting makes its predictable round trips
to the source and back without the aid of the
reverse traveling wave.
--
73, Cecil http://www.w5dxp.com

2867. Re: F connectors

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 21:31:20 UTC
From: Gerald <gwellbor@tampabay.rr.com>
Message-ID: <460051d1$0$18851$4c368faf@roadrunner.com>
Source record: 44383

I realize this is a late posting to the question. However, the "F" connector is designed for small signal levels. The male connector does not usually make strong bond to the coax's shield. Even the center conductor if the female "F" connector does not have a strong bond. If you tried to push too much power through the connector you may create intermod or arching. Like some of the earlier posting stated there are several factors that will determine how much power can be applied. i.e. SWR, frequency, duty cycle, or cw, quality of the connector, workmanship of the connection, etc.

"KC1DI" <davekc1di@gmail.net> wrote in message
news:e4fig5vid1@emma.aioe.org...
> John Ferrell wrote:
> > Thanks to all, I will use F's in my experimenting. I will probably
> > need to fabricate an adapter for a UHF to F for the rig output but
> > that is not a big deal.
> >
> > de W8CCW John
> >
> >
> >> I've used them here for years in both HF and VHF work .. have had no
> >> problems at 100w Levels even with swr's as High as 10:1.. give it a
shot.
> >> 73 Dave KC1DI
> >> by the way for all you G5RV users out there.. RG6 75 ohm and
> >> f-connectors work very will and give a bit better of a match to the
G5RV
> >> than the standard 50 oh model.
> > John Ferrell W8CCW
> F to UHF PL-259 are quite common I bought several at Radio Shack a
> couple years ago assume they still carry them.
> 73 Dave Kc1di

2868. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 22:06:35 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98FA5CA77921Anonenowhere@61.9.191.5>
Source record: 44384

Cecil Moore <nospam@w5dxp.com> wrote in news:7iYLh.73$Kd3.72
@newssvr27.news.prodigy.net:

> Gene needs to tell us how the TV modulation that
> causes ghosting makes its predictable round trips
> to the source and back without the aid of the
> reverse traveling wave.

Talk about echoes!

Cecil, at the time of writing, you have made 4 of the 7 responses to Walt's posts, and there is nothing in what you have said that you haven't said recently.

The language from various posters like:

"Some of the posters apparently are unable..."

"Some would say..."

"people obviously don't understand..."

"How can you possibly deny..."

doesn't seem to me the language of convicing arguments, much less proof, from either side. They seem more a sign of the posters frustration, but not otherwise convincing.

My guess is that this discussion will not converge on a convincing outcome.

If the past is any indicator, just when agreement of two or three people looks likely, someone will inject some noise like lets start dealing with time domain and transient issues to prove that steady state analysis is invalid in the practical sense, or this needs a photon explanation with reference to a text no one is likely to have. It as though those posters intended to wreck logical development and conclusion. Ah, but that is USENET!

The basis of the assertion that a PA is naturally or magically conjugate matched as a necessary consequence of adjustment or design for maximum power output is based on an leveraging the Maximum Power Transfer Theorem which depends on a linear source. I don't recall seeing experimental results to convincingly demonstrate that the PA is a linear source, though I have seen those that suggest otherwise. If the source cannot be proven to be sufficiently close to a linear source, then the basis for arguing the implicit conjugate match dissolves.

No one has yet come up with a quantitative proof that in the general case PAs of all kinds have an equivalent source impedance the conjugate of their load, nor convincing experiments that would place bounds on the reflection coefficient looking into the PA for practical transmitters.

No one has demonstrated that using equivalent impedances etc is not a valid analysis of the steady state behaviour.

Owen

2869. The effect of insulation on small loops

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 22:22:40 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98FA5F61E420Cnonenowhere@61.9.191.5>
Source record: 44385

In persuit of the BPL issue, I have explored small untuned loops for field strength measurement.

Comparison of a loop calibrated to an NEC2 model to a commercial loop with traceable calibration was very encouraging.

Constructors would like to use insulated wire for such a loop, and that raises the question of the effect of insulation on the Antenna Factor.

My guess is that where the loop is small, current is uniform and the effect of a slightly different phase shift around the loop due to the insulation would be very small. That would be less so at frequencies approaching the first resonance of the loop.

My understanding is that NEC4 might provide a good estimate of the difference between insulated and uninsulated wire. I don't have NEC4 and am looking for someone who might be prepared to run a bunch of models for me in batch mode. I would supply the model decks and a batch file to run them, my volunteer would need to run the batch file and zip the output files up and mail them back to me for analysis.

My intention is to produce the same data that is plotted at http://www.vk1od.net/SmallUntunedSquareLoop/ssulNEC.htm for each loop, and to plot the dB difference vs frequency to infer some general guidance on loop sizes where conductor insulation becomes significant to Antenna Factor.

Comments / volunteers?

Owen

owen at vk1od.net

2870. Re: Discone element needed.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 22:25:48 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98FA5FE9CD137nonenowhere@61.9.191.5>
Source record: 44386

"Boozo" <boozo@bogpond.com> wrote in news:45ff31b1_1@news.iprimus.com.au:

> Does anyone know where I can get a few elements for my discone antenna ?
>
> I bought it from Tandy(a.k.a.Radio Shack) electronics in the late 80's
> but don't know the manufacturers name.
>
> Tandy was bought by Dick Smith electronics so I can't go back and ask.
>
> The elements are stainless steel hollow tubes;
> 4.80mm OD x 81cm(approx) long.
>

I have never seen the thin walled stainless tubing you refer to in metals outlets in Australia. You could try model shops... but I doubt it.

Why couldn't you just get some 3/16" stainless steel rod? It is probably a brass hub, so you could probably use 3/16" brass rod equally well.

Owen

2871. Re: The effect of insulation on small loops

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 22:46:59 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98FA6381623EFnonenowhere@61.9.191.5>
Source record: 44388

Richard Clark <kb7qhc@comcast.net> wrote in
news:29s0039ahk647ih09pgfalknptapp3t3h5@4ax.com:

> On Tue, 20 Mar 2007 22:22:40 GMT, Owen Duffy <none@no.where> wrote:
>
>>My understanding is that NEC4 might provide a good estimate of the
>>difference between insulated and uninsulated wire. I don't have NEC4
>>and am looking for someone who might be prepared to run a bunch of
>>models for me in batch mode. I would supply the model decks and a
>>batch file to run them, my volunteer would need to run the batch file
>>and zip the output files up and mail them back to me for analysis.
>
> EZNEC, the free version, supports insulated wire - unless you want to
> bury it.
>

Thanks.

No, I did not want to bury the loop.

My version of EZNEC (a pay for version) appears not to model insulation.

Owen

2872. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 22:57:48 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <tds00352hpi6g5jgvrf2sjn4s4f2rlhb53@4ax.com>
Source record: 44389

On Tue, 20 Mar 2007 22:06:35 GMT, Owen Duffy <none@no.where> wrote:

>I don't recall seeing experimental
>results to convincingly demonstrate that the PA is a linear source,
>though I have seen those that suggest otherwise. If the source cannot be
>proven to be sufficiently close to a linear source, then the basis for
>arguing the implicit conjugate match dissolves.

Owen, despite our previous discussion, I have explained many times that even though the PA source upstream of
the tank circuit is non-linear (and no one's saying it isn't), the energy storage in the tank makes the output
of the tank a linear source, no matter what the shape of the current wave form may be at the input. The output
of the tank is proved linear because the voltage/current ratio at the output is non-varying and the shape of
the voltage and current wave forms are essentially sine waves. Consequently, the output circuit can be
represented by a Thevenin source that supports both a conjugate match and the maximum power transfer theorem.

Are you now denying that the output of a PA with the routine Q of 10 to 12 is not substantially a sine wave?
If you agree that it is a sine wave, then why are you arguing that there is no basis for a conjugate match?

However, none of the responses above respond to the issue of why the reflected power does not cause heating of
the amp, which is what my treatise was all about.

Walt, W2DU

2873. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 23:16:56 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <87u0031eajs1luscs5kokq6pmshang1am3@4ax.com>
Source record: 44390

On Tue, 20 Mar 2007 22:57:48 GMT, Walter Maxwell <walt@w2du.com> wrote:

>On Tue, 20 Mar 2007 22:06:35 GMT, Owen Duffy <none@no.where> wrote:
>
>>I don't recall seeing experimental
>>results to convincingly demonstrate that the PA is a linear source,
>>though I have seen those that suggest otherwise. If the source cannot be
>>proven to be sufficiently close to a linear source, then the basis for
>>arguing the implicit conjugate match dissolves.
>
>Owen, despite our previous discussion, I have explained many times that even though the PA source upstream of
>the tank circuit is non-linear (and no one's saying it isn't), the energy storage in the tank makes the output
>of the tank a linear source, no matter what the shape of the current wave form may be at the input. The output
>of the tank is proved linear because the voltage/current ratio at the output is non-varying and the shape of
>the voltage and current wave forms are essentially sine waves. Consequently, the output circuit can be
>represented by a Thevenin source that supports both a conjugate match and the maximum power transfer theorem.
>
>Are you now denying that the output of a PA with the routine Q of 10 to 12 is not substantially a sine wave?
>If you agree that it is a sine wave, then why are you arguing that there is no basis for a conjugate match?
>
>However, none of the responses above respond to the issue of why the reflected power does not cause heating of
>the amp, which is what my treatise was all about.
>
>Walt, W2DU

In the fourth line in the first paragraph above the word 'time' was inadvertantly omitted. It should have read
...the output is non-time varying and the shape...

Sorry about that,

Walt, W2DU

2874. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 23:19:14 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <etpq5m$8lb$1@aioe.org>
Source record: 44391

"Owen Duffy"
> No one has demonstrated that using equivalent impedances etc
> is not a valid analysis of the steady state behaviour.

A reflection is a reflection. The reflection of a ~steady-state r-f source may produce a different perceived/effective result than if that source includes transients (modulation), but such does not negate the existence of reverse/reflected power in the steady-state case.

Decades of experience with analog broadcast TV transmission systems demonstrate that the reflected power from a mismatch at the transmit antenna produces an amplitude variation (ripple) and other effects across the r-f and demodulated video channel bandwidths that are directly related to the magnitude of the antenna mismatch and the round-trip propagation time of the transmission line between the tx and the antenna (period = 1 cycle per ~491 feet of air-dielectric line).

This is evident not only from accurate measurements made via a highly directional r-f coupler sampling forward power at the tx end of the transmission line, but also from results seen on the screen of TV sets viewing those transmissions. I suspect, Owen, that you would agree that this example originates from a "practical" system.

The r-f power supplied even by a CW source is subject to the same amount of reflected power for a given antenna mismatch, which will have an appropriate effect on system performance. Whether or not that reflected power/performance effect is important (or even recognized as existent) is the issue at hand.

RF

2875. Re: The effect of insulation on small loops

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 23:41:58 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <29s0039ahk647ih09pgfalknptapp3t3h5@4ax.com>
Source record: 44387

On Tue, 20 Mar 2007 22:22:40 GMT, Owen Duffy <none@no.where> wrote:

>My understanding is that NEC4 might provide a good estimate of the
>difference between insulated and uninsulated wire. I don't have NEC4 and
>am looking for someone who might be prepared to run a bunch of models for
>me in batch mode. I would supply the model decks and a batch file to run
>them, my volunteer would need to run the batch file and zip the output
>files up and mail them back to me for analysis.

EZNEC, the free version, supports insulated wire - unless you want to
bury it.

2876. Re: Discone element needed.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-20 23:45:56 UTC
From: Boozo <boozo@bogpond.com>
Message-ID: <4600723a_1@news.iprimus.com.au>
Source record: 44392

"Jimmie D" <GFENDER@carolina.rr.com> wrote in message
news:45fff08a$0$16732$4c368faf@roadrunner.com...
>
> "Boozo" <boozo@bogpond.com> wrote in message
> news:45ff31b1_1@news.iprimus.com.au...
>> Does anyone know where I can get a few elements for my discone antenna ?
>>
>> I bought it from Tandy(a.k.a.Radio Shack) electronics in the late 80's
>> but don't know the manufacturers name.
>>
>> Tandy was bought by Dick Smith electronics so I can't go back and ask.
>>
>> The elements are stainless steel hollow tubes;
>> 4.80mm OD x 81cm(approx) long.
>>
>> Am in Australia so local would be best.
>> Any ideas would be appreciated.
>>
>> Boozo.
>>
>
> It hasnt been long ago that I saw a disk cone antenna in the local radio
> shack here in the US. They are not that hard to make. Google diskcone
> antenna and I am sure you will find plenty of plans.
>
> Jimmie

I have the antenna but my nephew broke one of the elements off and now
only have 7 on the cone.
Don't know what he's done with the broken one.

Thanks, Boozo.

2877. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 00:19:26 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <etptmffhh1@aioe.org>
Source record: 44393

"Walter Maxwell" wrote
>... I have explained many times that even though the PA source
> upstream of the tank circuit is non-linear (and no one's saying it isn't),
> the energy storage in the tank makes the output of the tank a linear
> source, no matter what the shape of the current wave form may be
> at the input. The output of the tank is proved linear because the
> voltage/current ratio at the output is non-varying and the shape of
> the voltage and current wave forms are essentially sine waves.
> Consequently, the output circuit can be represented by a Thevenin
> source that supports both a conjugate match and the maximum
> power transfer theorem.

If this statement about the tank circuit being ~ a linear source is valid, does that mean that any load-reflected power that appears across the output terminals of the tx stops at the tank circuit, and never sees the non-linear, non-matching Z of the active PA?

And if so, would that also mean that such a tx would not be prone to producing r-f intermodulation components when external signals are fed back into the tx from co-sited r-f systems?

Yet experience shows that this is not the case for ~closely spaced interfering signals. The only mitigation for this for a PA with a tank circuit is the rejection of that tank circuit to those off-freq, external signals, and to the resulting IM products generated by mixing with the main tx signal in the active (and non-linear) PA stage of that tx.

And the tank has VERY low rejection to load reflections of the signal bandwidth to which it is tuned.

Also to be considered are the modern broadband (88-108MHz) FM broadcast transmitters, which have no tank circuits, but except for some designs incorporating balanced 3 dB hybrid combiners are affected by load reflections about the same as a tx with a tuned tank circuit.

RF

2878. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 00:46:58 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <etpva3$in5$1@aioe.org>
Source record: 44394

"Richard Fry wrote
> (period = 1 cycle per ~491
> feet of air-dielectric line).

Sorry, make that 1 cycle ==> per MHz of bandwidth <==,
per ~491 feet of transmission line.

RF

2879. Re: The effect of insulation on small loops

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 01:21:58 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <130125qpgle3i23@corp.supernews.com>
Source record: 44395

Owen Duffy wrote:
>
> My version of EZNEC (a pay for version) appears not to model insulation.

You have v. 3.0. Wire insulation was one of the features added at v. 4.0.

Roy Lewallen, W7EL

2880. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 01:23:02 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <0i4103lekst8159q72hf93idb35fao1jtv@4ax.com>
Source record: 44396

On Tue, 20 Mar 2007 19:19:26 -0500, "Richard Fry" <rfry@adams.net> wrote:

>"Walter Maxwell" wrote
>>... I have explained many times that even though the PA source
>> upstream of the tank circuit is non-linear (and no one's saying it isn't),
>> the energy storage in the tank makes the output of the tank a linear
>> source, no matter what the shape of the current wave form may be
>> at the input. The output of the tank is proved linear because the
>> voltage/current ratio at the output is non-varying and the shape of
>> the voltage and current wave forms are essentially sine waves.
>> Consequently, the output circuit can be represented by a Thevenin
>> source that supports both a conjugate match and the maximum
>> power transfer theorem.
>_____________
>
>If this statement about the tank circuit being ~ a linear source is valid,
>does that mean that any load-reflected power that appears across the output
>terminals of the tx stops at the tank circuit, and never sees the
>non-linear, non-matching Z of the active PA?

Richard, my earlier treatise considers only tube-type PA's with pi-network output coupling circuits used in
the Amateur Service, such as the Kenwood TS-830S on which my measurements were made. It was not intended to
consider PA's used in the tv service. Sorry, I didn't make this distinction earlier.

>And if so, would that also mean that such a tx would not be prone to
>producing r-f intermodulation components when external signals are fed back
>into the tx from co-sited r-f systems?

This issue is irrelevant, because the signals arriving from a co-sited system would not be coherent with the
local source signals, while load-reflected signals are coherent. The destructive and constructive interference
that occurs at the output of a correctly loaded and tuned PA requires coherence of the source and reflected
waves to achieve the total re-reflection of the reflected waves back into the direction toward the load.

>Yet experience shows that this is not the case for ~closely spaced
>interfering signals. The only mitigation for this for a PA with a tank
>circuit is the rejection of that tank circuit to those off-freq, external
>signals, and to the resulting IM products generated by mixing with the main
>tx signal in the active (and non-linear) PA stage of that tx.

Again, Richard, this condition is irrelevant to the re-reflection of the waves reflected by the load, because
the relevant signals are not coherent.

>And the tank has VERY low rejection to load reflections of the signal
>bandwidth to which it is tuned.

This may be true for PAs with bandwidths wider than those occurring in ham tx. However, the destructive and
constructive interference between the reflected and source waves in a correctly loaded and tuned ham tx
results in total re-reflection of the reflected waves.

>Also to be considered are the modern broadband (88-108MHz) FM broadcast
>transmitters, which have no tank circuits, but except for some designs
>incorporating balanced 3 dB hybrid combiners are affected by load
>reflections about the same as a tx with a tuned tank circuit.

And still further, Richard, the FM transmitters you refer to above are not in the same category as those used
in tube rigs used by hams.

Incidentally, Richard, have you really reviewed the report of my TS-830S experiment?

Walt

2881. Re: The effect of insulation on small loops

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 01:31:36 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98FA7F6A033A5nonenowhere@61.9.191.5>
Source record: 44397

Roy Lewallen <w7el@eznec.com> wrote in news:130125qpgle3i23
@corp.supernews.com:

> Owen Duffy wrote:
>>
>> My version of EZNEC (a pay for version) appears not to model insulation.
>
> You have v. 3.0. Wire insulation was one of the features added at v. 4.0.

Yes, that is correct.

Where V4 uses the NEC2 engine, is insulation modelled the same way as in
NEC4? If not, is the accuracy comparable?

Owen

2882. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 01:37:41 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <F%%Lh.166474$5j1.33059@bgtnsc04-news.ops.worldnet.att.net>
Source record: 44398

Cecil Moore wrote:
> Richard Harrison wrote:
>> Terman says on page 96 of his 1955 opus:
>> "The reflected wave is identical with the incident wave except that it
>> is traveling toward the generator."
>
> Gene needs to tell us how the TV modulation that
> causes ghosting makes its predictable round trips
> to the source and back without the aid of the
> reverse traveling wave.

Cecil,

It is interesting that you can be so precise at times and so sloppy at other times. I very carefully limited my discussion to steady state conditions, which is what everyone is already talking about in this case. You then conveniently inject modulation into the mix, completely ignoring what I said.

Do the math and show us how my comment is in error. Add the two traveling waves and see if you get the summation to be precisely a standing wave plus a residual forward traveling wave. Go back and reread your quoted references and try to figure out if anything I said is different from your gurus.

73,
Gene
W4SZ

2883. Re: Fan dipole..

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 01:45:02 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <dl6103d2f4jbovqe8mkqk5fmaev29nu7qk@4ax.com>
Source record: 44399

On Mon, 19 Mar 2007 20:28:44 -0500, "merlin-7" <merlin-7@sc.rr.com> wrote:

>A question for you experts out there...
> I currently use a fan dipole (kind of a fan anyway)
>
> It has 3 elements off of each side from the feed point.
> A 66 foot or 132 feet total length
> A 33 foot or 66 feet total length
> and a 16 foot or 32 feet total length.(this is before it was tuned so
>measurements are not exact)
>
> The wires are spread 1 foot apart from each other, 18 inches from the feed
>point. (where the wires are connected to the feed point, they V out from
>there, to a point 18 inches from the feed point where the 1st spreader is
>located, placing each wire 1 foot apart)
>
> The wires are (hung) under each other from that point, 1 foot apart over
>the total length of each wire with the longest wire (the 66/132) on top (the
>33/66) in the middle and (16/32) on the bottom.
>
> I used the longest wire to support the (pvc) spreaders for the wires
>hanging under it.
>
> The feed point is at about 40 feet with the ends of the (66/132) at about
>22 feet (the ends of the shorter wires are higher, due to the fact they end
>higher up the inverted V.
>
> It has an air wound choke at the feed point fed with 50 ohm coax.
>
> I have several questions regarding this set up.
>
> What are the pros and cons of fan dipoles like this? I have never heard of
>a fan dipole with each element being hung under each other so I have no data
>to compare it to.
>
> I would like to keep this set up when I move to my new QTH in a few months
>but raise it to 60 feet or so.
> I know that an inverted V is for the most part omni directional, but what
>about an inverted v that is only somewhat inverted? Would that not give you
>a pattern more shaped like an egg?
>
> I really do not wish to put up a wire for each band as the one I have now
>can run everything from 10m to 80m and even the low side of 160, right
>around 1.8 mhz (I havent figured that one out yet)with a tuner.

>
>What are the pros and cons of adding more wires? (other than tuneing the
>wires being more of a pain)
>
> I get very little interaction between the wires (maybe due to the fact they
>are spread apart so close to the feed point) or I just got lucky, hi hi
>
> I am looking for ideas or someone that is great with an antenna program,
>that can tell me what my antenna is doing now and how to improve it at
>around 60 feet at the feed point.
>
> It looks like my shack will be up befor my new home will be ready (solar
>power has its advantages) So I need to plan the antenna and the mounting
>points for the ends of the wires.(angle or slope) in other words, how high
>the ends need to be.
>
> I plan on placeing the wires east / west broadside but would like a bit of
>an omni pattern to reach the east coast(NY to FL) from jacksonville NC.
>
> Sorry for the long post but I know of a few out there that can give me some
>ideas that I have overlooked. It is better to plan ahead .....
>
> Thanks
> Joe
> KI4ILB

Joe, you are going in the correct direction with multiple dipoles fed at the same feed point. I have used that
method successfully for many years.

I discuss this method in detail in Chapter 20 of my book Reflections--Transmission Lines and Antennas, ed 1
published by the ARRL and ed 2 published by Worldradio. Ed 3 is in publication. You can download several
Chapters, including Chapter 20, from Reflections 2 from my web page at www.w2du.com.

However, if your email address is as shown on your post, I'll email you a copy of Chapter 20.

You'll find the info concerning multiple dipoles in Sec 20.2.2, Stagger-Tuned Dipoles.

Walt, W2DU
>
>
>
>
>

2884. Re: Discone element needed.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 01:46:48 UTC
From: Boozo <boozo@bogpond.com>
Message-ID: <46008e8d$1_1@news.iprimus.com.au>
Source record: 44400

"Owen Duffy" <none@no.where> wrote in message
news:Xns98FA5FE9CD137nonenowhere@61.9.191.5...
> "Boozo" <boozo@bogpond.com> wrote in news:45ff31b1_1@news.iprimus.com.au:
>> Does anyone know where I can get a few elements for my discone antenna ?
>>
>> I bought it from Tandy(a.k.a.Radio Shack) electronics in the late 80's
>> but don't know the manufacturers name.
>>
>> Tandy was bought by Dick Smith electronics so I can't go back and ask.
>>
>> The elements are stainless steel hollow tubes;
>> 4.80mm OD x 81cm(approx) long.
>>
> I have never seen the thin walled stainless tubing you refer to in metals
> outlets in Australia. You could try model shops... but I doubt it.
>
> Why couldn't you just get some 3/16" stainless steel rod? It is probably a
> brass hub, so you could probably use 3/16" brass rod equally well.
>
> Owen
The stainless rod might be the way to go. Same as my other discone.
Have tried a couple of hobby shops but they only have aluminium and brass,
and don't have the right size.
Definitely isn't aluminium.

Only other place I can think of is Hills Industries who make TV antennae and
other products. The factory is located on South Rd, Edwardstown ??

I would've liked to get an original replacement if possible, but don't like
my chances.

Boozo.

2885. Re: Discone element needed.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 02:25:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <t2h6d4-raq.ln1@mail.specsol.com>
Source record: 44401

Boozo <boozo@bogpond.com> wrote:

> "Owen Duffy" <none@no.where> wrote in message
> news:Xns98FA5FE9CD137nonenowhere@61.9.191.5...
> > "Boozo" <boozo@bogpond.com> wrote in news:45ff31b1_1@news.iprimus.com.au:
> >> Does anyone know where I can get a few elements for my discone antenna ?
> >>
> >> I bought it from Tandy(a.k.a.Radio Shack) electronics in the late 80's
> >> but don't know the manufacturers name.
> >>
> >> Tandy was bought by Dick Smith electronics so I can't go back and ask.
> >>
> >> The elements are stainless steel hollow tubes;
> >> 4.80mm OD x 81cm(approx) long.
> >>
> > I have never seen the thin walled stainless tubing you refer to in metals
> > outlets in Australia. You could try model shops... but I doubt it.
> >
> > Why couldn't you just get some 3/16" stainless steel rod? It is probably a
> > brass hub, so you could probably use 3/16" brass rod equally well.
> >
> > Owen
> The stainless rod might be the way to go. Same as my other discone.
> Have tried a couple of hobby shops but they only have aluminium and brass,
> and don't have the right size.
> Definitely isn't aluminium.

> Only other place I can think of is Hills Industries who make TV antennae and
> other products. The factory is located on South Rd, Edwardstown ??

> I would've liked to get an original replacement if possible, but don't like
> my chances.

> Boozo.

Anything roughly the same diameter and length will do.

A piece of brazing rod threaded on the end would work just fine and is
cheap.

Off course the die to make the threads will probably be the most expensive
part if you don't have that stuff on hand, but that can probably be
solved by asking around your neighborhood and friends with a six-pack
in hand.

--
Jim Pennino

Remove .spam.sux to reply.

2886. Re: The effect of insulation on small loops

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 04:44:42 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <1301e1uo606kq09@corp.supernews.com>
Source record: 44402

The EZNEC insulation modeling method is basically similar to that used by NEC-4, but different. The accuracy is comparable. Both programs (EZNEC and NEC-4) are accurate only for thin layers of material with relatively low conductivity and permittivity, i.e., like typical wire insulation. But since the typical change in effective wire length is only on the order of 3% or so, high accuracy isn't required.

I believe I recall your mentioning a multi-turn loop in an earlier posting. The insulation feature in these programs doesn't model the effect of insulation between wires, which might be an important factor for a multi-turn loop. It only models the effect of the insulation on the wire's self impedance. So use with care.

Roy Lewallen, W7EL

Owen Duffy wrote:
> Roy Lewallen <w7el@eznec.com> wrote in news:130125qpgle3i23
> @corp.supernews.com:
>
>> Owen Duffy wrote:
>>> My version of EZNEC (a pay for version) appears not to model insulation.
>> You have v. 3.0. Wire insulation was one of the features added at v. 4.0.
>
> Yes, that is correct.
>
> Where V4 uses the NEC2 engine, is insulation modelled the same way as in
> NEC4? If not, is the accuracy comparable?
>
> Owen

2887. Re: The effect of insulation on small loops

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 04:56:57 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98FAA23A9BF6nonenowhere@61.9.191.5>
Source record: 44403

Roy Lewallen <w7el@eznec.com> wrote in
news:1301e1uo606kq09@corp.supernews.com:

> The EZNEC insulation modeling method is basically similar to that used
> by NEC-4, but different. The accuracy is comparable. Both programs
> (EZNEC and NEC-4) are accurate only for thin layers of material with
> relatively low conductivity and permittivity, i.e., like typical wire
> insulation. But since the typical change in effective wire length is
> only on the order of 3% or so, high accuracy isn't required.
>
> I believe I recall your mentioning a multi-turn loop in an earlier
> posting. The insulation feature in these programs doesn't model the
> effect of insulation between wires, which might be an important factor
> for a multi-turn loop. It only models the effect of the insulation on
> the wire's self impedance. So use with care.
>

Thanks Roy.

My interest is in small single turn untuned loops loaded with 50 ohms.
IMHO, the accuracy of modelling practical multi turn loops becomes an
issue because of the distributed capacitance and possibly proximity
effect.

A small test was done recently where one of my loop designs with Antenna
Factor predicted by an NEC2 model was compared on BPL emission
measurement over a range of HF frequencies with a calibrated R&S active
loop, and the median of the difference was around 0.5dB from memory,
InterQuartileRange was less than 1dB... so that provides some confidence
that the models are sound.

I think I recall responding to someone else's post about peformance of
multiturn loops.

Owen

2888. Re: The effect of insulation on small loops

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 09:34:00 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98FAD1330C19Enonenowhere@61.9.191.5>
Source record: 44404

Roy Lewallen <w7el@eznec.com> wrote in
news:1301e1uo606kq09@corp.supernews.com:

> The EZNEC insulation modeling method is basically similar to that used
> by NEC-4, but different. The accuracy is comparable. Both programs
> (EZNEC and NEC-4) are accurate only for thin layers of material with
> relatively low conductivity and permittivity, i.e., like typical wire
> insulation. But since the typical change in effective wire length is
> only on the order of 3% or so, high accuracy isn't required.
>

Roy, I went back and re-read Cebik's notes about the way in which the IS card is processed vs using and LD card to add inductive loading. He passes on an explanation:

===quote
In calculating the E-field for each segment in a model NEC calculates a "cosine" component, a "sine" component, and a "constant" component. NEC then sums the three fields to arrive at a total field value for each segment.

LD commands modify the "constant" component of the E-field calculation, whereas IS commands (in NEC-4) modify the "cosine" component. As a consequence, any workaround formulation will result in satisfying only a limited range of geometries.
===equote

It was with this in mind that I chose to head down the NEC4 path.

Owen

2889. Re: The effect of insulation on small loops

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 11:29:45 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns98FA2DBA81741doldridgsprintca@64.59.135.159>
Source record: 44405

Owen Duffy <none@no.where> wrote in news:Xns98FAA23A9BF6nonenowhere@
61.9.191.5:

> Roy Lewallen <w7el@eznec.com> wrote in
> news:1301e1uo606kq09@corp.supernews.com:
>
>> The EZNEC insulation modeling method is basically similar to that used
>> by NEC-4, but different. The accuracy is comparable. Both programs
>> (EZNEC and NEC-4) are accurate only for thin layers of material with
>> relatively low conductivity and permittivity, i.e., like typical wire
>> insulation. But since the typical change in effective wire length is
>> only on the order of 3% or so, high accuracy isn't required.
>>
>> I believe I recall your mentioning a multi-turn loop in an earlier
>> posting. The insulation feature in these programs doesn't model the
>> effect of insulation between wires, which might be an important factor
>> for a multi-turn loop. It only models the effect of the insulation on
>> the wire's self impedance. So use with care.
>>
>
> Thanks Roy.
>
> My interest is in small single turn untuned loops loaded with 50 ohms.
> IMHO, the accuracy of modelling practical multi turn loops becomes an
> issue because of the distributed capacitance and possibly proximity
> effect.
>
> A small test was done recently where one of my loop designs with
Antenna
> Factor predicted by an NEC2 model was compared on BPL emission
> measurement over a range of HF frequencies with a calibrated R&S active
> loop, and the median of the difference was around 0.5dB from memory,
> InterQuartileRange was less than 1dB... so that provides some
confidence
> that the models are sound.
>
> I think I recall responding to someone else's post about peformance of
> multiturn loops.

When I make loops (usually out of LMR400), I use my antenna analyzer to
get them to resonate properly and to match them. I really don't care
what the insulation is doing because the analyzer will tell me anyway.

BTW, a 1-turn LMR400 loop is about as good as an 80m hamstick, but a
whole lot more narrow!

--
Dave Oldridge+
ICQ 1800667

2890. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 13:18:14 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <etrbao$hb5$1@aioe.org>
Source record: 44406

"Walter Maxwell" wrote
>>(RF): And if so, would that also mean that such a tx would not be prone
>> to producing r-f intermodulation components when external signals
>> are fed back into the tx from co-sited r-f systems?

>This issue is irrelevant, because the signals arriving from a co-sited
>system would not be coherent with the local source signals, while load-
>reflected signals are coherent. The destructive and constructive
>interference that occurs at the output of a correctly loaded and tuned
>PA requires coherence of the source and reflected waves to achieve
>the total re-reflection of the reflected waves back into the direction
>toward the load.

But even for coherent reflections, if the PA tank circuit has very low loss for incident power (which it does), why does it not have ~ equally low loss for load reflections of that power? Such would mean that load reflections would pass through the tank to appear at the output element of the PA, where they can add to its normal power dissipation.

Also, does not the result of combining the incident and reflected waves in the tx depend in large part on the r-f phase of the reflection there relative to the r-f phase of the incident wave? And the r-f phase of the reflection is governed mostly by the number of electrical wavelengths of transmission line between the load reflection and the plane of interest/concern -- which is independent of how the tx has been tuned/loaded.

If the ham transmitter designs that your paper applies to produce a total re-reflection of reverse power seen at their output tank circuits, then there would be no particular need for "VSWR foldback" circuits to protect them. Yet I believe these circuits are fairly common in ham transmitters, aren't they? They certainly are universal in modern AM/FM/TV broadcast transmitters, and are the result of early field experience where PA tubes, tx output networks, and the transmission line between the tx and the antenna could arc over and/or melt when reflected power was sufficiently high.

RF

2891. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 14:45:32 UTC
From: Keith <kd1@sympatico.ca>
Message-ID: <1174488332.419205.308850@y80g2000hsf.googlegroups.com>
Source record: 44407

On Mar 20, 3:43 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> I understand what happens to the direction and
> momentum in the reflected wave when it encounters
> an impedance discontinuity at some distance from
> the source, e.g. a Z0-match.
>
> What happens to the direction and momentum in the
> reflected wave when it encounters a non-dissipative
> resistance at the source?

For some years now, you have been arguing the reality of 'reverse power'. 'Reverse power' has served you well in that it appears to offer reasonable explanation for some phenomena:
- 'forward power' minus 'reverse power' yields transferred power
- circulators
- TV ghosting
- dissipation of pulses in generators

But there are some challenges to the premise of 'reverse power':
- where does the 'reverse power' go?
- why does the change in dissipation of a generator when 'reverse power' changes depend more on the design of the generator than on the magnitude of the 'reverse power'?

In an attempt to resolve these, you have apparently done extensive studies in optics looking for an explanation based on constructive and destructive interference but are still left with the question you posed above and others, like the one below from another of your posts:

> All one has to do to calculate the reflected power
> dissipated in the source is to understand the constructive
> and destructive interference occurring at the source
> output terminal. THIS IS EASIER SAID THAN DONE. [emphasis mine]

Like myself, others have encountered difficulties with the premise of 'reverse power'. But we have taken a different path to enlightenment than yours; we have given up on the premise that 'reverse power' represents something that is real. To do this, we have had to find alternative explanations to all the phenomena listed above, but once this was done, life was good.

I would suggest that you try trodding this path. Make a list of phenomena that you think are explained by 'reverse power'. For each phenomena, explore the possibility of alternative explanations that do not require 'reverse power'. When you have an explanation

for each, test the explanations against each other to ensure they are self-consistent, then take the body of non-'reverse power' explanations and compare it the body of 'reverse power' explanations. Which is more complete? Which violates fewer fundamentals?

You have believed in 'reverse power' for so long that you will probably find this path difficult. Make a conscious effort when thinking about circulators, for example, not to give up because it does not explain ghosting. Work out the solution to ghosting later. Similarly, when working on steady-state examples, do not confuse yourself with transients. Do those later. And when exploring a phenomena using a hypothetical generator, do not simply give up because it does not accurately model a real transmitter. Much can be learned from the simplifications of ideal voltage and current sources.

Those who have already trodden this path are, I am quite sure, willing to assist you in finding the solutions, if you are willing to learn, rather than tossing distractions into the discussion. Save the other phenomena that trouble you for a later discussion. Keep the discussion on track.

You can not lose if you take this path. In the best ending, you end up with a coherent explanation for all the phenomena and can give up on your search for solutions to the troubling issues posed by 'reverse power' and the vanishing of the energy. But even if you do not change your view you will have a better appreciation of the alternative explanations and should be better able to partake in debates on their correctness.

You could start by providing a list of phenomena for which you think the reality of 'reverse power' is the only viable explanation and offer a willingness to learn about alternative explanations.

...Keith

2892. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 16:08:11 UTC
From: richardharrison@webtv.net
Message-ID: <16256-4601586B-20@storefull-3253.bay.webtv.net>
Source record: 44408

Keith wrote:
"For some years now, you have been arguing the reality of "reverse power".

For good reason. You feed a transmission line into an open circuit at its far end, and the power arriving at the open has no where to go but to return towards its generator. What happens at the generator upon arrival of the power reflected from the mismatched load depends on the vector values of incident and reflected waves as well as the impedance of the generator.

Searching the net for "reflected r-f power" returned over 25,000 examples. Belief in reverse power is obviously common.

Best regards, Richard Harrison, KB5WZI

2893. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 16:57:14 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1174496234.100951.210860@n59g2000hsh.googlegroups.com>
Source record: 44409

On Mar 21, 12:08 pm, richardharri...@webtv.net (Richard Harrison)
wrote:
> Keith wrote:
>
> "For some years now, you have been arguing the reality of "reverse
> power".
>
> For good reason. You feed a transmission line into an open circuit at
> its far end, and the power arriving at the open has no where to go but
> to return towards its generator. What happens at the generator upon
> arrival of the power reflected from the mismatched load depends on the
> vector values of incident and reflected waves as well as the impedance
> of the generator.
>
> Searching the net for "reflected r-f power" returned over 25,000
> examples. Belief in reverse power is obviously common.
>
> Best regards, Richard Harrison, KB5WZI

You are certainly correct; many people believe in reflected power,
though I've
always found that to be a poor basis for my own beliefs.

You have also provided the classic example where the numerology works
and 'reverse power' offers a tidy explanation. I am sure this neat
example is
the basis for many people's belief.

What drove me to look at alternate explanations for these kinds of
examples
was that the 'reverse power' explanation fails miserably when the
power
gets back to the generator. Having another explanation for this
classic
example lets one let go of 'reverse power' which solves the challenges
at the
generator end. When 'reverse power' is not real, the question of where
it
goes becomes irrelevant.

...Keith

2894. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 17:32:43 UTC
From: Dan Bloomquist <public21@lakeweb.com>
Message-ID: <%_dMh.5214$B25.3864@news01.roc.ny>
Source record: 44410

Keith Dysart wrote:
>
> You are certainly correct; many people believe in reflected power,
> though I've
> always found that to be a poor basis for my own beliefs.
>
> You have also provided the classic example where the numerology works
> and 'reverse power' offers a tidy explanation. I am sure this neat
> example is
> the basis for many people's belief.

Belief has nothing to do with it. Observations suffice. If you have any doubt that EM radiation can be reflected, just look in a mirror. Did you need to 'believe' you saw your reflection to confirm your observation?

> What drove me to look at alternate explanations for these kinds of
> examples
> was that the 'reverse power' explanation fails miserably when the
> power
> gets back to the generator.

Red Herring. There is no 'failure' in the accounting of reflected power. The observations and numbers work out quite nicely.

2895. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 19:06:55 UTC
From: richardharrison@webtv.net
Message-ID: <7477-4601824F-59@storefull-3258.bay.webtv.net>
Source record: 44411

Keith wrote:
"Having another explanaton for this classic example lets one let go of "reverse power" which solves the challenges at the generator end."

Bird says of its Model 43 Wattmeter: "Experience using the "Thruline" Wattmeter for transmitter tune-up, antenna matching, etc. (i.e. on operating problems), shows that the power ratio is as useful in practice as the VSWR."

One can see reflected power disappear at the transmitter terminals as a match is made to the transmitter load. That eliminates stress on the transmitter from reverse power.

Reverse power is as real as its Bird Wattmeter indication.

Best regards, Richard Harrison, KB5WZI

2896. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 20:04:42 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1174507482.152978.23270@b75g2000hsg.googlegroups.com>
Source record: 44412

On Mar 21, 1:32 pm, Dan Bloomquist <publi...@lakeweb.com> wrote:

> Belief has nothing to do with it. Observations suffice. If you have any
> doubt that EM radiation can be reflected, just look in a mirror. Did you
> need to 'believe' you saw your reflection to confirm your observation?

I have yet to question the reflection of EM radiation, just the
existence of
"reverse power" in transmission lines.

> Red Herring. There is no 'failure' in the accounting of reflected power.
> The observations and numbers work out quite nicely.

A simple example that I can never make add up is a 50 Watt generator
with a 50 ohm output impedance, driving a 50 ohm line which is open at
the end. Using the "reverse power" explanation, 50 W of "forward
power"
from the generator is reflected at the open end, providing 50 W of
"reverse
power". Since the generator is matched to the line there is no
reflection
when this "reverse power" reaches the generator so it disappears into
the generator. If this is truly power, it must go somewhere else, be
dissipated, transformed into some other form or stored (based on the
conservation of energy principle). Where did it go?

Most correspondents agree that what happens depends on the design
of generator; dissipation either increases, decreases or stays the
same (compared to when the line was terminated in 50 Ohms and the
power going down the line is dissipated in the termination). This
does
not make an easy explanation for where that supposedly real power
goes. Of course, if it is not real power, then there is no issue,
which
leads one back to looking for explanations other than "reverse power".

...Keith

2897. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 20:12:31 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1174507951.363436.150330@y66g2000hsf.googlegroups.com>
Source record: 44413

On Mar 21, 3:06 pm, richardharri...@webtv.net (Richard Harrison)
wrote:
> Bird says of its Model 43 Wattmeter: "Experience using the "Thruline"
> Wattmeter for transmitter tune-up, antenna matching, etc. (i.e. on
> operating problems), shows that the power ratio is as useful in practice
> as the VSWR."
>
> One can see reflected power disappear at the transmitter terminals as a
> match is made to the transmitter load. That eliminates stress on the
> transmitter from reverse power.

I suggest that a more accurate description would read:
"One can see the indication on meter go to zero at the transmitter
terminals as the match is made to the transmitter load".

The scale on the meter could be labelled "furlongs per fortnight" and
this would still be true.

After exploring alternative explanations for the various phenomena,
the explorer will be ready to understand what a directional wattmeter
really measures (as opposed to what its meter scale claims to
indicate)
and truly understand what inferences can be correctly made from its
indications.

> Reverse power is as real as its Bird Wattmeter indication.

I absolutely agree with this.

...Keith

2898. Re: The effect of insulation on small loops

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 20:16:10 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98FB49EEDFB44nonenowhere@61.9.191.5>
Source record: 44414

Dave Oldridge <doldridg@leavethisoutshaw.ca> wrote in
news:Xns98FA2DBA81741doldridgsprintca@64.59.135.159:

...
> When I make loops (usually out of LMR400), I use my antenna analyzer to
> get them to resonate properly and to match them. I really don't care
> what the insulation is doing because the analyzer will tell me anyway.
>
> BTW, a 1-turn LMR400 loop is about as good as an 80m hamstick, but a
> whole lot more narrow!
>
>

Thanks, but that approach cannot provide the information that I need.

Owen

2899. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 20:25:45 UTC
From: Dan Bloomquist <public21@lakeweb.com>
Message-ID: <dxgMh.5384$ya1.2642@news02.roc.ny>
Source record: 44415

Keith Dysart wrote:

> On Mar 21, 1:32 pm, Dan Bloomquist <publi...@lakeweb.com> wrote:
>
>
>>Belief has nothing to do with it. Observations suffice. If you have any
>>doubt that EM radiation can be reflected, just look in a mirror. Did you
>>need to 'believe' you saw your reflection to confirm your observation?
>
>
> I have yet to question the reflection of EM radiation, just the
> existence of
> "reverse power" in transmission lines.

Use of a TDR makes for a valid observation on the line.

>>Red Herring. There is no 'failure' in the accounting of reflected power.
>>The observations and numbers work out quite nicely.
>
> A simple example that I can never make add up is a 50 Watt generator
> with a 50 ohm output impedance, driving a 50 ohm line which is open at
> the end. Using the "reverse power" explanation, 50 W of "forward
> power"
> from the generator is reflected at the open end, providing 50 W of
> "reverse
> power". Since the generator is matched to the line there is no
> reflection
> when this "reverse power" reaches the generator so it disappears into
> the generator....

I explained this last week, albeit for a different reason. I'll paste:
***
Hi Richard,
He says it in the last sentence. But here is an example. Take a 50 ohm
thevinin source. Power off, it looks like 50 ohms back into it. Take a
second thevinin source to represent a reflection and drive 5 volts into
the first source. Now set your first source 180 degrees to the
reflection and drive forward 5 volts.

(s)-----/\/\/\--------(c)-----/\/\/\--------(r)

(s)source (c)connection (r)reflection. With (s) 180 degrees out of phase
from (r), (r) will see a short at (c). It is because of the power
generated at the source that the impedance into it can look purely
reactive. And, you can use 5 ohms with 1 volt at the source, (c) will
still look like a short to (r). The source resistance doesn't matter as

long as a 'match' is made.

And for the same reason, why the 50 ohm line doesn't look like 50 ohms
is because of reflected power. Drive an open quarter wave line and it
looks like a short because the reflected voltage is 180 degrees out from
the source.
***

> If this is truly power, it must go somewhere else, be
> dissipated, transformed into some other form or stored (based on the
> conservation of energy principle). Where did it go?

The energy is sitting on the line. It didn't disappear. See all the
posts I made last week.

>
> Most correspondents agree that what happens depends on the design
> of generator;

Actually, it doesn't. The exception is minor and pointed out in the case
of a non linear source.

> dissipation either increases, decreases or stays the
> same (compared to when the line was terminated in 50 Ohms and the
> power going down the line is dissipated in the termination). This
> does
> not make an easy explanation for where that supposedly real power
> goes. Of course, if it is not real power, then there is no issue,
> which
> leads one back to looking for explanations other than "reverse power".

The mistake is in assuming the energy must disappear. It doesn't.

> ...Keith

Best, Dan.

2900. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 20:30:39 UTC
From: Dan Bloomquist <public21@lakeweb.com>
Message-ID: <PBgMh.5385$ya1.1515@news02.roc.ny>
Source record: 44416

Keith Dysart wrote:

> On Mar 21, 3:06 pm, richardharri...@webtv.net (Richard Harrison)
> wrote:
>
>>Bird says of its Model 43 Wattmeter: "Experience using the "Thruline"
>>Wattmeter for transmitter tune-up, antenna matching, etc. (i.e. on
>>operating problems), shows that the power ratio is as useful in practice
>>as the VSWR."
>>
>>One can see reflected power disappear at the transmitter terminals as a
>>match is made to the transmitter load. That eliminates stress on the
>>transmitter from reverse power.
>
> I suggest that a more accurate description would read:
> "One can see the indication on meter go to zero at the transmitter
> terminals as the match is made to the transmitter load".

Then, you have never matched with a reflection. Without the experience,
how can you make a claim? You have not made the observation yet you
claim what it 'should' be.

2901. Re: The effect of insulation on small loops

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 20:33:02 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <13035jva3vvke26@corp.supernews.com>
Source record: 44417

I'd appreciate and welcome reports from anyone who finds a significant difference in insulated wire results between EZNEC and NEC-4, in the region where both should be accurate (typical wire insulation values).

Roy Lewallen, W7EL

Owen Duffy wrote:
>
> Roy, I went back and re-read Cebik's notes about the way in which the IS
> card is processed vs using and LD card to add inductive loading. He
> passes on an explanation:
>
> ===quote
> In calculating the E-field for each segment in a model NEC calculates a
> "cosine" component, a "sine" component, and a "constant" component. NEC
> then sums the three fields to arrive at a total field value for each
> segment.
>
> LD commands modify the "constant" component of the E-field calculation,
> whereas IS commands (in NEC-4) modify the "cosine" component. As a
> consequence, any workaround formulation will result in satisfying only a
> limited range of geometries.
> ===equote
>
> It was with this in mind that I chose to head down the NEC4 path.
>
> Owen

2902. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 20:44:45 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98FB4EC761875nonenowhere@61.9.191.5>
Source record: 44418

"Keith Dysart" <kd1@sympatico.ca> wrote in news:1174507951.363436.150330
@y66g2000hsf.googlegroups.com:

...
> The scale on the meter could be labelled "furlongs per fortnight" and
> this would still be true.
>
> After exploring alternative explanations for the various phenomena,
> the explorer will be ready to understand what a directional wattmeter
> really measures (as opposed to what its meter scale claims to
> indicate)
> and truly understand what inferences can be correctly made from its
> indications.

Keith,

I drafted an article exploring the operation of a Breune type directional wattmeter, it is at http://www.vk1od.net/VSWR/VSWRMeter.htm . The Bird 43 responds in the same way, but from a different sampler construction.

The article gives a simple derivation of the meter response, and deals with the legitimacy of scaling the instrument in Watts.

If one takes measurements with the instrument, it is true that the power at a point is "forward power" less "reflected power", and the manufacturer has scaled the instrument in Watts to facilitate that calculation, but that does not imply that the value of "forward power" or "reflected power" has any stand alone value, the ratio of the two is meaningful, the difference of the two is meaningful, but one alone is meaningless.

To illustrate the lack of stand-alone value of the "forward power" reading, one could place two such instruments, one calibrated for 50 ohm and another calibrated for 100 ohm in tandem at the tx, and then a load. The two instruments will indicate different "forward power" and different "reflected power".

Notwithstanding the fact that the "forward power" and "reflected power" readings are each not of stand alone, the difference between "forward power" and "reflected power" has meaning and will be the same for each instrument.

I agree with you that a lack of understanding of the instrument can be used to prop up bogus explanations and concepts, even leading to people citing the Bird 43 user manual like it was a respected and authoritative text.

Owen

2903. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 20:49:23 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98FB4F90BBD02nonenowhere@61.9.191.5>
Source record: 44419

Owen Duffy <none@no.where> wrote in
news:Xns98FB4EC761875nonenowhere@61.9.191.5:

> Notwithstanding the fact that the "forward power" and "reflected
> power" readings are each not of stand alone, the difference between
> "forward power" and "reflected power" has meaning and will be the same
> for each instrument.

That reads better with the missing word supplied:

Notwithstanding the fact that the "forward power" and "reflected power"
readings are each not of stand alone meaning, the difference between
"forward power" and "reflected power" has meaning and will be the same for
each instrument.

2904. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 21:01:14 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1174510874.123672.267510@y66g2000hsf.googlegroups.com>
Source record: 44420

On Mar 21, 4:30 pm, Dan Bloomquist <publi...@lakeweb.com> wrote:
> Keith Dysart wrote:
> > On Mar 21, 3:06 pm, richardharri...@webtv.net (Richard Harrison)
> > wrote:
>
> >>Bird says of its Model 43 Wattmeter: "Experience using the "Thruline"
> >>Wattmeter for transmitter tune-up, antenna matching, etc. (i.e. on
> >>operating problems), shows that the power ratio is as useful in practice
> >>as the VSWR."
>
> >>One can see reflected power disappear at the transmitter terminals as a
> >>match is made to the transmitter load. That eliminates stress on the
> >>transmitter from reverse power.
>
> > I suggest that a more accurate description would read:
> > "One can see the indication on the meter go to zero at the transmitter
> > terminals as the match is made to the transmitter load".
>
> Then, you have never matched with a reflection. Without the experience,
> how can you make a claim? You have not made the observation yet you
> claim what it 'should' be.

I may have misunderstood, but I thought that when Richard said "see
reflected power disappear" he was observing the Bird Wattmeter
mentioned
in his previous paragraph and watching its indication go to zero. If
this
is not what was meant, then I need elaboration.

Otherwise, I think I said the same as Richard in different (and,
arguably
more precise) words.

...Keith

2905. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 21:11:37 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <1174511497.343920.155080@e1g2000hsg.googlegroups.com>
Source record: 44421

Would any poster in this thread who doesn't "believe in" reflected power kindly explain how a transmission line can fail upstream of a serious mismatch anywhere along the the length of that line. If that doesn't result from the sum of forward and reflected voltage/current, then (IYO) what is the reason such failures?

Don't think that this doesn't occur. I've seen it many times, and had to find and replace the molten and arced-over components that resulted.

RF

2906. Re: The effect of insulation on small loops

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 21:12:55 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98FB538DCBDA4nonenowhere@61.9.191.5>
Source record: 44422

Roy Lewallen <w7el@eznec.com> wrote in
news:13035jva3vvke26@corp.supernews.com:

> I'd appreciate and welcome reports from anyone who finds a significant
> difference in insulated wire results between EZNEC and NEC-4, in the
> region where both should be accurate (typical wire insulation values).
>

Roy,

My comment is not intended to impune EZNEC in any way. I don't know how EZNEC v4 models insulation, and cannot comment on it.

I have read a description on Cebik's page about modelling the effects of insulation by loading all segments with a constant value of L which apparently makes a insulated wire half wave dipole model in NEC2 calibrate well with NEC4' IS model. It would seem that the amount of the inductance was chosen empirically, a curve was fitted to the experimental model data. It occurs to me that the results depend to an extent on the current distribution on the conductor, and might be different for a small loop where the current is almost uniform.

The reason for the study is to be prepared to fend off criticism from opponents (the BPL industry, the FCC etc) who might criticise performance modelled on bare wire when everyone wants to make the loops from insulated wire. I can defend a NEC4 IS model, but if there are questions about the accuracy of LD loading of a small loop based on empirical data from half wave dipoles, I am in a weaker position and possibly worse than NEC2 models of bare wire.

Modelling the insulation is probably splitting hairs. If I address that, the next question will be over using stranded wire vs single core.

Owen

2907. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 21:24:59 UTC
From: Dan Bloomquist <public21@lakeweb.com>
Message-ID: <LohMh.5389$ya1.436@news02.roc.ny>
Source record: 44424

Keith Dysart wrote:

> On Mar 21, 4:30 pm, Dan Bloomquist <publi...@lakeweb.com> wrote:
>
>>Keith Dysart wrote:
>>
>>>On Mar 21, 3:06 pm, richardharri...@webtv.net (Richard Harrison)
>>>wrote:
>>
>>>>Bird says of its Model 43 Wattmeter: "Experience using the "Thruline"
>>>>Wattmeter for transmitter tune-up, antenna matching, etc. (i.e. on
>>>>operating problems), shows that the power ratio is as useful in practice
>>>>as the VSWR."
>>
>>>>One can see reflected power disappear at the transmitter terminals as a
>>>>match is made to the transmitter load. That eliminates stress on the
>>>>transmitter from reverse power.
>>
>>>I suggest that a more accurate description would read:
>>>"One can see the indication on the meter go to zero at the transmitter
>>>terminals as the match is made to the transmitter load".
>>
>>Then, you have never matched with a reflection. Without the experience,
>>how can you make a claim? You have not made the observation yet you
>>claim what it 'should' be.
>
>
> I may have misunderstood, but I thought that when Richard said "see
> reflected power disappear" he was observing the Bird Wattmeter
> mentioned
> in his previous paragraph and watching its indication go to zero. If
> this
> is not what was meant, then I need elaboration.

My mistake. You both said something that is not what happens. I will assume you are looking for no reflection between a transmitter and a transmatch. But the source to a transmission line is on the other side of that transmatch. You will most certainly see a reflected wave if the end of that transmission line is not terminated into purely 50 ohm load.

> Otherwise, I think I said the same as Richard in different (and,
> arguably
> more precise) words.

I see that. But neither is the case. If you are matching a transmitter to mis-matched line, the reflection does not go to zero. In fact, the reflection is a function of the line and termination and is constant. Nothing you do at the transmitter can change it.

>
> ...Keith

Best, Dan.

2908. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 21:43:55 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98FB58CF9123Anonenowhere@61.9.191.5>
Source record: 44426

"Richard Fry" <rfry@adams.net> wrote in news:1174511497.343920.155080
@e1g2000hsg.googlegroups.com:

> Would any poster in this thread who doesn't "believe in" reflected
> power kindly explain how a transmission line can fail upstream of a
> serious mismatch anywhere along the the length of that line. If that
> doesn't result from the sum of forward and reflected voltage/current,
> then (IYO) what is the reason such failures?

Without making any admissions about my beliefs...

A transmission line with mismatched load can be described in terms of
travelling waves, and the voltage and current at a point on the line can
be calculated from the forward and reflected waves.

The voltage at the point may be higher than under matched conditions for
the same load power, and that may cause insulation breakdown.

The current at the point may be higher than under matched conditions for
the same load power, and that would cause higher loss in conductors and
may result in damage.

> Don't think that this doesn't occur. I've seen it many times, and had
> to find and replace the molten and arced-over components that
> resulted.

None of these explanations require designating "reflected power" at a
point, or implying that it is the energy in "reflected power" that is
totally and solely responsible for the physical damage.

Owen

2909. Re: copper clad steel

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 21:51:26 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98FB5A15C709Dnonenowhere@61.9.191.5>
Source record: 44327

"merlin-7" <merlin-7@sc.rr.com> wrote in
news:4601a35c$0$1367$4c368faf@roadrunner.com:

> Some of you may have read my posts on the parallel dipole. I have
> some
> large gauge copper clad wire. It has a memory and is a pain to work
> with but it has a breaking point of around 800lbs (I think that's
> right)
> Can you stretch that stuff out tight and take a propane torch to it
> so that
> it will not slinky on you? Without damaging it?

Dealing firstly with wire of uniform material (ie unclad), you propose to anneal the wire, which at least reduces its strength, changes its elasticity, and may affect its corrosion properties.

In the case of copper clad wire, you may upset the bond between copper and steel core or induce cracking in the copper cladding, either during the heating / cooling process or in service due to the changed elasticity of the core.

I wouldn't even think of it.

Wear safety goggles, and be very careful with the springy wire. Or, use soft copper and replace it if / when it blows down.

Owen

2910. Re: The effect of insulation on small loops

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 22:19:25 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <1303brdpk5qpfb2@corp.supernews.com>
Source record: 44328

Owen Duffy wrote:
> . . .
> I have read a description on Cebik's page about modelling the effects of
> insulation by loading all segments with a constant value of L which
> apparently makes a insulated wire half wave dipole model in NEC2
> calibrate well with NEC4' IS model. It would seem that the amount of the
> inductance was chosen empirically, a curve was fitted to the experimental
> model data. It occurs to me that the results depend to an extent on the
> current distribution on the conductor, and might be different for a small
> loop where the current is almost uniform.

An underlying assumption in any NEC model is that the current in any given segment varies only a small amount from one end to the other. Therefore, any criteria applicable to a loop should also apply to other geometries. If not, then the other geometry has an insufficient number of segments. I would, however, use NEC-4 if in your shoes, because the source code is available for scrutiny. Be careful, though, since there have been quite a few modifications to NEC-4 since its introduction, and various compilations can also give slightly different results. None of the changes have been in the insulated wire calculation that I'm aware of, however.

> The reason for the study is to be prepared to fend off criticism from
> opponents (the BPL industry, the FCC etc) who might criticise performance
> modelled on bare wire when everyone wants to make the loops from
> insulated wire. I can defend a NEC4 IS model, but if there are questions
> about the accuracy of LD loading of a small loop based on empirical data
> from half wave dipoles, I am in a weaker position and possibly worse than
> NEC2 models of bare wire.
>
> Modelling the insulation is probably splitting hairs. If I address that,
> the next question will be over using stranded wire vs single core.

It is indeed splitting hairs. The effect will be so small it will be hard to see in a model (except possibly in the resonance of a very high Q loop) and probably impossible to discern by measurement of a real loop. But then your modeling and measurements will show you that.

Stranded wire might noticeably reduce the Q of a very high Q loop, but I couldn't be sure. Its effect can be seen in coaxial cable, but the field distribution around the center conductor is very different than for an antenna wire.

Roy Lewallen, W7EL

2911. Re: Fan dipole..

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 22:21:53 UTC
From: merlin-7 <merlin-7@sc.rr.com>
Message-ID: <4601a242$0$5820$4c368faf@roadrunner.com>
Source record: 44423

> >A question for you experts out there...
> > I currently use a fan dipole (kind of a fan anyway)
> >
> > It has 3 elements off of each side from the feed point.
> > A 66 foot or 132 feet total length
> > A 33 foot or 66 feet total length
> > and a 16 foot or 32 feet total length.(this is before it was tuned so
> >measurements are not exact)
> >
> > The wires are spread 1 foot apart from each other, 18 inches from the
feed
> >point. (where the wires are connected to the feed point, they V out from
> >there, to a point 18 inches from the feed point where the 1st spreader is
> >located, placing each wire 1 foot apart)
> >
> > The wires are (hung) under each other from that point, 1 foot apart over
> >the total length of each wire with the longest wire (the 66/132) on top
(the
> >33/66) in the middle and (16/32) on the bottom.
> >
> > I used the longest wire to support the (pvc) spreaders for the wires
> >hanging under it.
> >
> > The feed point is at about 40 feet with the ends of the (66/132) at
about
> >22 feet (the ends of the shorter wires are higher, due to the fact they
end
> >higher up the inverted V.
> >
> > It has an air wound choke at the feed point fed with 50 ohm coax.
> >
> > I have several questions regarding this set up.
> >
> > What are the pros and cons of fan dipoles like this? I have never heard
of
> >a fan dipole with each element being hung under each other so I have no
data
> >to compare it to.
> >
> > I would like to keep this set up when I move to my new QTH in a few
months
> >but raise it to 60 feet or so.
> > I know that an inverted V is for the most part omni directional, but
what

> >about an inverted v that is only somewhat inverted? Would that not give
you
> >a pattern more shaped like an egg?
> >
> > I really do not wish to put up a wire for each band as the one I have
now
> >can run everything from 10m to 80m and even the low side of 160, right
> >around 1.8 mhz (I havent figured that one out yet)with a tuner.
> >
> >What are the pros and cons of adding more wires? (other than tuneing the
> >wires being more of a pain)
> >
> > I get very little interaction between the wires (maybe due to the fact
they
> >are spread apart so close to the feed point) or I just got lucky, hi hi
> >
> > I am looking for ideas or someone that is great with an antenna program,
> >that can tell me what my antenna is doing now and how to improve it at
> >around 60 feet at the feed point.
> >
> > It looks like my shack will be up befor my new home will be ready (solar
> >power has its advantages) So I need to plan the antenna and the mounting
> >points for the ends of the wires.(angle or slope) in other words, how
high
> >the ends need to be.
> >
> > I plan on placeing the wires east / west broadside but would like a bit
of
> >an omni pattern to reach the east coast(NY to FL) from jacksonville NC.
> >
> > Sorry for the long post but I know of a few out there that can give me
some
> >ideas that I have overlooked. It is better to plan ahead .....
> >
> > Thanks
> > Joe
> > KI4ILB
>
> Joe, you are going in the correct direction with multiple dipoles fed at
the same feed point. I have used that
> method successfully for many years.
>
> I discuss this method in detail in Chapter 20 of my book
Reflections--Transmission Lines and Antennas, ed 1
> published by the ARRL and ed 2 published by Worldradio. Ed 3 is in
publication. You can download several
> Chapters, including Chapter 20, from Reflections 2 from my web page at
www.w2du.com.
>
> However, if your email address is as shown on your post, I'll email you a

copy of Chapter 20.
>
> You'll find the info concerning multiple dipoles in Sec 20.2.2,
Stagger-Tuned Dipoles.
>
> Walt, W2DU
> >
> >
> >
> >
> >Thanks thats just what I needed. It takes a bit of the guess work out of
it.hi hi
I have not looked at the file in detail but from what I saw it looks great.
I did not see the distance in spaceing the elements apart in there and what
effect that has (I may have overlooked it)

I like fan dipoles and have no problem hanging a 5 wire one (this time I
will measure every wire after there all tuned) just in case I need to
replace it. Tree limb, ice. etc.
I forget the name of the copper clad steel I have for the new shack, but
its the large gauge and hard to work with but should work well and stay up a
long time after I finnish cussing.

Like I said, I hang the longest wire on top and the shortest on the bottom
(under each other)

I may need to use copper strand for the shorter wires to keep from ending
up with a giant slinky.

I also use (weed eater line) from the bottom of some of the spreaders to a
point below where the ends of the dipole are tied off to keep the whole
thing from twisting up in bad weather. The short one just has a weight under
it.

Sound good?

Now, I just need to figure out the spaceing between elements. At 12 inches
I get very little interaction but someone posted, If they were closer, The
bandwith would be wider.
I am trying to preplan as much of this as I can. I do not mind climbing a
tower but the less trips I have to make the better (damn I wish I did this
when I was 20) hi hi

2912. copper clad steel

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 22:26:35 UTC
From: merlin-7 <merlin-7@sc.rr.com>
Message-ID: <4601a35c$0$1367$4c368faf@roadrunner.com>
Source record: 44425

Some of you may have read my posts on the parallel dipole. I have some large gauge copper clad wire. It has a memory and is a pain to work with but it has a breaking point of around 800lbs (I think that's right)
Can you stretch that stuff out tight and take a propane torch to it so that it will not slinky on you? Without damaging it?

Thanks
KI4ILB

2913. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 22:43:49 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1174517029.415938.40070@d57g2000hsg.googlegroups.com>
Source record: 44329

On Mar 21, 5:11 pm, "Richard Fry" <r...@adams.net> wrote:
> Would any poster in this thread who doesn't "believe in" reflected
> power kindly explain how a transmission line can fail upstream of a
> serious mismatch anywhere along the the length of that line. If that
> doesn't result from the sum of forward and reflected voltage/current,
> then (IYO) what is the reason such failures?
>
> Don't think that this doesn't occur. I've seen it many times, and had
> to find and replace the molten and arced-over components that
> resulted.
>
> RF

You pose a phonomenon that should be added to the list that
needs to be explained without the use of "reverse power".

And you have done an excellent job of doing so by providing
an explanation that refers only to forward and reflected
voltage and current. Not a mention of "reverse power" in
the explanation..

...Keith

2914. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 23:02:53 UTC
From: Dan Bloomquist <public21@lakeweb.com>
Message-ID: <xQiMh.5237$B25.2641@news01.roc.ny>
Source record: 44330

Keith Dysart wrote:

> You pose a phonomenon that should be added to the list that
> needs to be explained without the use of "reverse power".

Me thinks you are trolling and have no interest in an understanding.

2915. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-21 23:20:27 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <etsejr$8jv$1@aioe.org>
Source record: 44331

"Owen Duffy" wrote
> None of these explanations require designating "reflected power"
> at a point, or implying that it is the energy in "reflected power"
> that is totally and solely responsible for the physical damage.

I guess you are relying on the fact that there will be no reflected r-f voltage/
current if there is no incident voltage/current? And no argument, there.

But of course, it is the vector sum of ALL of these that may cause the transmission line/network/tx failure(s) mentioned in my relevant posts in this thread.

And so that does NOT prove that reflected power/voltage/current does not exist, or is unimportant in an r-f system design.

The specifications of a transmission line or other r-f network or circuit can be chosen with due engineering care to be rated for a defined incident power applied to a load with a given mismatch to a specific Zo, and with respect to the carrier frequency, the modulation thereon, the ambient air temperature/pressure, solar illumination, line pressurization, and other operating parameters.

These realities are commonly recogniz(s)ed and incorporated by most commercial designers/evaluators of r-f transmission systems, and as a result pose no significant problems to them and/or their clients.

But none of this means that r-f reflections do not, may not, or can not exist -- whether in "ham" systems, or otherwise.

RF

PS: Please edit my email address in replies here so that it can't accurately be picked up by spammers. I get enough spam already. Gracias.

2916. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 00:58:50 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1174525130.457300.303560@l77g2000hsb.googlegroups.com>
Source record: 44332

On Mar 21, 5:24 pm, Dan Bloomquist <publi...@lakeweb.com> wrote:
> Keith Dysart wrote:
> > On Mar 21, 4:30 pm, Dan Bloomquist <publi...@lakeweb.com> wrote:
>
> >>Keith Dysart wrote:
>
> >>>On Mar 21, 3:06 pm, richardharri...@webtv.net (Richard Harrison)
> >>>wrote:
>
> >>>>Bird says of its Model 43 Wattmeter: "Experience using the "Thruline"
> >>>>Wattmeter for transmitter tune-up, antenna matching, etc. (i.e. on
> >>>>operating problems), shows that the power ratio is as useful in practice
> >>>>as the VSWR."
>
> >>>>One can see reflected power disappear at the transmitter terminals as a
> >>>>match is made to the transmitter load. That eliminates stress on the
> >>>>transmitter from reverse power.
>
> >>>I suggest that a more accurate description would read:
> >>>"One can see the indication on the meter go to zero at the transmitter
> >>>terminals as the match is made to the transmitter load".
>
> >>Then, you have never matched with a reflection. Without the experience,
> >>how can you make a claim? You have not made the observation yet you
> >>claim what it 'should' be.
>
> > I may have misunderstood, but I thought that when Richard said "see
> > reflected power disappear" he was observing the Bird Wattmeter
> > mentioned
> > in his previous paragraph and watching its indication go to zero. If
> > this
> > is not what was meant, then I need elaboration.
>
> My mistake. You both said something that is not what happens. I will
> assume you are looking for no reflection between a transmitter and a
> transmatch. But the source to a transmission line is on the other side
> of that transmatch. You will most certainly see a reflected wave if the
> end of that transmission line is not terminated into purely 50 ohm load.
>
> > Otherwise, I think I said the same as Richard in different (and,
> > arguably
> > more precise) words.
>
> I see that. But neither is the case. If you are matching a transmitter

> to mis-matched line, the reflection does not go to zero. In fact, the
> reflection is a function of the line and termination and is constant.
> Nothing you do at the transmitter can change it.
>
>
>
> > ...Keith
>
> Best, Dan>

I agree with what you say.

I had made the leap that Richard's configuration was transmitter,
Bird, matching
device as that seemed to be the only way that an adjustment could
bring
the meter on the Bird to zero. If this was not the intended
configuration
then I am completely confused and Richard will need to clarify his
intent.

...Keith

2917. Re: copper clad steel

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 02:12:08 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1174529528.441229.277280@e65g2000hsc.googlegroups.com>
Source record: 44333

On Mar 21, 5:51 pm, Owen Duffy <n...@no.where> wrote:
> "merlin-7" <merli...@sc.rr.com> wrote innews:4601a35c$0$1367$4c368faf@roadrunner.com:
>
> > Some of you may have read my posts on the parallel dipole. I have
> > some
> > large gauge copper clad wire. It has a memory and is a pain to work
> > with but it has a breaking point of around 800lbs (I think that's
> > right)
> > Can you stretch that stuff out tight and take a propane torch to it
> > so that
> > it will not slinky on you? Without damaging it?
>
> Dealing firstly with wire of uniform material (ie unclad), you propose to
> anneal the wire, which at least reduces its strength, changes its
> elasticity, and may affect its corrosion properties.
>
> In the case of copper clad wire, you may upset the bond between copper
> and steel core or induce cracking in the copper cladding, either during
> the heating / cooling process or in service due to the changed elasticity
> of the core.
>
> I wouldn't even think of it.
>
> Wear safety goggles, and be very careful with the springy wire. Or, use
> soft copper and replace it if / when it blows down.
>
> Owen

When I was a kid my grandfather ran a depot for the G&F railroad and I
remember them replaceing some of the telegraph lines there. They drew
the wire through a device that had rollers in it to take out the curl.
I dont really remember how it worked but that it was pretty simple. Im
betting it was probably much like those 3 roller devices you use to
put curl in metal rods.

Jimmie

2918. Re: The effect of insulation on small loops

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 02:26:17 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98FB88AEBBF5Enonenowhere@61.9.191.5>
Source record: 44334

Roy Lewallen <w7el@eznec.com> wrote in
news:1303brdpk5qpfb2@corp.supernews.com:

...

Thanks for the thoughts Roy, appreciated.

Owen

2919. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 02:58:18 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ehmMh.8477$JZ3.5138@newssvr13.news.prodigy.net>
Source record: 44335

Owen Duffy wrote:
> Ah, but that is USENET!

Yep, Love it or leave it. :-)

> No one has demonstrated that using equivalent impedances etc is not a
> valid analysis of the steady state behaviour.

Negative assertions are usually impossible to prove.
The onus of proof is upon the ones who assert that
reflected waves cease to exist during steady-state.
The distributed network reflection model has yielded
valid results for a century or so. Ramo and Whinnery
go so far as to talk about the forward power flow
vector and the reflected power flow vector. People
trying to discredit that model just haven't accomplished
their goal.
--
73, Cecil http://www.w5dxp.com

2920. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 03:16:54 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <GymMh.8478$JZ3.6034@newssvr13.news.prodigy.net>
Source record: 44336

Gene Fuller wrote:
> It is interesting that you can be so precise at times and so sloppy at
> other times. I very carefully limited my discussion to steady state
> conditions, which is what everyone is already talking about in this
> case. You then conveniently inject modulation into the mix, completely
> ignoring what I said.

Every real world system has noise modulation
that can be tracked through the system riding on
the forward and reflected traveling waves. Thus
steady-state is never reached in reality and your
argument is therefore just a mind game.
--
73, Cecil http://www.w5dxp.com

2921. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 03:48:08 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <X%mMh.16475$bb1.16411@newssvr17.news.prodigy.net>
Source record: 44337

Keith wrote:
> For some years now, you have been arguing the reality of 'reverse
> power'.

Nope, for the last few years I have been arguing the
reality of a reverse or reflected EM energy wave. Energy
is what moves and is the essence of an EM wave moving
at the speed of light. All I am arguing is the validity
of the distributed network reflection model, something
that has stood the test of time for a century or so.

> But there are some challenges to the premise of 'reverse power':
> - where does the 'reverse power' go?
> - why does the change in dissipation of a generator when 'reverse
> power' changes depend more on the design of the generator than
> on the magnitude of the 'reverse power'?

Reflected energy waves obey the principles of conservation
of energy and superposition some of which is discussed in
my WorldRadio energy article at:

http://www.w5dxp.com/energy.htm

> I would suggest that you try trodding this path. Make a list of
> phenomena that you think are explained by 'reverse power'.

Actually, "reflected energy" rather than "reverse power".
Here is very close to an experiment we did at Texas A&M
during the 50's. We observed the ghosting and the professor
explained reflected energy waves to us.

TVSG-----1000 feet 450 ohm ladder-line---75 ohm TV RCVR

If the TV Signal Generator is not equipped with a circulator
to get rid of the reflected energy wave, ghosts will appear on
the TV RCVR. The ghosts are exactly where they should be if
reflected wave energy exists. How would you explain the
ghosting?

> You could start by providing a list of phenomena for which you
> think the reality of 'reverse power' is the only viable explanation
> and offer a willingness to learn about alternative explanations.

Please see above. And please abandon the words, "reverse
power" in favor of reverse or reflected EM energy wave.
--
73, Cecil http://www.w5dxp.com

2922. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 03:56:21 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <E7nMh.16476$bb1.1610@newssvr17.news.prodigy.net>
Source record: 44338

Richard Harrison wrote:
> Searching the net for "reflected r-f power" returned over 25,000
> examples. Belief in reverse power is obviously common.

Oh yeah, I forgot to tell Keith that I'm not the only
one who believes in the validity of reflected energy.
In fact, I see it every time I look in the mirror.

Also HP Ap Note 95-1 has some interesting things to
say, e.g. "|a2|^2 = Power reflected from the load."
--
73, Cecil http://www.w5dxp.com

2923. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 04:03:07 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ZdnMh.16477$bb1.2941@newssvr17.news.prodigy.net>
Source record: 44339

Keith Dysart wrote:
> What drove me to look at alternate explanations for these kinds of
> examples
> was that the 'reverse power' explanation fails miserably when the
> power
> gets back to the generator.

The reverse energy wave follows the principles of
conservation of energy and superposition. That we
have no clue what the generator looks like to the
reflected energy wave is not a good reason to
abandon those principles. In fact, allowing
destructive interference to be accompanied by
an energy reflection solves all the problems.
--
73, Cecil http://www.w5dxp.com

2924. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 04:20:51 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <DunMh.876$u03.46@newssvr21.news.prodigy.net>
Source record: 44340

Keith Dysart wrote:
> I have yet to question the reflection of EM radiation, just the
> existence of "reverse power" in transmission lines.

Then you are certainly engaging in the proverbial Red Herring.

> A simple example that I can never make add up is a 50 Watt generator
> with a 50 ohm output impedance, driving a 50 ohm line which is open at
> the end. Using the "reverse power" explanation, 50 W of "forward
> power"
> from the generator is reflected at the open end, providing 50 W of
> "reverse
> power". Since the generator is matched to the line there is no
> reflection
> when this "reverse power" reaches the generator so it disappears into
> the generator. If this is truly power, it must go somewhere else, be
> dissipated, transformed into some other form or stored (based on the
> conservation of energy principle). Where did it go?

This is a lot like the 1/2WL W7EL example in his food for
thought articles. The generator is *NOT* matched to the line
as it sees an open circuit and cannot continue to stuff 50
watts into the open circuit. The generator is as mismatched
as it can possibly be. The reflected wave also sees that open
circuit and is 100% reflected. Since the generator is not
delivering any power and there is a forward power and a
reflected power, the reflected power is supplying the
forward power. Anything else violates the conservation
of energy principle.

> Most correspondents agree that what happens depends on the design
> of generator; dissipation either increases, decreases or stays the
> same (compared to when the line was terminated in 50 Ohms and the
> power going down the line is dissipated in the termination). This
> does
> not make an easy explanation for where that supposedly real power
> goes. Of course, if it is not real power, then there is no issue,
> which
> leads one back to looking for explanations other than "reverse power".

Any level of interference is possible depending upon the
phase angle between the forward E-field and the reflected
E-field. All this is explained in "Optics" by Hecht which
some people have apparently avoided reading/understanding.
Optical physicists solved this problem a century ago. They
don't have the luxury of dealing with voltages and currents

and are forced to deal with power densities. You should
try trodding their paths and enlightening yourself.
--
73, Cecil http://www.w5dxp.com

2925. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 04:26:41 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <5AnMh.877$u03.398@newssvr21.news.prodigy.net>
Source record: 44341

Owen Duffy wrote:
> If one takes measurements with the instrument, it is true that the power
> at a point is "forward power" less "reflected power", and the
> manufacturer has scaled the instrument in Watts to facilitate that
> calculation, but that does not imply that the value of "forward power" or
> "reflected power" has any stand alone value, the ratio of the two is
> meaningful, the difference of the two is meaningful, but one alone is
> meaningless.

How do you explain the fact that a transmission line
contains exactly the amount of energy needed to support
the actual forward power and reflected power? If it
is not moving at the speed of light (modified by VF)
it is not EM energy.
--
73, Cecil http://www.w5dxp.com

2926. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 04:32:33 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <AFnMh.6053$tv6.4485@newssvr19.news.prodigy.net>
Source record: 44342

Owen Duffy wrote:
> The voltage at the point may be higher than under matched conditions for
> the same load power, and that may cause insulation breakdown.

Caused by the in-phase superposition of forward and
reflected voltages.

> The current at the point may be higher than under matched conditions for
> the same load power, and that would cause higher loss in conductors and
> may result in damage.

Caused by the in-phase superposition of forward and
reflected currents.

> None of these explanations require designating "reflected power" at a
> point, or implying that it is the energy in "reflected power" that is
> totally and solely responsible for the physical damage.

EM wave energy necessarily travels at the speed of light.
There is exactly the amount of EM wave energy contained
in a transmission line to support the forward power and
reflected power.
--
73, Cecil http://www.w5dxp.com

2927. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 04:35:26 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <gInMh.6055$tv6.5039@newssvr19.news.prodigy.net>
Source record: 44343

Keith Dysart wrote:
> And you have done an excellent job of doing so by providing
> an explanation that refers only to forward and reflected
> voltage and current. Not a mention of "reverse power" in
> the explanation..

The forward voltage is in phase with the forward current.
The reflected voltage is in phase with the reflected
current. Vref*Iref*cos(0) = reflected power
--
73, Cecil http://www.w5dxp.com

2928. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 05:12:21 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98FBA4D6D4318nonenowhere@61.9.191.5>
Source record: 44344

Cecil Moore <nospam@w5dxp.com> wrote in
news:AFnMh.6053$tv6.4485@newssvr19.news.prodigy.net:

...
> EM wave energy necessarily travels at the speed of light.
> There is exactly the amount of EM wave energy contained
> in a transmission line to support the forward power and
> reflected power.

You are not suggesting that the energy contained in a transmission line in the steady state in the general case is constant, are you?

Owen

2929. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 08:48:28 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <Oe4DrCMcLkAGFAzo@ifwtech.co.uk>
Source record: 44345

Cecil Moore wrote:
>Gene Fuller wrote:
>> It is interesting that you can be so precise at times and so sloppy
>>at other times. I very carefully limited my discussion to steady state
>>conditions, which is what everyone is already talking about in this
>>case. You then conveniently inject modulation into the mix, completely
>>ignoring what I said.
>
>*Every* real world system has noise modulation
>that can be tracked through the system riding on
>the forward and reflected traveling waves. Thus
>steady-state is never reached in reality and your
>argument is therefore just a mind game.

Cecil, every time someone *almost* succeeds in making you stick to the point, you accuse them of messing with your mind.

Nobody is trying to restrict your freedom of thought or speech. Nobody wants to, and nobody can. But lots of people are hoping, begging, pleading that you develop the SELF-discipline to follow an argument all the way through to its conclusion, without jumping outside of the boundaries you laid down at the start.

This may indeed trouble your mind; but the process of scientific inquiry wasn't ever *intended* to feel comfortable. Its only goal is to find things out and get them right... and that involves staying on track, even when it takes you outside of the comfort zone. In fact, then most of all, because it's a sure sign that the track is leading somewhere.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

2930. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 15:15:04 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <Z3xMh.16506$bb1.2058@newssvr17.news.prodigy.net>
Source record: 44346

Owen Duffy wrote:
> Cecil Moore <nospam@w5dxp.com> wrote in
>> EM wave energy necessarily travels at the speed of light.
>> There is exactly the amount of EM wave energy contained
>> in a transmission line to support the forward power and
>> reflected power.
>
> You are not suggesting that the energy contained in a transmission line in
> the steady state in the general case is constant, are you?

Obviously, a leading question. :-) I'm not talking
about instantaneous values here. All my statements
apply only to values averaged over an integer
number of RF cycles in one second.

What I am saying
is that a transmission line obeys the conservation
of energy principle. Whatever energy has not gone
somewhere else is still in the transmission line
and is exactly the sum of the energy required by the
forward wave plus the energy required by the reflected
wave. The steady-state energy stored in a transmission
line with reflections is greater than the steady-
state energy delivered to the load. The extra energy
was sourced during the transient build-up state and
has not yet been delivered to the load. The argument
that 100 watts in and 100 watts out (during steady-
state) doesn't leave any energy left over for the
reflected waves is invalid. Below I give an example
of 100 watts in and 100 watts out with 300 joules
stored in the forward and reflected waves.

I think it would be safe to say that for any one-
wavelength section of line, the average energy
content is constant during steady-state and is
exactly the amount of energy required to support
the forward traveling wave and reflected traveling
wave.

Here's a graphic that I earlier provided that
illustrates the energy buildup to steady-state.

http://www.w5dxp.com/1secsgat.gif
--
73, Cecil http://www.w5dxp.com

2931. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 15:50:20 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <0BxMh.2300$Kd3.794@newssvr27.news.prodigy.net>
Source record: 44348

Ian White GM3SEK wrote:
> Nobody is trying to restrict your freedom of thought or speech. Nobody
> wants to, and nobody can. But lots of people are hoping, begging,
> pleading that you develop the SELF-discipline to follow an argument all
> the way through to its conclusion, without jumping outside of the
> boundaries you laid down at the start.

Sorry Ian, I don't trust you guys enough to roll
dice in the dark with you and then let you tell
me what value was rolled. :-) You are perfectly
free to play mashed potatoes with RF joules but
please don't ask me to join in. Sometimes I think
you have to be just pulling my leg.

It was Gene who first pointed out the difference
between a traveling wave and a standing wave. Now
he says there is no difference.

> Gene Fuller, W4SZ wrote:
>> In a standing wave antenna problem, such as the one you describe,
>> there is no remaining phase information. Any specific phase
>> characteristics of the traveling waves died out when the startup
>> transients died out.
>>
>> Phase is gone. Kaput. Vanished. Cannot be recovered. Never to be
>> seen again.

One can send two coherent light beams in opposite
directions almost collinear to each other and observe
the standing waves. Hecht has a graphic of such in
"Optics". The two light beams, forward and reverse,
emerge past the standing wave space undisturbed and
unaffected by the superposition.

How does your theory hold up when measurement of voltage
and current is impossible and everything occurs in free
space for anyone to observe with his/her own eyes? If it
doesn't work for EM light waves then it also doesn't
work for EM RF waves except as a shortcut.

So please take the above example from optics and show
me how the reverse traveling wave is different on
either side of the standing wave space.
--
73, Cecil http://www.w5dxp.com

2932. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 15:55:40 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <kfb503d2of5j9q2dekdui1h9dre94bv1k2@4ax.com>
Source record: 44349

On Wed, 21 Mar 2007 08:18:14 -0500, "Richard Fry" <rfry@adams.net> wrote:

>"Walter Maxwell" wrote
>>>(RF): And if so, would that also mean that such a tx would not be prone
>>> to producing r-f intermodulation components when external signals
>>> are fed back into the tx from co-sited r-f systems?
>
>>This issue is irrelevant, because the signals arriving from a co-sited
>>system would not be coherent with the local source signals, while load-
>>reflected signals are coherent. The destructive and constructive
>>interference that occurs at the output of a correctly loaded and tuned
>>PA requires coherence of the source and reflected waves to achieve
>>the total re-reflection of the reflected waves back into the direction
>>toward the load.
>
>But even for coherent reflections, if the PA tank circuit has very low loss
>for incident power (which it does), why does it not have ~ equally low loss
>for load reflections of that power? Such would mean that load reflections
>would pass through the tank to appear at the output element of the PA, where
>they can add to its normal power dissipation.
>
>Also, does not the result of combining the incident and reflected waves in
>the tx depend in large part on the r-f phase of the reflection there
>relative to the r-f phase of the incident wave? And the r-f phase of the
>reflection is governed mostly by the number of electrical wavelengths of
>transmission line between the load reflection and the plane of
>interest/concern -- which is independent of how the tx has been
>tuned/loaded.
>
>If the ham transmitter designs that your paper applies to produce a total
>re-reflection of reverse power seen at their output tank circuits, then
>there would be no particular need for "VSWR foldback" circuits to protect
>them. Yet I believe these circuits are fairly common in ham transmitters,
>aren't they? They certainly are universal in modern AM/FM/TV broadcast
>transmitters, and are the result of early field experience where PA tubes,
>tx output networks, and the transmission line between the tx and the antenna
>could arc over and/or melt when reflected power was sufficiently high.
>
>RF
Richard, your statement above begs the question, "Are you aware of the phase relationships between forward and
reflected voltages and between forward and reflected currrents that accomplish the impedance-matching effect
at matching points such as with stub matching and also with antenna tuners?

When the matching is accomplished the phase relationship between the foward and reflected voltages can become
either 0ï¿½ or 180ï¿½, resulting in a total re-reflection of the voltage. If the resultant voltage is 0ï¿½, then the
resultant current is 180ï¿½, thus voltage sees a virtual open circuit and the current sees a virtual short
circuit. The result is that the reflected voltage and current are totally re-reflected IN PHASE with the
source voltage and current. This is the reason the forward power in the line is greater than the source power
when the line is mismatched at the load, but where the matching device has re-reflected the reflected waves.

This phenomenon occurs in all tube transmitters in the ham world when the tank circuit is adjusted for
delivering all available power at a given drive level. When this condition occurs the adjustment of the
pi-network has caused the relationship between the forward and reflected voltages to be either 0ï¿½ or 180ï¿½ and
vice versa for currents, as explained above. When this condition occurs, destructive interference between the
forward and reflected voltages, as well as between the forward and reflected currents, causes the reflected
voltage and current to cancel. However, due to the conservation of energy, the reflected voltage and current
cannot just disappear, so the resulting constructive interference following immediately, causes the reflected
voltage and current to be reversed in direction, now going in the foward direction along with and in phase
with the forward voltage and current.

In transmitters with tubes and a pi-network output coupling circuit there is no 'fold back' circuitry to
protect the amp, because none is needed, due to the total re-reflection of the reflected power. It is only in
solid-state transmitters that have no circuitry to achieve destructive and constructive interference that
requires fold back to protect the output transistors.

This has been a quick and dirty explanation of the phase relations that accomplish impedance matching.
However, I have explained it in much more detail in my book "Reflections--Transmission Lines and Antennas."
Yes, I know the book has been sold out and now unavailable, but I have put several chapters on my web page
avaliable for downloading. The pertinent chapters covering this issue are Chapters 3, 4, and 23, available at
www.w2du.com. I hope that reviewing these chapters will be helpful in clearing up some of the
misunderstandings that are clearly evident in some of the postings on this thread.

Walt, W2DU

2933. Re: Antennas future

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 16:22:27 UTC
From: bob <bobha@hotmail.com>
Message-ID: <1174576957.253465@www.vif.com>
Source record: 44347

"art" <aunwin@insightbb.com> wrote in message
news:1174523091.381875.56280@p15g2000hsd.googlegroups.com...
> We seem to have satellites going up every month,
> Cell phone posts going up every where plus all
> consumer systems are going wireless as are cities
> going wireless for the net distribution.
> Since we have people from all walks of life and sciences
> I would ask for some serious thought about what antenna
> changes are required to fill a need in the various sciences
> today and tomorrow ! Will the next 50 years mirror the last
> 50 years such that the lack of progress with antennas will
> shape our future? Is it possible that all cities will raise one big
> antenna
> that will transmit multi channel service to Bluotooth devices carried
> by
> all citizens or a separate channels for hams for both short and long
> distances
> Getting back to present day is there a terrific need for an antenna to
> perform
> some thing right now which is defying the best minds in
> the country in some of the sciences?
> Art
>
there are so many countrys... ;-)

2934. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 16:26:26 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <T6yMh.6163$tv6.279@newssvr19.news.prodigy.net>
Source record: 44350

Walter Maxwell wrote:
> In transmitters with tubes and a pi-network output coupling circuit there is no 'fold back' circuitry to
> protect the amp, because none is needed, due to the total re-reflection of the reflected power. It is only in
> solid-state transmitters that have no circuitry to achieve destructive and constructive interference that
> requires fold back to protect the output transistors.

One can illustrate the destructive and constructive
interference with a solid-state transmitter and
no tuner. Consider the following example using
S-parameter terms.

100W--50 ohm line--+--1/2WL 300 ohm line--50 ohms
a1--> <--a2
<--b1 b2-->

Since there is zero reflected power on the 50 ohm
line, we know that "total destructive interference"
(as described by Hecht in "Optics", 4th edition, page
388) exists toward the source at point '+'.
s11 = (300-50)/(300+50) = 0.7143 = -s12
b1 = (s11)(a1) + (s12)(a2) = 0

Note that given a1, s11, and s12, we can calculate the
magnitude and phase of a2 needed to make b1=0. That
is the Z0-match condition.

The conservation of energy principle says that, (in
a transmission line with only two directions) "total
constructive interference" must exist in the opposite
direction to the "total destructive interference" and
that they must be of equal magnitudes. That tells us
what *must* happen to the energy associated with the
a2 reflected wave.

All of the energy incident upon point '+' from both
directions, |a1|^2 + |a2|^2, is directed toward the
load by the interference patterns at the Z0-match
point '+'. We hams commonly refer to that condition
as being 100% re-reflected.
--
73, Cecil http://www.w5dxp.com

2935. Re: Antennas future

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 17:53:19 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <4602c298$0$17130$4c368faf@roadrunner.com>
Source record: 44351

"bob" <bobha@hotmail.com> wrote in message
news:1174576957.253465@www.vif.com...
>
> "art" <aunwin@insightbb.com> wrote in message
> news:1174523091.381875.56280@p15g2000hsd.googlegroups.com...
>> We seem to have satellites going up every month,
>> Cell phone posts going up every where plus all
>> consumer systems are going wireless as are cities
>> going wireless for the net distribution.
>> Since we have people from all walks of life and sciences
>> I would ask for some serious thought about what antenna
>> changes are required to fill a need in the various sciences
>> today and tomorrow ! Will the next 50 years mirror the last
>> 50 years such that the lack of progress with antennas will
>> shape our future? Is it possible that all cities will raise one big
>> antenna
>> that will transmit multi channel service to Bluotooth devices carried
>> by
>> all citizens or a separate channels for hams for both short and long
>> distances
>> Getting back to present day is there a terrific need for an antenna to
>> perform
>> some thing right now which is defying the best minds in
>> the country in some of the sciences?
>> Art
>>
> there are so many countrys... ;-)
>

2936. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 18:42:32 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <t6AMh.16543$bb1.2460@newssvr17.news.prodigy.net>
Source record: 44352

Cecil Moore wrote:
> All of the energy incident upon point '+' from both
> directions, |a1|^2 + |a2|^2, is directed toward the
> load by the interference patterns at the Z0-match
> point '+'. We hams commonly refer to that condition
> as being 100% re-reflected.

The above is true in the special case of a Z0-match.
In general, |a1|^2 + |a2|^2 = |b1|^2 + |b2|^2
and since |b1|^2 = 0, the above expression is
correct.

Quoting from HP Ap Note 95-1:

|a1|^2 = Power incident on the input of the network
(i.e. Forward power on the 50 ohm line)

|a2|^2 = Power reflected from the load
(i.e. Reflected power on the 300 ohm line)

|b1|^2 = Power reflected from the input port of the network
(i.e. Reflected power on the 50 ohm line)

|b2|^2 = Power incident on the load
(i.e. Forward power on the 300 ohm line)

end quote from HP Ap Note 95-1
--
73, Cecil http://www.w5dxp.com

2937. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 19:28:47 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98FC41E63E425nonenowhere@61.9.191.5>
Source record: 44353

Cecil Moore <nospam@w5dxp.com> wrote in
news:T6yMh.6163$tv6.279@newssvr19.news.prodigy.net:

...
> s11 = (300-50)/(300+50) = 0.7143 = -s12
> b1 = (s11)(a1) + (s12)(a2) = 0

Cecil,

I see you are back to using S parameters to disguise the fact you are using
about Vf and Vr in trying to support your "power wave" explanation of what
happens on the transmission line.

S parameters are ratios of Vf and Vr.

Owen

2938. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 19:32:13 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98FC427AC80BDnonenowhere@61.9.191.5>
Source record: 44354

Cecil Moore <nospam@w5dxp.com> wrote in
news:Z3xMh.16506$bb1.2058@newssvr17.news.prodigy.net:

> Owen Duffy wrote:
>> Cecil Moore <nospam@w5dxp.com> wrote in
>>> EM wave energy necessarily travels at the speed of light.
>>> There is exactly the amount of EM wave energy contained
>>> in a transmission line to support the forward power and
>>> reflected power.
>>
>> You are not suggesting that the energy contained in a transmission
>> line in the steady state in the general case is constant, are you?
>
> Obviously, a leading question. :-) I'm not talking
> about instantaneous values here. All my statements
> apply only to values averaged over an integer
> number of RF cycles in one second.

This gets confusing. You are talking about "the amount of EM wave energy contained in a transmission line" and now you qualify it with "values averaged over an integer number of RF cycles in one second". Average energy over time is POWER... are you talking about power and foxing us by calling it energy. I am confused.

Owen

2939. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 19:36:55 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <rVAMh.1154$f56.1140@bgtnsc05-news.ops.worldnet.att.net>
Source record: 44355

Cecil Moore wrote:

>
> It was Gene who first pointed out the difference
> between a traveling wave and a standing wave. Now
> he says there is no difference.
>

Cecil,

Utter nonsense. I have never said any such thing.

What I *did* say, and it is still true today, is that there is no difference between a standing wave and its *constituent* traveling wave components. It is purely a matter of mathematical convenience. There is no underlying hidden physics available from trying to look at only one of the traveling wave components. If you sort out an individual component then the standing wave is no longer there.

<ad hominem> Your debating style is a bit rough, but it is clear from this thread that others have observed your tricks. </ad hominem>

73,
Gene
W4SZ

2940. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 19:53:53 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <l9BMh.536$rO7.72@newssvr25.news.prodigy.net>
Source record: 44356

Owen Duffy wrote:
> I see you are back to using S parameters to disguise the fact you are using
> about Vf and Vr in trying to support your "power wave" explanation of what
> happens on the transmission line.

Others use the term "power wave", Owen, but *I DO NOT*
so please stop accusing me of something of which I am
not guilty. I use the term "EM RF energy wave" for
the traveling waves under discussion.

When anyone can prove that RF energy waves don't exist
or are not associated with EM energy or don't move at
the speed of light, I will retire from the argument.
Good luck on that one.

> S parameters are ratios of Vf and Vr.

Exactly! No disguise intended - it's just additional
support from the well respected field of S-parameter
analysis for the distributed network wave reflection
model. The only difference is that the S-parameter
Vf and Vr values are normalized to Z0 so when they
are squared they indeed do yield watts.

Your tone seems to reject the S-Parameter analysis
as a valid model of reality. Any model that has to
resort to rejecting the S-Parameter analysis as well
as the distributed network wave reflection model is
certainly suspect. Did you ever see the movie, "One
Bridge Too Far"? This "reflected wave energy doesn't
exist" argument reminds me of that movie.
--
73, Cecil http://www.w5dxp.com

2941. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 20:06:30 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <alBMh.540$rO7.255@newssvr25.news.prodigy.net>
Source record: 44358

Owen Duffy wrote:
> This gets confusing. You are talking about "the amount of EM wave energy
> contained in a transmission line" and now you qualify it with "values
> averaged over an integer number of RF cycles in one second". Average
> energy over time is POWER... are you talking about power and foxing us by
> calling it energy. I am confused.

I have been convinced by Jim, AC6XG, to abandon the word
"power" because of the difference in definitions between
the field of physics and the field of RF engineering.

Jim would argue with you and say that average energy over
time is NOT necessarily POWER and is only power if actual
work is done which, of course, is not done by a reflected
wave.

So you need to go off and argue with Jim over the
definition of "power". Instead of talking about power,
Jim has convinced me to talk about watts or joules/sec
which he says are not necessarily power. The confusion
comes from the field of physics, not from me. While you
are talking to Jim, get him to explain the definition
of "transfer".
--
73, Cecil http://www.w5dxp.com

2942. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 20:09:38 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98FC48D355659nonenowhere@61.9.191.5>
Source record: 44359

Cecil Moore <nospam@w5dxp.com> wrote in
news:l9BMh.536$rO7.72@newssvr25.news.prodigy.net:

> Your tone seems to reject the S-Parameter analysis
> as a valid model of reality. Any model that has to

Not at all.

S parameters are Vf and Vr based and when properly applied will produce exactly the same analysis outcome.

It is the application of S parameters in the "power flow analysis" that is a reach, it might be convenient, but it does not legitmise the argument that forward and reflected "power waves" exist separately.

A quote from HP (which you seem to respect):

===quote
Notice that the square of the magnitude of these
new variables has the dimension of power. |a1|^2
can then be thought of as the incident power on
port one; |b1|^2 as power reflected from port one.
These new waves can be called traveling power
waves rather than traveling voltage waves.
Throughout this seminar, we will simply refer to
these waves as traveling waves.
===equote

There is a difference between "can then be thought of as..." and "are...".

Owen

2943. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 20:10:02 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <uoBMh.543$rO7.370@newssvr25.news.prodigy.net>
Source record: 44360

Gene Fuller wrote:
> Utter nonsense. I have never said any such thing.

Yes, you did, in the part that you deleted. Here it
is again:

Gene Fuller, W4SZ wrote:
> In a standing wave antenna problem, such as the one you describe,
> there is no remaining phase information. Any specific phase
> characteristics of the traveling waves died out when the startup
> transients died out.
>
> Phase is gone. Kaput. Vanished. Cannot be recovered. Never to be
> seen again.

> What I *did* say, and it is still true today, is that there is no
> difference between a standing wave and its *constituent* traveling wave
> components.

The constituent traveling wave components possess changing
phase. The standing wave doesn't possess changing phase.
You are contradicting yourself.
--
73, Cecil http://www.w5dxp.com

2944. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 20:31:24 UTC
From: richardharrison@webtv.net
Message-ID: <2576-4602E79C-215@storefull-3252.bay.webtv.net>
Source record: 44362

Gene, W4SZ wrote:
"No need to account for any mythical power in the reflected waves."

My dictionary defines reflected power as:
"The power flowing back to the generator from the load."

Maximum power theorem is defined as:
"The maximum power will be absorbed by one network from another joined to it at two terminals, when the impedance of the receiving network is varied, if the impedances (looking into the two networks at the junction) are conjugates of each other."

Clearly a generator (transmitter) connected to a load through a lossless line sees Zo of the line as its load until the instant that reflected power returns to the generator from the load.
Suppose the round-trip delay of the line makes the reflected voltage exactly in phase with the transmitter output. further suppose the reflection was total so that the reflected voltage exactly equals the transmitter output. In this special case, we might as well be connecting identical battery cells in parallel. No current is going to flow. The generator is seeing infinite impedance.

What is the generator load that extracts maximum power from a transmitter? A conjugately matched load, of course. To determine the impedance of a transmitter, one only needs to find the load which extracts maximum power. The transmitter impedance is its conjugate.

Best regards, Richard Harrison, KB5WZI

2945. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 20:38:09 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ROBMh.17859$uo3.3503@newssvr14.news.prodigy.net>
Source record: 44361

Owen Duffy wrote:
> It is the application of S parameters in the "power flow analysis" that
> is a reach, it might be convenient, but it does not legitmise the
> argument that forward and reflected "power waves" exist separately.

Nth reminder to you: Please stop implying something
I didn't say. I have said that forward and reflected RF
traveling energy waves exist separately. If you can find
an example of me using the term "power wave" in the 21st
century, I will send you a $100 bill.

> A quote from HP (which you seem to respect):
> Throughout this seminar, we will simply refer to
> these waves as traveling waves.
>
> There is a difference between "can then be thought of as..." and
> "are...".

EXACTLY! You and I are generally in agreement except
when you accuse me of nonsense like "power waves".
Please cease and desist! I simply refer to these
waves as traveling energy waves, NOT POWER WAVES!
--
73, Cecil http://www.w5dxp.com

2946. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 20:48:45 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98FC4F7FD9540nonenowhere@61.9.191.5>
Source record: 44363

Cecil Moore <nospam@w5dxp.com> wrote in
news:alBMh.540$rO7.255@newssvr25.news.prodigy.net:

> Owen Duffy wrote:
>> This gets confusing. You are talking about "the amount of EM wave
>> energy contained in a transmission line" and now you qualify it with
>> "values averaged over an integer number of RF cycles in one second".
>> Average energy over time is POWER... are you talking about power and
>> foxing us by calling it energy. I am confused.
>
> I have been convinced by Jim, AC6XG, to abandon the word
> "power" because of the difference in definitions between
> the field of physics and the field of RF engineering.
>
> Jim would argue with you and say that average energy over
> time is NOT necessarily POWER and is only power if actual
> work is done which, of course, is not done by a reflected
> wave.
>
> So you need to go off and argue with Jim over the
> definition of "power". Instead of talking about power,
> Jim has convinced me to talk about watts or joules/sec
> which he says are not necessarily power. The confusion
> comes from the field of physics, not from me. While you
> are talking to Jim, get him to explain the definition
> of "transfer".

A neat diversion from the issue re the "amount of energy" qualified later as a average over time which is a different quantity, Joules vs Watts to many of us.

The fact is that the energy stored in a transmission line in the steady state is in the general case, a time variable, and you cannot state the energy (in joules) at a point in time knowing only forward and reflected power and the one way propagation time.

So Cecil,

Is it all about semantics? Is the lack of a shared language the cause of difficulty understanding your concepts. You wouldn't be alone, Art experiences the same difficulties with convention.

Owen

2947. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 20:57:05 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <4602eda2$0$16673$4c368faf@roadrunner.com>
Source record: 44364

"Owen Duffy" <none@no.where> wrote in message
news:Xns98EA5CD2ABDF2nonenowhere@61.9.191.5...
>
> According to my ARRL Antenna Handbook, the Windom Antenna was described
> by Loren Windom in QST in 1929.
>
> The design is a horizontal half wave (ie single band) fed by a vertical
> single wire feedline attached just off centre (~14%). Explanations go
> that this approximately matches the feedline Zo (which is quite high)
> with the horizontal wire. It is single wire (ie ultimately unbalanced)
> feedline and therefore radiates. The Antenna is fed between the source
> end of the feedline and ground, and the load impedance should be
> somewhere in the many hundreds of ohms. The feedline carries an
> appreciable net current.
>
> More recently, the Off Centre Fed (OCF) Dipole design emerged,
> principally as a multi-band antenna. The OCF Dipole is a horizontal wire
> with a coaxial feed and coupling transformer (often called a balun)
> attached offset from the centre of the dipole. The feedpoint excursions
> at a half wave length and harmonic frequencies are much lower than centre
> feeding, and may be operated as a multiband antenna with reasonable
> efficiency, though it probably really needs an ATU at the tx end of the
> coax. The OCF dipole feedline does have current flowing on the outer of
> the outer conductor, at least as a result of the assymetric coupling to
> the dipole legs, and to some extent because the ineffectiveness of
> practical coupling transformers to isolate the feedline ends from the
> differing voltages on each dipole leg. The feedline carries an
> appreciable net current.
>
> Then along came the Carolina Windom, which appears to be a OCF dipole
> with a proprietary (ie secret, undescribed) coupling transformer, a
> vertical coax section (feedline and radiator) and a proprietary (remember
> the meaning) "isolator" located at a given distance along the coax to
> prevent the current flowing on the outer of the outer of the coax from
> flowing further towards the transmitter. The isolater would appear to be
> a ferrite choke and it would introduce a series impedance (reactance and
> resistance) to current on the coax, so influencing the establishment of
> the standing wave pattern on the outer of the outer of the coax. You
> might naively think that this isolator prevents current flowing into the
> shack, but that is unlikely.
>
> In all these cases, there is an expectation that the feedline carries a
> net radiating current, and it seems to me, that if you don't want to
> bring that into the shack, you need to design an appropriate solution.

>
> In the case of the true Windom, it seems the easiest solution is to end
> the single wire feedline outside the shack and place a matching unit
> connecting to ground and the single wire feedline at that point, and
> transforming the load to something suitable to coax or balanced feedline
> to the shack.
>
> In the case of the OCF Dipole and the Carolina Windom, shunting the
> current on the outer of the outer to ground outside the shack is a
> potential solution. Series chokes might help, but the magnitude of the
> choking impedance is limited, and their effectiveness could be improved
> greatly by a low impedance shunt to ground.
>
> Comments?
>
> Owen
>
> PS: In todays paranoid world where rules in many jurisdictions restrict
> the maximum permitted exposure to electromagnetic radiation, antennas
> such as these with radiating elements that are close to areas accessible
> by people are a safety challenge.

2948. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 20:59:20 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <jvp503hj6t34qm03046t8re6cqevf1e41k@4ax.com>
Source record: 44357

On Thu, 22 Mar 2007 15:55:40 GMT, Walter Maxwell <walt@w2du.com>
wrote:

>On Wed, 21 Mar 2007 08:18:14 -0500, "Richard Fry" <rfry@adams.net> wrote:
>
>>"Walter Maxwell" wrote
>>>>(RF): And if so, would that also mean that such a tx would not be prone
>>>> to producing r-f intermodulation components when external signals
>>>> are fed back into the tx from co-sited r-f systems?
>>
>>>This issue is irrelevant, because the signals arriving from a co-sited
>>>system would not be coherent with the local source signals, while load-
>>>reflected signals are coherent. The destructive and constructive
>>>interference that occurs at the output of a correctly loaded and tuned
>>>PA requires coherence of the source and reflected waves to achieve
>>>the total re-reflection of the reflected waves back into the direction
>>>toward the load.

Hi Walt,

It is not irrelevant, merely illustrative of the concept of reflection
that is consistent with a coherent source.

Your points of phase are the sine non quo to the discussion, but all
too often arguers only take the half of the 360 degrees available to
argue a total solution. Even more often, they take only one or two
degrees of the 360.

>>But even for coherent reflections, if the PA tank circuit has very low loss
>>for incident power (which it does), why does it not have ~ equally low loss
>>for load reflections of that power? Such would mean that load reflections
>>would pass through the tank to appear at the output element of the PA, where
>>they can add to its normal power dissipation.

This is the symmetry of the illustration of external signals. You
used external signals yourself as part of your case study; hence the
relevance has been made by you.

>>Also, does not the result of combining the incident and reflected waves in
>>the tx depend in large part on the r-f phase of the reflection there
>>relative to the r-f phase of the incident wave? And the r-f phase of the
>>reflection is governed mostly by the number of electrical wavelengths of
>>transmission line between the load reflection and the plane of
>>interest/concern -- which is independent of how the tx has been
>>tuned/loaded.

And we return to the sine non quo for the discussion: phase.

>>If the ham transmitter designs that your paper applies to produce a total
>>re-reflection of reverse power seen at their output tank circuits, then
>>there would be no particular need for "VSWR foldback" circuits to protect
>>them. Yet I believe these circuits are fairly common in ham transmitters,
>>aren't they? They certainly are universal in modern AM/FM/TV broadcast
>>transmitters, and are the result of early field experience where PA tubes,
>>tx output networks, and the transmission line between the tx and the antenna
>>could arc over and/or melt when reflected power was sufficiently high.
>>
>>RF

>Richard, your statement above begs the question, "Are you aware of the phase relationships between forward and
>reflected voltages and between forward and reflected currrents that accomplish the impedance-matching effect
>at matching points such as with stub matching and also with antenna tuners?

It seems he is on the face of it, doesn't it? Afterall, he is quite
explicit to this in the statement you are challenging.

>When the matching is accomplished the phase relationship between the foward and reflected voltages can become
>either 0ï¿½ or 180ï¿½, resulting in a total re-reflection of the voltage. If the resultant voltage is 0ï¿½, then the
>resultant current is 180ï¿½, thus voltage sees a virtual open circuit and the current sees a virtual short
>circuit. The result is that the reflected voltage and current are totally re-reflected IN PHASE with the
>source voltage and current. This is the reason the forward power in the line is greater than the source power
>when the line is mismatched at the load, but where the matching device has re-reflected the reflected waves.

Nothing here contradicts anything either of you have to say.

>This phenomenon occurs in all tube transmitters in the ham world when the tank circuit is adjusted for
>delivering all available power at a given drive level.

This introduces the two concepts of the "need for match" and the
"match obtained." They are related only through an action that spans
from one condition to the other. They do not describe the same
condition, otherwise no one would ever need to perform the match:

>When this condition occurs the adjustment of the
>pi-network has caused the relationship between the forward and reflected voltages to be either 0ï¿½ or 180ï¿½ and
>vice versa for currents, as explained above. When this condition occurs, destructive interference between the
>forward and reflected voltages, as well as between the forward and reflected currents, causes the reflected
>voltage and current to cancel. However, due to the conservation of energy, the reflected voltage and current

>cannot just disappear, so the resulting constructive interference following immediately, causes the reflected
>voltage and current to be reversed in direction, now going in the foward direction along with and in phase
>with the forward voltage and current.

If a tree were to fall onto the antenna, a new mismatch would occur. Would the transmitter faithfully meet the expectations of the Ham unaware of the accident? No, reflected (0-179 degrees) energy would undoubtedly offer a 50% chance of excitement in the shack. The consequences of dissipation would be quite evident on that occasion. For the other 180 (180-359) degrees of benign combination; then perhaps not.

>In transmitters with tubes and a pi-network output coupling circuit there is no 'fold back' circuitry to
>protect the amp, because none is needed, due to the total re-reflection of the reflected power.

That would more probably be due to cost averse buying habits of the Amateur community, and the explicit assumption of risk by them to react appropriately in the face of mismatch. Tubes were far more resilient to these incidents than transistors of yore.

>It is only in
>solid-state transmitters that have no circuitry to achieve destructive and constructive interference that
>requires fold back to protect the output transistors.

They too have access to the services of a transmatch that is probably more flexible than the tubes' final. If they didn't use a tuner, then the foldback would render many opportunistic antennas as useless. Again, as a cost item, this solution (fold-back) is dirt cheap and was driven by the market economies of a more onerous and costly repair through a lengthy bench time to replace the transistor (which has an exceedingly high probability of a quicker failure for a poor job).

73's
Richard Clark, KB7QHC

2949. Some ideas ...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 21:21:55 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <etus10hop1@nnrp.linuxfan.it>
Source record: 44365

I have been searching the internet, it seems to me someone would have:

1) Constructed an airtight room, filled it with a gas such as neon and placed an antenna in such a room. The power/freq to the antenna could be varied and "patterns" observed in how the rf was exciting the gas into "glowing" in the visible range while observing any visible patterns in such.

2) Constructed gas insulated coax enclosed in a glass or plastic tube with sufficient gap in the outer conductor where observations could be made to see if "reflections" or other observable anomalies, and voltage and current observed.

Anyone aware of anything close to any of this. Seems like this is right up some universitys' alley, nasa, etc. ...

Regards,
JS

2950. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 21:28:00 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <AxCMh.9393$yW.8693@newssvr11.news.prodigy.net>
Source record: 44366

Owen Duffy wrote:
> The fact is that the energy stored in a transmission line in the steady
> state is in the general case, a time variable, and you cannot state the
> energy (in joules) at a point in time knowing only forward and reflected
> power and the one way propagation time.

The time-averaged energy stored in a transmission line
doesn't vary with time (by definition) unless something
changes.

If the forward and reflected powers are based on fixed
RMS values of voltage and current with fixed sources and
loads, then certainly, time-averaged energy values can be
calculated. That's the nature of *irradiance* in optics
where instantaneous values are impossible to measure. The
Power Flow Vector is analogous to irradiance.

> Is it all about semantics? Is the lack of a shared language the cause of
> difficulty understanding your concepts.

No, the basic problem is that you keep accusing me of
saying something I never said. I have never used the
term "power wave" except in postings like this one.
I have no idea what is the definition of "power wave".

How it feels:

It feels to me like you are one of a number of people
willing to reject the basic principles of physics in
order to mount an argument with me or anyone else
who have been convinced by those laws of physics that
reflected energy waves exist in reality - you know,
the ones you actually see when looking in a mirror?
--
73, Cecil http://www.w5dxp.com

2951. Re: Some ideas ...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 21:37:35 UTC
From: Dan Bloomquist <public21@lakeweb.com>
Message-ID: <zGCMh.5459$ya1.2783@news02.roc.ny>
Source record: 44367

John Smith I wrote:
> I have been searching the internet, it seems to me someone would have:
>
> 1) Constructed an airtight room, filled it with a gas such as neon and
> placed an antenna in such a room. The power/freq to the antenna could
> be varied and "patterns" observed in how the rf was exciting the gas
> into "glowing" in the visible range while observing any visible patterns
> in such.

Might be fun, but I don't know about useful. And, whatever antenna you
want to 'see', just scale it down to fit inside a bell jar.

> 2) Constructed gas insulated coax enclosed in a glass or plastic tube
> with sufficient gap in the outer conductor where observations could be
> made to see if "reflections" or other observable anomalies, and voltage
> and current observed.

I've found a slotted line works fine to 'see' a transmission line.

2952. Re: Some ideas ...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 21:38:19 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98FC57E6D39E4nonenowhere@61.9.191.5>
Source record: 44368

John Smith I <assemblywizard@gmail.com> wrote in news:etus10hop1
@nnrp.linuxfan.it:

> I have been searching the internet, it seems to me someone would have:
...
> 2) Constructed gas insulated coax enclosed in a glass or plastic tube
> with sufficient gap in the outer conductor where observations could be
> made to see if "reflections" or other observable anomalies, and voltage
> and current observed.
...

Been done already, it is called a slotted line, and it is one of the
methods of direct measurement of VSWR. Not only did it allow direct
measurement of VSWR, but the position of the pattern could be observed, and
located wrt a known mismatch (typically a s/c) at the load plane. thus
allowing calculation of the complex load impedance.

Owen

2953. Re: Windom antennas - down to earth

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 21:42:04 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <4602f82b$0$4871$4c368faf@roadrunner.com>
Source record: 44369

Back in 1974 I used to visit an amateur radio repair shop in Jacksonville FL, it was located on Pearl, ave or st, cant remeber which near 8th street. I remember that quite a few hams would come into the place and often conversations about different aspects of ham radio would get started. One day they were discussing the Windom antenna with both praise and damnation. At the end(3hrs or so) at least I had deciced the the antennas greatest claim to fame was that it would load up on all the HF bands with at least mediocre performance, Probably not a bad antenna if you could only have one antenna. I do remember that someone working out current distribution in the antenna and claimed that on some bands the current was distrubted primarily in the vertical and the short section of the horizontal and in othe current was in the vertical and the long section of the horizontal section for other freqencies. I look back on this with a certain amount of aw(assuming he was reasoably correct in his computations) that this was performed with pencil and paper bag and not with aid of a computer.

Jimmie

"Owen Duffy" <none@no.where> wrote in message
news:Xns98EA5CD2ABDF2nonenowhere@61.9.191.5...
>
> According to my ARRL Antenna Handbook, the Windom Antenna was described
> by Loren Windom in QST in 1929.
>
> The design is a horizontal half wave (ie single band) fed by a vertical
> single wire feedline attached just off centre (~14%). Explanations go
> that this approximately matches the feedline Zo (which is quite high)
> with the horizontal wire. It is single wire (ie ultimately unbalanced)
> feedline and therefore radiates. The Antenna is fed between the source
> end of the feedline and ground, and the load impedance should be
> somewhere in the many hundreds of ohms. The feedline carries an
> appreciable net current.
>
> More recently, the Off Centre Fed (OCF) Dipole design emerged,
> principally as a multi-band antenna. The OCF Dipole is a horizontal wire
> with a coaxial feed and coupling transformer (often called a balun)
> attached offset from the centre of the dipole. The feedpoint excursions
> at a half wave length and harmonic frequencies are much lower than centre
> feeding, and may be operated as a multiband antenna with reasonable
> efficiency, though it probably really needs an ATU at the tx end of the
> coax. The OCF dipole feedline does have current flowing on the outer of
> the outer conductor, at least as a result of the assymetric coupling to
> the dipole legs, and to some extent because the ineffectiveness of
> practical coupling transformers to isolate the feedline ends from the
> differing voltages on each dipole leg. The feedline carries an

> appreciable net current.
>
> Then along came the Carolina Windom, which appears to be a OCF dipole
> with a proprietary (ie secret, undescribed) coupling transformer, a
> vertical coax section (feedline and radiator) and a proprietary (remember
> the meaning) "isolator" located at a given distance along the coax to
> prevent the current flowing on the outer of the outer of the coax from
> flowing further towards the transmitter. The isolater would appear to be
> a ferrite choke and it would introduce a series impedance (reactance and
> resistance) to current on the coax, so influencing the establishment of
> the standing wave pattern on the outer of the outer of the coax. You
> might naively think that this isolator prevents current flowing into the
> shack, but that is unlikely.
>
> In all these cases, there is an expectation that the feedline carries a
> net radiating current, and it seems to me, that if you don't want to
> bring that into the shack, you need to design an appropriate solution.
>
> In the case of the true Windom, it seems the easiest solution is to end
> the single wire feedline outside the shack and place a matching unit
> connecting to ground and the single wire feedline at that point, and
> transforming the load to something suitable to coax or balanced feedline
> to the shack.
>
> In the case of the OCF Dipole and the Carolina Windom, shunting the
> current on the outer of the outer to ground outside the shack is a
> potential solution. Series chokes might help, but the magnitude of the
> choking impedance is limited, and their effectiveness could be improved
> greatly by a low impedance shunt to ground.
>
> Comments?
>
> Owen
>
> PS: In todays paranoid world where rules in many jurisdictions restrict
> the maximum permitted exposure to electromagnetic radiation, antennas
> such as these with radiating elements that are close to areas accessible
> by people are a safety challenge.

2954. New General with dipole questions

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 22:02:51 UTC
From: garlicman <None>
Message-ID: <48KdnUkL-73rip7bnZ2dnUVZ_qyjnZ2d@comcast.com>
Source record: 44229

I just passed my General exam a week ago. I've got a Yaesu FT-990 and made a 40m dipole with some 12g wire (each side about 33 feet long). I got it outside along the roof with part drooping off the roof. I intend to suspend it between the chimney and a tree when the universe comes together so that I am off work, it stops raining, and I get over this cold.

I haven't transmitted yet, but I noticed a couple of things listening to the bands:

1. Lots and lots of noise.
2. 80m comes in quite well.

Will getting the antenna higher reduce the noise? How do you account for the good 80m reception?

2955. Re: Some ideas ...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 22:03:40 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <03DMh.16553$bb1.6530@newssvr17.news.prodigy.net>
Source record: 44370

Dan Bloomquist wrote:
> I've found a slotted line works fine to 'see' a transmission line.

A loop of 450 ohm ladder-line works fine to 'see'
a 450 ohm transmission line. Current nodes and
antinodes are easy to detect.
--
73, Cecil http://www.w5dxp.com

2956. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 22:12:17 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <5bDMh.1470$f56.753@bgtnsc05-news.ops.worldnet.att.net>
Source record: 44371

Cecil Moore wrote:
> Gene Fuller wrote:
>> Utter nonsense. I have never said any such thing.
>
> Yes, you did, in the part that you deleted. Here it
> is again:
>
> Gene Fuller, W4SZ wrote:
> > In a standing wave antenna problem, such as the one you describe,
> > there is no remaining phase information. Any specific phase
> > characteristics of the traveling waves died out when the startup
> > transients died out.
> >
> > Phase is gone. Kaput. Vanished. Cannot be recovered. Never to be
> > seen again.
>
>> What I *did* say, and it is still true today, is that there is no
>> difference between a standing wave and its *constituent* traveling
>> wave components.
>
> The constituent traveling wave components possess changing
> phase. The standing wave doesn't possess changing phase.
> You are contradicting yourself.

Cecil,

Sorry, I thought that English was your native tongue. Would you like me to try to translate into another preferred language?

Hint: I stand by everything I have said in the quotes above. No contradictions at all.

73,
Gene
W4SZ

2957. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 22:48:38 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <aJDMh.643$rO7.7@newssvr25.news.prodigy.net>
Source record: 44372

Gene Fuller wrote:
> Sorry, I thought that English was your native tongue. Would you like me
> to try to translate into another preferred language?

Translation: I've been caught red-handed by
my own American English words. Maybe converting
to an obscure foreign language would give me more
wiggle room.
--
73, Cecil http://www.w5dxp.com

2958. Re: Some ideas ...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 22:50:49 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <etv17m$t4r$1@nnrp.linuxfan.it>
Source record: 44373

John Smith I wrote:

[...]

I hear, "Been there, done that."

However, Cecil has made the comparison of optics and RF (well, he has been the most vocal on the subject), and I do NOT dispute that there are similarities, indeed, they may well be "one and the same." I am neither a believer that they are, nor do I favor that they are not ... the fact that rf behaves both as a wave and as "photons" is NOT denied ... but, a 20,000 cycle freq can be generated by, both, a musical instrument and a vlf osc ... one can be received by the ear, the other cannot, the other can be received by a receiver, the other cannot ... (and yes, I do understand about "air vibrations" and the vibrations in the EM spectrum!--and that the two spectrums' overlap!)

However, we have not really "seen" how rf is "launched" forth from our antennas--how it interfaces with "nothing" (or, ether) or is escaping as bundles of photons ...

I understand the use of field strength meters, gauss meters, etc. But still, it is not the same as "seeing." An example might be a light meter(s)/thermometer(s) in a room telling me about a light source--but it isn't quite the same as opening the door of that room and viewing the light source directly, to walk the room with mirror, prism, polarizer, magnifier, etc. in hand.

I have even went and purchased thousands of surplus neon bulbs and strung them on mono-filament lines about an antenna, placed neon bulbs from them and made observations on 1W-1KW+ of power to a monopole (the energy of youth is better expended that way--I mean, it beats hanging out in bars!--but then girls took over :-P) I always wished I had that roomful of neon (or other excitable gas.) I have taped the neons to coax and observed the flow of rf on the outer connector ...

I have seen a large neon bulb in a microwave and the patterns formed in the gas ... and it only left me dreaming of the "neon room" and full sized antennas in such ... (yes, vhf-uhf-shf if you can't afford a BIG room.)

I would just like to view what I proposed in the original post to this thread, good definition pics would suffice ... yanno, a pic is worth a thousand words ... perhaps it has been done in another country?

Oh well, one has to have something to think about ... I really have a hard time believing (taking a "leap of faith") until I have actually

seen something, it is like that for me--but then, you already knew that
... bad as that is, I am quite comfortable with it ...

Warmest regards,
JS

2959. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 22:57:56 UTC
From: Mike Lucas <w5chr@bellsouth.net>
Message-ID: <MRDMh.14705$B7.9458@bigfe9>
Source record: 44374

"Owen Duffy" <none@no.where> wrote
> So Cecil,
> Is it all about semantics? Is the lack of a shared language the cause of
> difficulty understanding your concepts. You wouldn't be alone, Art
> experiences the same difficulties with convention.
> Owen

Great deduction, Owen! Perhaps Art would benefit from a copy
of "Gaussian Optics, with Definitions". Thinkiing about that makes
me wonder....if Cecil were to feed a one-second long transmission
line, 50 Zo, terminated by Art's Gaussian Array, how long before
the (power)(energy)(whatever) starts sloshing ??

Mike W5CHR

2960. Re: Some ideas ...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 23:11:37 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <J2EMh.11185$P47.7826@newssvr22.news.prodigy.net>
Source record: 44375

John Smith I wrote:
> Oh well, one has to have something to think about ... I really have a
> hard time believing (taking a "leap of faith") until I have actually
> seen something, it is like that for me--but then, you already knew that

That's the problem that the "zero energy in reflected
waves" crowd have. If they admit they can see themselves
in a mirror, they have defeated their own argument. So
they must necessarily close their eyes and deny reality.
--
73, Cecil http://www.w5dxp.com

2961. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 23:19:28 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <4aEMh.11186$P47.2969@newssvr22.news.prodigy.net>
Source record: 44376

Mike Lucas wrote:
> "Owen Duffy" <none@no.where> wrote
>> So Cecil,
>> Is it all about semantics? Is the lack of a shared language the cause of
>> difficulty understanding your concepts. You wouldn't be alone, Art
>> experiences the same difficulties with convention.

> Great deduction, Owen!

Unfortunately, Owen may be the one with the semantic problem.
He has quoted me as uttering the phase, "power wave", which
I have never, to the best of my memory, ever uttered. A
$100 bill is awaiting proof of his assertions.
--
73, Cecil http://www.w5dxp.com

2962. Re: Some ideas ...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 23:25:50 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <etv39b$21m$1@nnrp.linuxfan.it>
Source record: 44227

Cecil Moore wrote:

> ...
> That's the problem that the "zero energy in reflected
> waves" crowd have. If they admit they can see themselves
> in a mirror, they have defeated their own argument. So
> they must necessarily close their eyes and deny reality.

Cecil:

I am open to that probability, indeed, it is an excellent explanation (theory), one I probably most favor--that "mirror argument" of yours is GOOD! damn GOOD!

For "crissakes" man, do you think me blind? 8-) <grin>

Warmest regards,
JS

2963. Re: Some ideas ...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 23:27:19 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <etv3cnpvg1@nntp1.jpl.nasa.gov>
Source record: 44231

John Smith I wrote:
> I have been searching the internet, it seems to me someone would have:
>
> 1) Constructed an airtight room, filled it with a gas such as neon and
> placed an antenna in such a room. The power/freq to the antenna could
> be varied and "patterns" observed in how the rf was exciting the gas
> into "glowing" in the visible range while observing any visible patterns
> in such.
>
> 2) Constructed gas insulated coax enclosed in a glass or plastic tube
> with sufficient gap in the outer conductor where observations could be
> made to see if "reflections" or other observable anomalies, and voltage
> and current observed.
>
> Anyone aware of anything close to any of this. Seems like this is right
> up some universitys' alley, nasa, etc. ...

Look up Lecher Lines... Essentially the same idea.

One can also see the evidence of breakdown after the fact, by, e.g.
melted spots in coax.

Another interesting experiment is to take a plate full of marshmallows,
closely packed, and put it into a microwave oven (without the rotating
table turning)..

The mode pattern (standing waves) will be melted into the marshmallows.

2964. Re: Some ideas ...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 23:31:53 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <etv3km$2lq$1@nnrp.linuxfan.it>
Source record: 44228

Cecil Moore wrote:
> John Smith I wrote:
>> Oh well, one has to have something to think about ... I really have a
>> hard time believing (taking a "leap of faith") until I have actually
>> seen something, it is like that for me--but then, you already knew that
>
> That's the problem that the "zero energy in reflected
> waves" crowd have. If they admit they can see themselves
> in a mirror, they have defeated their own argument. So
> they must necessarily close their eyes and deny reality.

As a matter of inquiry, "You ever pointed a video cam at a mirror at the end of a hallway and seen the infinite reflections?" Quite an interesting effect, an experiment worth doing (well, it impressed me--but then, you know that don't take much :-( )... you might remember having seen it done as a special effect in movies before? Perhaps the web has an example for those without a cam?

Regards,
JS

2965. Re: Some ideas ...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-22 23:37:08 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <etv3v4qat1@nntp1.jpl.nasa.gov>
Source record: 44232

John Smith I wrote:
>
> I have seen a large neon bulb in a microwave and the patterns formed in
> the gas ... and it only left me dreaming of the "neon room" and full
> sized antennas in such ... (yes, vhf-uhf-shf if you can't afford a BIG
> room.)

We do this sort of testing at JPL. We have a large bell jar (6 ft across or so) that we put antennas and high power RF components in and then pump down to a vacuum or fill with simulated Mars atmosphere.

Mars gas is mostly CO2, Argon, and CO.. so not far off your idea of a neon room.

2966. WTB: Mosley TA-33 Jr WIRC

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 00:05:00 UTC
From: in2bate <in2bashun@bellsouth.net>
Message-ID: <rc660314lntk8vsps7qfgrokvlpufrge4j@4ax.com>
Source record: 44233

WTB: Mosley TA-33 Jr WIRC in very good or better condition. Must be willing to ship to Florida, unless local, in which case I will pick up. Please email with info. Thanks.

2967. Re: New General with dipole questions

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 00:54:59 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <DzFMh.10070$Um6.580@newssvr12.news.prodigy.net>
Source record: 44234

garlicman wrote:
> How do you account for the good 80m reception?

Dynamic range of 100+ db?
--
73, Cecil http://www.w5dxp.com

2968. Re: New General with dipole questions

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 00:59:04 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <sd9603hifri7f00hmg7scq5b75gklb3h7b@4ax.com>
Source record: 44230

On Thu, 22 Mar 2007 15:02:51 -0700, "garlicman" <None> wrote:

>Will getting the antenna higher reduce the noise? How do you account for the
>good 80m reception?

Hi OM,

Research the topic of choking the feedpoint to reduce noise. This may
help that (and it will certainly help with other issues), but noise
comes in many flavors. Listen at different times of day/night over
the next week. I bet you will hear a world of difference without
doing anything else.

73's
Richard Clark, KB7QHC

2969. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 03:08:59 UTC
From: "Dr. Honeydew" <dr_b_honeydew@msn.com>
Message-ID: <1174619339.281845.277060@n59g2000hsh.googlegroups.com>
Source record: 44235

On Mar 22, 12:31 pm, richardharri...@webtv.net (Richard Harrison)
wrote:

> What is the generator load that extracts maximum power from a
> transmitter? A conjugately matched load, of course. To determine the
> impedance of a transmitter, one only needs to find the load which
> extracts maximum power. The transmitter impedance is its conjugate.
>
> Best regards, Richard Harrison, KB5WZI

We have a new signal generator here at the Labs, but it came without any documentation. We've been hoping to find out more about it, and your suggestion gave us a clue for a test to try. We have a limited set of loads, only from 40 to 60 ohms, but we can add some known reactance in series with that. When we put an accurate 50 ohm load on the generator, we measured exactly 1 watt with our accurate RF power meter. When we changed the load to 40 ohms, the power went up to 1.238 watts, and with a 60 ohm load, it was .839 watts. When we add reactance, either capacitive or inductive, the power goes down, so we're pretty sure the generator output doesn't look reactive. Beaker is having a little trouble with the math on this one. Could you help him out? What sort of output impedance does this generator have?

Oh, and we thought to do another experiment. While the generator was operating, we sent a short burst of RF down a 50 ohm transmission line to the generator's output. Because the power measurements seem to say the generator's output resistance is very low, we thought we would see a return pulse, delayed by the round-trip time down the 15 meters of high-quality cable. But we didn't see any echo. What could be going on? We double-checked everything, and even looked into the line next to the generator with a high impedance probe. We can see the burst going in there, but still nothing comes back.

>From the labs,
Dr. Honeydew

2970. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 05:28:29 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98FCA79D36465nonenowhere@61.9.191.5>
Source record: 44237

"Dr. Honeydew" <dr_b_honeydew@msn.com> wrote in
news:1174619339.281845.277060@n59g2000hsh.googlegroups.com:

> On Mar 22, 12:31 pm, richardharri...@webtv.net (Richard Harrison)
> wrote:
>
>> What is the generator load that extracts maximum power from a
>> transmitter? A conjugately matched load, of course. To determine the
>> impedance of a transmitter, one only needs to find the load which
>> extracts maximum power. The transmitter impedance is its conjugate.
>>
>> Best regards, Richard Harrison, KB5WZI
>
> We have a new signal generator here at the Labs, but it came without
> any documentation. We've been hoping to find out more about it, and
> your suggestion gave us a clue for a test to try. We have a limited

If you have a suspicion that the generator might be 50 ohms, and you have a 50 ohm load, then the output voltage should fall by 6.02dB when the nominal load is connected (compared to o/c).

One of the simple tests that is often used to verify that a generator is loaded properly is that adding a second nominal load in parallel reduces terminal voltage by 3.52dB. This test is often easy to perform, use a power meter for the first termination, watch the reduction in indicated power when a double termination is applied. Be mindful that transmission line lengths need to be short wrt operating frequency.

Some numbers:

1st termination reduces output by 6.02dB;
2nd termination reduces output by 3.52dB;
3rd termination reduces output by 2.50dB;

Owen
...

2971. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 05:43:58 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <q1q603llipv0jt1fpp3qjbldl8ru80h3fu@4ax.com>
Source record: 44236

On 22 Mar 2007 20:08:59 -0700, "Dr. Honeydew" <dr_b_honeydew@msn.com>
wrote:

> What sort of output impedance does this generator have?

With the "accurate RF power meter" determination of 1W, it appears to
be a precision source (of 1W). The output impedance IS the 50 Ohm
resistance you applied to it. This loading at the output terminals is
a conventional usage of a precision source.

73's
Richard Clark, KB7QHC

2972. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 06:18:46 UTC
From: richardharrison@webtv.net
Message-ID: <2303-46037146-353@storefull-3256.bay.webtv.net>
Source record: 44238

Dr. Honeydew wrote:
"We have a new signal generator here at the Labs, but it came without documentation,"

Terman elaborates on Thevenin`s theorem on page 74 of his 1955 opus. From Fig. 3-19 (b) on page 75, I would suggest loading the generator with resistance until its open-circuit voltage is cut in half. That resistance should equal the internal impedance of the generator which you have already determined is resistive. Provided you don`t maintain that sort of overload too long on your 1-watt source, you should do no damage to it.

Best regards, Richard Harrison, KB5WZI

2973. Re: copper clad steel

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 12:02:47 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <9dg703hso0qffggs6g5pki5e3ch2j40jp2@4ax.com>
Source record: 44239

On Wed, 21 Mar 2007 17:26:35 -0500, "merlin-7" <merlin-7@sc.rr.com>
wrote:

> Some of you may have read my posts on the parallel dipole. I have some
>large gauge copper clad wire. It has a memory and is a pain to work with but
>it has a breaking point of around 800lbs (I think that's right)
> Can you stretch that stuff out tight and take a propane torch to it so that
>it will not slinky on you? Without damaging it?
>
> Thanks
> KI4ILB
>
I read your other thread and the replies thus far to this one. I
never had the luxury of a tower, so I installed all mine in trees.
The last time I had one fall, I changed the way I did things a little.
I created a pilot line which was a string that went from the base of
one tree to the base of the other with plenty of room to lower the
middle to the ground. Then I ran the string thru the center
connection for the coax (It wasn't a balun, but had an eyelet on top)
and ran that string thru the eyelet. Then, the ends of the antenna
were pulled up by another piece of string. The tension was lowered
enough to allow for the sway of the trees, and the string going thru
the eyelet was just let very loose. It was loosely tacked to the trunk
of each tree such that any pressure would release it. The antenna
might fall, but I always had a pilot string to pull up a new line for
the antenna.

I always used mason's twine to raise my antennas. needless to say, I
replaced it every year. the antennas were only pulled down by a storm
once and once when I haphazardly tightened the strings too much to
allow for the sway of the trees.

My pilot line idea would have failed to work, not because of storms,
but because of branches. When I moved, the tree limbs had grown into
the wires and I barely was able to recover the antenna when we moved
out. Now I live in an apartment and have no usable trees.

I used #14 copper strand (THHN) and never had a problem with the wire
breaking or having problems with it. i have had as many as 6 wires on
the dipole, but I found that was too much to handle, keep untangled,
etc. I reverted at the end to two 4 wire antennas and later to a 135
foot dipole with twin-lead feed into a tuner. With the latter I could
tune anything.

BTW, I don't know if you use an amp or not, but if not, you can get
away with fairly small wire for the higher bands. If you feel you

need the strength of the longer one (presumably 80 meters), you can use some #18 wire to hang the other dipoles on. My dipole was a parallel fan in which all the elements were separated by pieces of PVC for spacers. To some degree, the more the merrier.

Good luck, let us know how it turns out.

73 for now
Buck, N4PGW
www.lumpuckeroo.com
--
73 for now
Buck, N4PGW
www.lumpuckeroo.com
www.lumpuckeroo.com
N4PGW

2974. Re: New General with dipole questions

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 12:08:18 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <glg7039c0ulub8t2b3jj886ubc6kh4j049@4ax.com>
Source record: 44240

On Thu, 22 Mar 2007 15:02:51 -0700, "garlicman" <None> wrote:

>I just passed my General exam a week ago. I've got a Yaesu FT-990 and made a
>40m dipole with some 12g wire (each side about 33 feet long). I got it
>outside along the roof with part drooping off the roof. I intend to suspend
>it between the chimney and a tree when the universe comes together so that I
>am off work, it stops raining, and I get over this cold.
>
>I haven't transmitted yet, but I noticed a couple of things listening to the
>bands:
>
>1. Lots and lots of noise.
>2. 80m comes in quite well.
>
>Will getting the antenna higher reduce the noise? How do you account for the
>good 80m reception?
>

The higher antenna will increase reception. You may have it near
wires or something in the house that is making noise. If you don't
have a balun, you may wish to make or use one on your line. Make sure
your rig is well grounded.

As stated above, there are lots of things that can cause the noise.
When you get the antenna raised, keep us posted and be more specific
of what the noise sounds like and maybe we can help find the source.

Welcome aboard and good luck.

--
73 for now
Buck, N4PGW
www.lumpuckeroo.com
www.lumpuckeroo.com
N4PGW

2975. Re: copper clad steel

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 12:09:18 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <hqg703hvdgac7c30q24jnjt08l88u013tj@4ax.com>
Source record: 44241

I think I'll fix my signature, sorry folk.

>73 for now
>Buck, N4PGW
>www.lumpuckeroo.com

--
73 for now
Buck, N4PGW
www.lumpuckeroo.com
www.lumpuckeroo.com
N4PGW

2976. Re: copper clad steel

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 12:16:38 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <m8h703dgj1o0h1mvn7qucopc2etf11rs4b@4ax.com>
Source record: 44242

On Fri, 23 Mar 2007 08:09:18 -0400, Buck <usenet01@lumpuckeroo.com>
wrote:

testing signature
--
73 for now
Buck, N4PGW
www.lumpuckeroo.com

2977. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 12:23:01 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1174652580.830275.80640@n59g2000hsh.googlegroups.com>
Source record: 44243

On Mar 21, 4:25 pm, Dan Bloomquist <publi...@lakeweb.com> wrote:
> Keith Dysart wrote:
> > A simple example that I can never make add up is a 50 Watt generator
> > with a 50 ohm output impedance, driving a 50 ohm line which is open at
> > the end. Using the "reverse power" explanation, 50 W of "forward
> > power"
> > from the generator is reflected at the open end, providing 50 W of
> > "reverse
> > power". Since the generator is matched to the line there is no
> > reflection
> > when this "reverse power" reaches the generator so it disappears into
> > the generator....
>
> I explained this last week, albeit for a different reason. I'll paste:
> ***
> Hi Richard,
> He says it in the last sentence. But here is an example. Take a 50 ohm
> thevinin source. Power off, it looks like 50 ohms back into it. Take a
> second thevinin source to represent a reflection and drive 5 volts into
> the first source. Now set your first source 180 degrees to the
> reflection and drive forward 5 volts.
>
> (s)-----/\/\/\--------(c)-----/\/\/\--------(r)
>
> (s)source (c)connection (r)reflection. With (s) 180 degrees out of phase
> from (r), (r) will see a short at (c). It is because of the power
> generated at the source that the impedance into it can look purely
> reactive. And, you can use 5 ohms with 1 volt at the source, (c) will
> still look like a short to (r). The source resistance doesn't matter as
> long as a 'match' is made.
>
> And for the same reason, why the 50 ohm line doesn't look like 50 ohms
> is because of reflected power. Drive an open quarter wave line and it
> looks like a short because the reflected voltage is 180 degrees out from
> the source.
> ***

So you don't like my example? Well I can use yours then.

While you use the word 'power', the real analysis in your example is
all
done with volts. This is excellent and helps demonstrate my point that
'reverse power' is not needed as an explanation. We can carry on from
the analysis you have done and compute some powers. The real power at
(c)

is 0 Watts (the voltage is 0 at all times so using P=VI, the power must
be zero). Assuming that when you say "drive 5 volts", you mean that the
voltage source in the Thevenin equivalent generator is set to 10 V,
the 'forward power' at (c) is 0.5 W and the 'reverse power' is 0.5 W.
When subtracted, these produce the expected result of 0 W which agrees
with the actual computed power. All is well. (And yes, the Bird works
for determining this result).

Now consider someone who believes in the reality of 'forward' and
'reflected power'. There is 0.5 W of 'forward power' which reaches
the generator at the right. Since the impedance of this generator is the
same as the characteristic impedance of the line (or the left generator
in this example because there is no line), there is no reflection
so the 'power' must go into the generator. Similarly with no reflection,
the 'reverse power' goes into the generator. Where does this power go?
If 'reverse power' is real, then it needs to be accounted. Since there
are many examples for which this accounting can not be done
it leads to the inescapable conclusion that 'reverse power' does not
really exist. (Please though, this does not mean that forward and
reverse voltages and currents do not exist. The fundamental error
being committed is that it is not valid to multiply the voltages and
currents computed using superposition to produce powers that actually
represent flowing energy).

Any reader is invited to prove me wrong by providing an accounting for
the 'reverse power' when it reaches the generator whose output impedance
matches the characteristic impedance of the line (i.e. no reflection).

...Keith

2978. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 12:44:16 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1174653856.250964.259660@l75g2000hse.googlegroups.com>
Source record: 44244

On Mar 22, 12:20 am, Cecil Moore <nos...@w5dxp.com> wrote:
>
> This is a lot like the 1/2WL W7EL example in his food for
> thought articles. The generator is *NOT* matched to the line
> as it sees an open circuit and cannot continue to stuff 50
> watts into the open circuit. The generator is as mismatched
> as it can possibly be. The reflected wave also sees that open
> circuit and is 100% reflected. Since the generator is not
> delivering any power and there is a forward power and a
> reflected power, the reflected power is supplying the
> forward power. Anything else violates the conservation
> of energy principle.

I suggest that you have quite mixed up your impedances here
thus rendering all further analysis invalid.

At any point in the system there are 4 impedances.

There is the characteristic impedance looking left and the
characteristic impedance looking right. For systems in
sinusoidal steady-state, there is also the effective impedance
looking left and the effective impedance looking right.

The characteristic impedance is dependant only the elements of
the system. It does not depend on the length of the line or
the frequency of excitation. At changes in the characteristic
impedance, reflections occur. This impedance can be used for
transient as well as steady-state analysis of a system.

The effective impedance is dependant on the characteristic
impedances of the components of the system, as well as line
length and excitation frequency. It can only be used for
steady-state analysis. It does not cause reflections.

Until these impedances are kept straight in discussions, there
is no hope for correctness.

...Keith

2979. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 13:10:08 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <eu0jjm$3v5$1@aioe.org>
Source record: 44245

"Dr. Honeydew" wrote
> Oh, and we thought to do another experiment. While the generator was
> operating, we sent a short burst of RF down a 50 ohm transmission line
> to the generator's output. Because the power measurements seem to say
> the generator's output resistance is very low, we thought we would see
> a return pulse, delayed by the round-trip time down the 15 meters of
> high-quality cable. But we didn't see any echo. What could be going
> on? We double-checked everything, and even looked into the line next
> to the generator with a high impedance probe. We can see the burst
> going in there, but still nothing comes back.

Below is a link leading to a documented, real-world RF pulse measurement to think about.

The reflection results from an antenna mismatch at the far end of ~1,600 feet of air-dielectric transmission line. A directional coupler and calibrated, step attenuator allow for accurate measurement of the weak return pulse amplitude in the presence of the much greater incident pulse.

Note that the reflection is (barely) seen even in the incident display, time-aligned with its location in the reflected display.

Reflections DO exist in such systems, but measuring them requires appropriate instrumentation and methodology.

http://i62.photobucket.com/albums/h85/rfry-100/RFPulseMeasurement.gif

RF

2980. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 14:12:57 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <JfRMh.2772$Kd3.1889@newssvr27.news.prodigy.net>
Source record: 44246

Keith Dysart wrote:
> Any reader is invited to prove me wrong by providing an accounting for
> the 'reverse power' when it reaches the generator whose output
> impedance
> matches the characteristic impedance of the line (i.e. no reflection).

Destructive interference at the generator output
terminal is all the accounting one needs.

Here's a mental aid to help see what happens to
the reflected energy. Assume the output impedance of
the generator and the characteristic impedance of the
line are Z1. Assume THE GENERATOR SEES Z2 AS A LOAD.
Z2 is a general case impedance and could have any
value depending upon the load ZLoad which is not
equal to Z1. The load is mismatched and therefore
Pref1 is not zero.

Gen---Z1 t-line----Zload<>Z1
Pfor1-->
<--Pref1

You say reflected energy flows into the generator.
I'll show you why it does NOT and that total
destructive interference is responsible for
eliminating reflections at the generator.

Add any length of lossless transmission line
with a characteristic impedance of Z2 at the output
of the generator (nothing changes) so it looks like:

Gen---Z2 t-line---+---Z1 t-line----load<>Z1
Pfor2--> Pfor1-->
<--Pref2=0 <--Pref1

Pfor1 and Pref1 are the same values as above.

The Z2 t-line has NO reflected waves because it
is terminated in its characteristic impedance Z2.
The Generator continues to see Z2 as a load. One
has to admit that nothing at the Generator output
has changed. THE GENERATOR SEES EXACTLY THE SAME
LOAD IMPEDANCE IN BOTH CASES. NOTHING HAS CHANGED
IN THE SYSTEM EXCEPT OUR ABILITY TO ANALYZE IT.

Now a simple energy analysis will indicate what
happens to the reflected waves on the Z1 t-line. Since

Pref2=0, the system is Z0-matched to Z2 at point '+'.
Total destructive interference is what happens to the
reflected waves on the Z2 t-line. All of the reflected
energy is re-reflected back toward the load at the Z2-
match point '+'.

NONE OF THE REFLECTED ENERGY REACHES THE GENERATOR SO
NONE OF THE REFLECTED ENERGY CAN BE ABSORBED BY THE
GENERATOR IMPEDANCE.

So there you have it - a detailed mathematically based
reason why the reflected energy does not make it into
the generator in your example. To fully understand why
zero reflected energy flows in the generator, one needs
to understand superposition along with destructive and
constructive interference. This is covered in more detail
in my WorldRadio Energy Analysis article at:

http://www.w5dxp.com/energy.htm

I would recommend that everyone interested in this subject
read the "Optics", by Hecht chapters on superposition and
interference of EM waves. It is the best treatment that
I have seen in writing.
--
73, Cecil http://www.w5dxp.com

2981. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 14:32:20 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <UxRMh.2774$Kd3.1808@newssvr27.news.prodigy.net>
Source record: 44247

Keith Dysart wrote:
> On Mar 22, 12:20 am, Cecil Moore <nos...@w5dxp.com> wrote:
>> This is a lot like the 1/2WL W7EL example in his food for
>> thought articles. The generator is *NOT* matched to the line
>> as it sees an open circuit and cannot continue to stuff 50
>> watts into the open circuit. The generator is as mismatched
>> as it can possibly be. The reflected wave also sees that open
>> circuit and is 100% reflected. Since the generator is not
>> delivering any power and there is a forward power and a
>> reflected power, the reflected power is supplying the
>> forward power. Anything else violates the conservation
>> of energy principle.
>
> I suggest that you have quite mixed up your impedances here
> thus rendering all further analysis invalid.

No, I may have confused you but I did not mix up the
impedances. What the generator and reflected wave "sees"
above refers to the effective or virtual impedance, the
ratio of V/I designated by Z1, Z2, etc. The characteristic
impedances are designated by Z01, Z02, etc.

> At any point in the system there are 4 impedances.
>
> There is the characteristic impedance looking left and the
> characteristic impedance looking right. For systems in
> sinusoidal steady-state, there is also the effective impedance
> looking left and the effective impedance looking right.

Yes, nothing I said disagrees with that. I will try to
draw an ASCII block diagram from now on.

> The characteristic impedance is dependant only the elements of
> the system. It does not depend on the length of the line or
> the frequency of excitation. At changes in the characteristic
> impedance, reflections occur. This impedance can be used for
> transient as well as steady-state analysis of a system.

Yes, nothing I said disagrees with that.

> The effective impedance is dependant on the characteristic
> impedances of the components of the system, as well as line
> length and excitation frequency. It can only be used for
> steady-state analysis. It does not cause reflections.

Yes, nothing I said disagrees with that.

> Until these impedances are kept straight in discussions, there
> is no hope for correctness.

OK, I will insert the impedances for you in what you quoted
above.

This is a lot like the 1/2WL W7EL example in his food for
thought articles.

50wGen---1/2WL open-circuit stub---Z=infinity
Pfor=50w-->
<--Pref=50w

The generator is *NOT* matched to the load as it sees an
open circuit (effective Z=infinity) and cannot continue
to stuff 50 watts into the open circuit. The generator
is as mismatched as it can possibly be. The reflected wave
also sees that open circuit (Z=infinity) and is 100% reflected.
The reflected wave encounters the source wave which puts the
voltages in phase and the currents 180 degrees out of phase.
That's what happens at an open circuit.

Since the generator is not delivering any power and there is
a forward power and a reflected power, the reflected power is
supplying the forward power, i.e. being 100% re-reflected. The
re-reflection is associated with total destructive interference
toward the generator and total constructive interference
toward the load. Anything else violates the conservation of
energy principle.
--
73, Cecil http://www.w5dxp.com

2982. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 15:05:17 UTC
From: Dan Bloomquist <public21@lakeweb.com>
Message-ID: <N0SMh.5336$B25.1160@news01.roc.ny>
Source record: 44248

Keith Dysart wrote:

> On Mar 21, 4:25 pm, Dan Bloomquist <publi...@lakeweb.com> wrote:
>
>>Keith Dysart wrote:
>>
>>>A simple example that I can never make add up is a 50 Watt generator
>>>with a 50 ohm output impedance, driving a 50 ohm line which is open at
>>>the end. Using the "reverse power" explanation, 50 W of "forward
>>>power"
>>>from the generator is reflected at the open end, providing 50 W of
>>>"reverse
>>>power". Since the generator is matched to the line there is no
>>>reflection
>>>when this "reverse power" reaches the generator so it disappears into
>>>the generator....

> So you don't like my example?

Your example assumes that the reflected power will see the 50 ohms of
the generator. And I had shown you a condition where it will see a short
no mater what the 'output' impedance of the generator.

> While you use the word 'power', the real analysis in your example is
> all
> done with volts. This is excellent and helps demonstrate my point that
> 'reverse power' is not needed as an explanation. We can carry on from
> the analysis you have done and compute some powers. The real power at
> (c)
> is 0 Watts (the voltage is 0 at all times so using P=VI, the power
> must
> be zero).

It is a short. It is just that simple. If you have any kind of lab, take
a long piece of coax and drive it with a pulse and watch with a scope.
Find out for yourself that energy will reflect off a short.

> Assuming that when you say "drive 5 volts", you mean that
> the
> voltage source in the Thevenin equivalent generator is set to 10 V,
> the 'forward power' at (c) is 0.5 W and the 'reverse power' is 0.5 W.
> When subtracted, these produce the expected result of 0 W which agrees
> with the actual computed power. All is well. (And yes, the Bird works
> for determining this result).
>
> Now consider someone who believes in the reality of 'forward' and

> 'reflected power'. There is 0.5 W of 'forward power' which reaches
> the generator at the right. Since the impedance of this generator is
> the
> same as the characteristic impedance of the line (or the left
> generator
> in this example because there is no line), there is no reflection
> so the 'power' must go into the generator.

No. (c) is a short. It is just that simple. The power does not flow past it 'into the other generator'. If you have any doubt that power is reflected from a short you have not made the observation. And if you have not made an observation that contradicts this, you can not make the claim of a contradiction.

<snip assumptions based on a false premise>

> Any reader is invited to prove me wrong by providing an accounting for
> the 'reverse power' when it reaches the generator whose output
> impedance
> matches the characteristic impedance of the line (i.e. no reflection).

If you stick to the premise that the reflected power sees the generator impedance it can't be 'proven wrong'. I can say that gravity doesn't exist all day long but that won't make it so. The observation will 'prove' me wrong.

2983. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 16:21:07 UTC
From: "Dr. Honeydew" <dr_b_honeydew@msn.com>
Message-ID: <1174666866.203617.134090@l77g2000hsb.googlegroups.com>
Source record: 44249

On Mar 22, 10:43 pm, Richard Clark <kb7...@comcast.net> wrote:
> On 22 Mar 2007 20:08:59 -0700, "Dr. Honeydew" <dr_b_honey...@msn.com>
> wrote:
>
> > What sort of output impedance does this generator have?
>
> With the "accurate RF power meter" determination of 1W, it appears to
> be a precision source (of 1W). The output impedance IS the 50 Ohm
> resistance you applied to it. This loading at the output terminals is
> a conventional usage of a precision source.
>
> 73's
> Richard Clark, KB7QHC

Thank you, Mr. Clark. But I'm having trouble reconciling what you wrote with what Mr. Harrison posted about the output impedance being equal to the conjugate of the load which dissipates the most power. Clearly the 40 ohm load dissipates more power than the 50 ohm load, so we don't see how your answer and Mr. Harrison's posting can both be correct.

>From the labs,
Dr. Honeydew

2984. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 17:14:10 UTC
From: "mike-c@bulldoghome.com" <mike-c@bulldoghome.com>
Message-ID: <1174670048.840492.155460@n76g2000hsh.googlegroups.com>
Source record: 44250

On Mar 20, 3:37 pm, Walter Maxwell <w...@w2du.com> wrote:
> One of the issues discussed in this thread that Owen originated concerned whether or not reflected power
> enters the power amp and dissipates as heat in the plates of the amp. Some of the posters apparently are
> unable to appreciate that the reflected power does not cause heating of the amp, unless the reflected power
> detunes the amp and the amp is left detuned from resonance, which of course is not the correct manner of
> operating the amp.
>
> In the last post of the original thread I presented the details of an experiment I performed (one of many
> using the same procedure) on a Kenwood TS-830S transceiver that proves how and why reflected power in no way
> causes heating of the amp when the amp is properly adjusted in the presence of the reflected power.
>
> Usually, such a presentation as in the last post in that thread evokes a great deal of response, as for
> example, Art Unwin's. So I'm somewhat surprised, and a little disappointed that my post has resulted in total
> silence. Have my efforts in helping to solve the problem gone for naught?
>
> Walt, W2DU

I have followed this thread with interest There are some who seem to
dispute the existance of reflected power and its ability to do damage.
My answear is that reflected power can certainly do so any one want to
run a completly detuned antenna to prove me wrong may do so at their
expence and risk. as to it causing heat in the amp of course not the
extra work that the amp has to do to "push" the signal to the antenna
does. if a semiconductive device is over worked then it will produce
heat.
The old thermonic valves are far more tolerant than semiconductors.
mike M0DMD

2985. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 17:15:05 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <tWTMh.10241$Um6.9333@newssvr12.news.prodigy.net>
Source record: 44251

Dr. Honeydew wrote:
> Clearly the 40 ohm load dissipates more power than the 50 ohm load, so
> we don't see how your answer and Mr. Harrison's posting can both be
> correct.

It appears that the internal resistance of the
Thevenin equivalent circuit was chosen to be
~1 ohm. Maximum power transfer of ~13 watts
should occur when the load is ~1 ohm and the
current is ~3.6 amps with ~3.6 volts across
the 1 ohm load and across the ~1 ohm generator
impedance. How one gets 13 watts out of a source
rated for one watt is a non-linear physical
design problem, not a linear theory problem.
--
73, Cecil http://www.w5dxp.com

2986. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 17:33:28 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1174671208.135782.317620@p15g2000hsd.googlegroups.com>
Source record: 44252

On Mar 23, 11:05 am, Dan Bloomquist <publi...@lakeweb.com> wrote:
> Your example assumes that the reflected power will see the 50 ohms of
> the generator. And I had shown you a condition where it will see a short
> no mater what the 'output' impedance of the generator.
>

Truly, we have found the root of the disconnect.

Kindly compute the reflection coefficient at the connection where
a 50 Ohm line is driving a 75 Ohm line.

For your convenience, recall that RC = (Z2-Z1)/(Z2+Z1).

Now redo the same, except that the 75 Ohm line is one-half wavelength
long terminated in a short.

If you get the same answer, then you will see why the reflected
voltage in the example does not encounter a discontinuity at the
entrance to the generator and is therefore not re-reflected.

If you get a different answer, then some study of reflection
coefficient
is in order.

...Keith

2987. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 17:38:02 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <_fUMh.10243$Um6.1497@newssvr12.news.prodigy.net>
Source record: 44253

mike-c@bulldoghome.com wrote:
> I have followed this thread with interest There are some who seem to
> dispute the existance of reflected power and its ability to do damage.
> My answear is that reflected power can certainly do so any one want to
> run a completly detuned antenna to prove me wrong may do so at their
> expence and risk.

Reflected power doing damage is an overly simplistic
way of viewing things. The reflected wave is capable
of causing damage without giving up any of its energy.
It is not the energy in the reflected wave, per se,
that causes the damage. It is the interference pattern
established by superposition of the forward wave and
the reflected wave that causes the damage.

If the reflected voltage arrives back at the source
in phase with the forward voltage, that constructive
voltage interference can cause an over-voltage condition
that blows the finals. This over-voltage condition actually
reduces the dissipation in the finals because it is
accompanied by a destructive interference, reduced-current
condition. The finals are actually cooler than normal
when the over-voltage begins to fry them.

Of course, a Thevenin equivalent source doesn't suffer
from an over-voltage problem. Power consumption within
a Thevenin equivalent source actually decreases during
constructive interference between the forward and
reflected voltages.

If the reflected current arrives back at the source
in phase with the forward current, the result can
be an over-current condition which can indeed cause
over-heating and failure.

What happens in the finals depends upon the phase
of the reflected wave. Solid-state finals are
usually protected from both over-voltage and
over-current by detecting the SWR. A fold-back SWR
limit of 3:1 limits both the ratios of Vmax/Vmin
and Imax/Imin to 3:1.
--
73, Cecil http://www.w5dxp.com

2988. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 18:02:38 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <3DUMh.1832$rj1.1066@newssvr23.news.prodigy.net>
Source record: 44254

Keith Dysart wrote:
> Truly, we have found the root of the disconnect.

Truly, we have but it is not what you think. A
source doesn't obey the passive reflection rules.
The V/I ratio encountered within a source is
active, not passive. Active V/I ratios can and
do cause reflections.
--
73, Cecil http://www.w5dxp.com

2989. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 18:19:32 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <USUMh.178219$5j1.50101@bgtnsc04-news.ops.worldnet.att.net>
Source record: 44255

Cecil Moore wrote:

>
> Reflected power doing damage is an overly simplistic
> way of viewing things. The reflected wave is capable
> of causing damage without giving up any of its energy.
> It is not the energy in the reflected wave, per se,
> that causes the damage. It is the interference pattern
> established by superposition of the forward wave and
> the reflected wave that causes the damage.
>
> If the reflected voltage arrives back at the source
> in phase with the forward voltage, that constructive
> voltage interference can cause an over-voltage condition
> that blows the finals. This over-voltage condition actually
> reduces the dissipation in the finals because it is
> accompanied by a destructive interference, reduced-current
> condition. The finals are actually cooler than normal
> when the over-voltage begins to fry them.

Cecil,

Ya know, it is possible to simply add and subtract voltages. It is not required to determine an "interference pattern". Solid state electronics are damaged by high voltage or high power dissipation (or both). No "interference patterns" required.

Perhaps the manufacturers could add exactly the correct length of transmission line inside the transceivers so that the wrong kind of interference could never occur at the finals.

8-)

73,
Gene
W4SZ

2990. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 18:22:35 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <LVUMh.178232$5j1.133863@bgtnsc04-news.ops.worldnet.att.net>
Source record: 44256

Cecil Moore wrote:

[snip]
>
> Since the generator is not delivering any power and there is
> a forward power and a reflected power, the reflected power is
> supplying the forward power, i.e. being 100% re-reflected. The
> re-reflection is associated with total destructive interference
> toward the generator and total constructive interference
> toward the load. Anything else violates the conservation of
> energy principle.

Cecil,

You have highlighted a really useful mathematical aid.

Namely, include the desired answer as a basic condition for setting up the problem, and the proof becomes easy.

8-)

73,
Gene
W4SZ

2991. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 18:33:06 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <C3VMh.726$rO7.104@newssvr25.news.prodigy.net>
Source record: 44257

Gene Fuller wrote:
> Ya know, it is possible to simply add and subtract voltages. It is not
> required to determine an "interference pattern".

It is absolutely necessary to understand the interference
patterns if one wants to track the energy through the
system.
--
73, Cecil http://www.w5dxp.com

2992. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 18:35:00 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <o5VMh.727$rO7.345@newssvr25.news.prodigy.net>
Source record: 44258

Gene Fuller wrote:
> Namely, include the desired answer as a basic condition for setting up
> the problem, and the proof becomes easy.

Yep, no need to make up new laws of physics to
explain things that obviously follow the old
laws of physics.
--
73, Cecil http://www.w5dxp.com

2993. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 18:51:05 UTC
From: Dan Bloomquist <public21@lakeweb.com>
Message-ID: <tkVMh.5509$ya1.4030@news02.roc.ny>
Source record: 44259

Cecil Moore wrote:

> Keith Dysart wrote:
>
>> Truly, we have found the root of the disconnect.
>
> Truly, we have but it is not what you think. A
> source doesn't obey the passive reflection rules.
> The V/I ratio encountered within a source is
> *active*, not passive. Active V/I ratios can and
> do cause reflections.

Well said.
Thanks, Dan.

2994. Re: Fan dipole..

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 19:11:44 UTC
From: mcalhoun@ksu.edu
Message-ID: <eu18pg$f5e@unix1.cc.ksu.edu>
Source record: 44260

>> I currently use a fan dipole (kind of a fan anyway)
><<SNIP>>
>> What are the pros and cons of fan dipoles like this?....

We used one of these at a local mall for "Kids' Day" last January.
Formula-cut for 20/15/10 and errected about 25 feet high (best we
could do at the mall), with NO special "fanning" at the center, but
the ends were about 2 feet apart, and the VSWR was about 6:1 on all
bands (fortunately, we had taken a tuner).

If your VSWR is low, maybe we should have done a bunch of pruning
and cutting, but we didn't think far enough ahead!

--
--Myron A. Calhoun; W0PBV; 2001 Dunbar Road; Manhattan, KS 66502-3907
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
NRA Life Member & Certified Instructor for Rifle, Pistol, & Home Firearm Safety
Also Certified Instructor for the Kansas Concealed-Carry Handgun (CCH) license

2995. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 19:30:56 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <9dc803hcodmeesk0tak4bhgiahq6ee7gk6@4ax.com>
Source record: 44261

On Thu, 22 Mar 2007 12:59:20 -0800, Richard Clark <kb7qhc@comcast.net> wrote:

>On Thu, 22 Mar 2007 15:55:40 GMT, Walter Maxwell <walt@w2du.com>
>wrote:
>
>>On Wed, 21 Mar 2007 08:18:14 -0500, "Richard Fry" <rfry@adams.net> wrote:
>>
>>>"Walter Maxwell" wrote
>>>>(RF): And if so, would that also mean that such a tx would not be prone
>>>> to producing r-f intermodulation components when external signals
>>>> are fed back into the tx from co-sited r-f systems?
>>>
>>>This issue is irrelevant, because the signals arriving from a co-sited
>>>system would not be coherent with the local source signals, while load-
>>>reflected signals are coherent. The destructive and constructive
>>>interference that occurs at the output of a correctly loaded and tuned
>>>PA requires coherence of the source and reflected waves to achieve
>>>the total re-reflection of the reflected waves back into the direction
>>>toward the load.
>
>Hi Walt,
>
>It is not irrelevant, merely illustrative of the concept of reflection
>that is consistent with a coherent source.
>
>Your points of phase are the sine non quo to the discussion, but all
>too often arguers only take the half of the 360 degrees available to
>argue a total solution. Even more often, they take only one or two
>degrees of the 360.

Richard, it's been my observation that many of those who argue are clueless concerning the phase relationships
required to obtain the destructive and constructive interference that achieves the re-reflection of the
reflected waves. A reflection resulting from a discontinuity in the path of a signal delivered by a souce is
guaranteed to be coherent with the source wave. If there is no coherence between the reflected wave and the
source wave there may be an interference, but none of the type that results in total destructive and
constructive interference relevant to impedance matching. I don't understand what you mean by 'taking only one
of two degrees of the 360.'

>>>But even for coherent reflections, if the PA tank circuit has very low loss
>>>for incident power (which it does), why does it not have ~ equally low loss
>>>for load reflections of that power? Such would mean that load reflections
>>>would pass through the tank to appear at the output element of the PA, where
>>>they can add to its normal power dissipation.

The paragraph above seems to me to imply that RF doesn't understand the destructive and constructive
interference phenomena involved with re-reflection.

>This is the symmetry of the illustration of external signals. You
>used external signals yourself as part of your case study; hence the
>relevance has been made by you.

Whoa, Richard! You'll have to point out where I've discussed external signals in any case study involving
phase relationships between forward and reflected waves. I've never done so knowingly.

>>>Also, does not the result of combining the incident and reflected waves in
>>>the tx depend in large part on the r-f phase of the reflection there
>>>relative to the r-f phase of the incident wave? And the r-f phase of the
>>>reflection is governed mostly by the number of electrical wavelengths of
>>>transmission line between the load reflection and the plane of
>>>interest/concern -- which is independent of how the tx has been
>>>tuned/loaded.
>
>And we return to the sine non quo for the discussion: phase.

That's true, but although RF apparently realizes that the phase relationship is relevant, he doesn't seem to
understand the details of the phase requirements that achieve the necessary interferences that accomplish the
impedance matching.

>>>If the ham transmitter designs that your paper applies to produce a total
>>>re-reflection of reverse power seen at their output tank circuits, then
>>>there would be no particular need for "VSWR foldback" circuits to protect
>>>them. Yet I believe these circuits are fairly common in ham transmitters,
>>>aren't they? They certainly are universal in modern AM/FM/TV broadcast
>>>transmitters, and are the result of early field experience where PA tubes,
>>>tx output networks, and the transmission line between the tx and the antenna
>>>could arc over and/or melt when reflected power was sufficiently high.
>>>
>>>RF
>
>>Richard, your statement above begs the question, "Are you aware of the phase relationships between forward and
>>reflected voltages and between forward and reflected currrents that accomplish the impedance-matching effect
>>at matching points such as with stub matching and also with antenna tuners?
>
>It seems he is on the face of it, doesn't it? Afterall, he is quite
>explicit to this in the statement you are challenging.

No Richard, I don't believe he is. I don't see the 'explicitness' you seem to find. It's the complete lack of
the explicitness that makes me believe he doesn't quite get it.

>>When the matching is accomplished the phase relationship between the foward and reflected voltages can become
>>either 0ï¿½ or 180ï¿½, resulting in a total re-reflection of the voltage. If the resultant voltage is 0ï¿½, then the
>>resultant current is 180ï¿½, thus voltage sees a virtual open circuit and the current sees a virtual short
>>circuit. The result is that the reflected voltage and current are totally re-reflected IN PHASE with the
>>source voltage and current. This is the reason the forward power in the line is greater than the source power
>>when the line is mismatched at the load, but where the matching device has re-reflected the reflected waves.
>
>Nothing here contradicts anything either of you have to say.

True, but RF just hasn't said it all, because, as I said above, I don't believe he understands the details of
the phase requirements to achieve the match.

>>This phenomenon occurs in all tube transmitters in the ham world when the tank circuit is adjusted for
>>delivering all available power at a given drive level.
>
>This introduces the two concepts of the "need for match" and the
>"match obtained." They are related only through an action that spans
>from one condition to the other. They do not describe the same
>condition, otherwise no one would ever need to perform the match:

I don't comprehend your statements in the paragraph above.

>>When this condition occurs the adjustment of the
>>pi-network has caused the relationship between the forward and reflected voltages to be either 0ï¿½ or 180ï¿½ and
>>vice versa for currents, as explained above. When this condition occurs, destructive interference between the
>>forward and reflected voltages, as well as between the forward and reflected currents, causes the reflected
>>voltage and current to cancel. However, due to the conservation of energy, the reflected voltage and current
>>cannot just disappear, so the resulting constructive interference following immediately, causes the reflected
>>voltage and current to be reversed in direction, now going in the foward direction along with and in phase
>>with the forward voltage and current.
>
>If a tree were to fall onto the antenna, a new mismatch would occur.
>Would the transmitter faithfully meet the expectations of the Ham
>unaware of the accident? No, reflected (0-179 degrees) energy would
>undoubtedly offer a 50% chance of excitement in the shack. The

>consequences of dissipation would be quite evident on that occasion.
>For the other 180 (180-359) degrees of benign combination; then
>perhaps not.

If a tree were to fall onto the antenna the new mismatch would surely detune the transmitter, causing unwanted
dissipation, of course, but only a lid would fail to retune the transmitter before removing the tree.

>>In transmitters with tubes and a pi-network output coupling circuit there is no 'fold back' circuitry to
>>protect the amp, because none is needed, due to the total re-reflection of the reflected power.
>
>That would more probably be due to cost averse buying habits of the
>Amateur community, and the explicit assumption of risk by them to
>react appropriately in the face of mismatch. Tubes were far more
>resilient to these incidents than transistors of yore.
>
>>It is only in
>>solid-state transmitters that have no circuitry to achieve destructive and constructive interference that
>>requires fold back to protect the output transistors.
>
>They too have access to the services of a transmatch that is probably
>more flexible than the tubes' final. If they didn't use a tuner, then
>the foldback would render many opportunistic antennas as useless.
>Again, as a cost item, this solution (fold-back) is dirt cheap and was
>driven by the market economies of a more onerous and costly repair
>through a lengthy bench time to replace the transistor (which has an
>exceedingly high probability of a quicker failure for a poor job).

IMHO, Richard, the mfgrs of solid-state rigs with no means of matching the output to a load other than 50
ohms short changed the ham, thus requiring him to be satisfied with the power fold back, or buy an antenna
tuner.

Walt, W2DU

2996. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 21:22:40 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1174684960.470895.128050@y66g2000hsf.googlegroups.com>
Source record: 44262

On Mar 21, 11:48 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith wrote:
> > For some years now, you have been arguing the reality of 'reverse
> > power'.
>
> Nope, for the last few years I have been arguing the
> reality of a reverse or reflected EM energy wave. Energy
> is what moves and is the essence of an EM wave moving
> at the speed of light. All I am arguing is the validity
> of the distributed network reflection model, something
> that has stood the test of time for a century or so.
>
> > But there are some challenges to the premise of 'reverse power':
> > - where does the 'reverse power' go?
> > - why does the change in dissipation of a generator when 'reverse
> > power' changes depend more on the design of the generator than
> > on the magnitude of the 'reverse power'?
>
> Reflected energy waves obey the principles of conservation
> of energy and superposition some of which is discussed in
> my WorldRadio energy article at:
>
> http://www.w5dxp.com/energy.htm
>
> > I would suggest that you try trodding this path. Make a list of
> > phenomena that you think are explained by 'reverse power'.
>
> Actually, "reflected energy" rather than "reverse power".
> Here is very close to an experiment we did at Texas A&M
> during the 50's. We observed the ghosting and the professor
> explained reflected energy waves to us.
>
> TVSG-----1000 feet 450 ohm ladder-line---75 ohm TV RCVR
>
> If the TV Signal Generator is not equipped with a circulator
> to get rid of the reflected energy wave, ghosts will appear on
> the TV RCVR. The ghosts are exactly where they should be if
> reflected wave energy exists. How would you explain the
> ghosting?

Ghosting is explained by reflected voltages and currents.

I notice that you frequently use this example, unfortunately
never completing the analysis.
Since you leave it unspecified, let me choose the

output impedance of the TVSG to be 450 Ohms. Now there is
'reverse power' in the ladder line but no ghosts. Where did
the 'reverse power' go such that it does not produce ghosts?

If it is re-reflected, then it is a delayed copy of the original,
i.e. a ghost. So where does it go? Seems to me there is only
two ways and the way that does not produce a ghost is into the
generator, so we need an accounting of this power within the
generator, iff it is real power.

Of course there is no issue once you let go of the notion of
'reverse power'. The reverse voltage and current pass into
the generator since the generator is matched to the line and
nothing is reflected.

And since multiplying reverse voltage by reverse current does
not, in general, produce a real power, there is no power to
account for.

But, again, to argue that 'reverse power' is real, it becomes
necessary to explain where it went.

> > You could start by providing a list of phenomena for which you
> > think the reality of 'reverse power' is the only viable explanation
> > and offer a willingness to learn about alternative explanations.
>
> Please see above. And please abandon the words, "reverse
> power" in favor of reverse or reflected EM energy wave.

Love to, once it is no longer used as an explanation for these
phenomena. Simply changing the name to something else won't help.

...Keith

2997. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 23:10:40 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <9hl803l0qi5u168v223dhv6flmd2k6ks40@4ax.com>
Source record: 44263

On Fri, 23 Mar 2007 19:30:56 GMT, Walter Maxwell <walt@w2du.com>
wrote:

>I don't understand what you mean by 'taking only one
>of two degrees of the 360.'

Hi Walt,

I offered:
>> they take only one or two degrees of the 360.

Arguments that are confined only at 0 or 180 (the one OR two degrees)
and are submitted as proofs as though they boxed the compass. All too
often I've seen one condition (at one phase angle) offered as a
negation of internal heating to prove the source lacks its own
internal resistance. When I've taken exactly the same circuit and
explored the 180th degree alternative, I've demonstrated melt-down
clear and simple. The dissipation of energies does not always lead to
this consequence, but if we were to average the analysis over a
complete 360 degrees, we can only arrive at the obvious evidence of
resistance and calories expended.

>>>>But even for coherent reflections, if the PA tank circuit has very low loss
>>>>for incident power (which it does), why does it not have ~ equally low loss
>>>>for load reflections of that power? Such would mean that load reflections
>>>>would pass through the tank to appear at the output element of the PA, where
>>>>they can add to its normal power dissipation.
>
>The paragraph above seems to me to imply that RF doesn't understand the destructive and
constructive
>interference phenomena involved with re-reflection.

Then asking a question to clarify would be in order. To me, it reads
quite ordinarily as a statement of symmetry. In my own words, it
would say that if a tank circuit can pass energy from source to load
in one direction, it can certainly perform the same transformation in
the opposite direction. After all, that is the function of
transformation and a passive circuit composed of L and C is strictly
linear. Circuit analysis allows us to treat a load as a source in the
complete circuit description.

>>This is the symmetry of the illustration of external signals. You
>>used external signals yourself as part of your case study; hence the
>>relevance has been made by you.
>
>Whoa, Richard! You'll have to point out where I've discussed external signals in any case

study involving
>phase relationships between forward and reflected waves. I've never done so knowingly.

It seems to me that in your initial post in the original thread (that
was largely ignored for comment) you made mention of injecting a
signal from an external source into the mouth of the dragon for the
purposes of measuring the source Z. Am I wrong?

>>And we return to the sine non quo for the discussion: phase.
>
>That's true, but although RF apparently realizes that the phase relationship is relevant, he doesn't seem to
>understand the details of the phase requirements that achieve the necessary interferences that accomplish the
>impedance matching.

That is not what I read.

>>It seems he is on the face of it, doesn't it? Afterall, he is quite
>>explicit to this in the statement you are challenging.
>
>No Richard, I don't believe he is. I don't see the 'explicitness' you seem to find. It's the complete lack of
>the explicitness that makes me believe he doesn't quite get it.

That has not been my impression of the complete post.

>>Nothing here contradicts anything either of you have to say.
>
>True, but RF just hasn't said it all, because, as I said above, I don't believe he understands the details of
>the phase requirements to achieve the match.

That has not been my impression of the complete post.

>>>This phenomenon occurs in all tube transmitters in the ham world when the tank circuit is adjusted for
>>>delivering all available power at a given drive level.
>>
>>This introduces the two concepts of the "need for match" and the
>>"match obtained." They are related only through an action that spans
>>from one condition to the other. They do not describe the same
>>condition, otherwise no one would ever need to perform the match:
>
>I don't comprehend your statements in the paragraph above.

The initial mismatch and its correction do not describe the same
condition. There is a first state, and then the operator imposes a
second state in reaction.

>>If a tree were to fall onto the antenna, a new mismatch would occur.
>>Would the transmitter faithfully meet the expectations of the Ham
>>unaware of the accident? No, reflected (0-179 degrees) energy would
>>undoubtedly offer a 50% chance of excitement in the shack. The

>>consequences of dissipation would be quite evident on that occasion.
>>For the other 180 (180-359) degrees of benign combination; then
>>perhaps not.
>
>If a tree were to fall onto the antenna the new mismatch would surely detune the transmitter, causing unwanted
>dissipation, of course, but only a lid would fail to retune the transmitter before removing the tree.

Of course, but then this is a single instance: a mismatch causing possible increased dissipation within the source. "Possible" is in proportion to phase relationships; dissipation is always.

If you retune to correct the mismatch's potential to destruction (or to provide full power through-put); then you have moved to another state or configuration. That new state admits the potential negative consequence of the first state.

>IMHO, Richard, the mfgrs of solid-state rigs with no means of matching the output to a load other than 50
>ohms short changed the ham, thus requiring him to be satisfied with the power fold back, or buy an antenna
>tuner.

A tube rig requires the same means of matching. It's a wash.

73's
Richard Clark, KB7QHC

2998. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 23:18:00 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <IeZMh.18100$uo3.5203@newssvr14.news.prodigy.net>
Source record: 44265

Keith Dysart wrote:
> Ghosting is explained by reflected voltages and currents.

Z0 has a large resistive component and a small reactive component. Vref*Iref = Vref^2/Z0 = Iref^2*Z0 = real watts You cannot have reflected voltages and currents that contain zero energy. In fact, a reflected TEM wave must have its E-field and H-field 90 degrees apart. The watts contained in the reflected EM wave are ExB, i.e. real watts.

In a flat-matched system the forward traveling wave is the only one that exists. Would you also argue that the forward traveling wave doesn't contain any energy? All traveling waves contain energy including reflected traveling waves.

> I notice that you frequently use this example, unfortunately
> never completing the analysis.
> Since you leave it unspecified, let me choose the
> output impedance of the TVSG to be 450 Ohms. Now there is
> 'reverse power' in the ladder line but no ghosts. Where did
> the 'reverse power' go such that it does not produce ghosts?

Into heating the 450 ohm circulator load resistor that you would have to install to get the generator impedance to exhibit 450 ohms to the reflected waves. Otherwise, the generator will exhibit a mismatch to the 450 ohm line. It is *impossible* for the generator to see 450 ohms when looking into a Z0=450 ohm line with reflections. So it is impossible for the reflected wave to encounter a V/I ratio of 450 ohms in the active generator (unless a 450 ohm circulator resistor is installed).

> And since multiplying reverse voltage by reverse current does
> not, in general, produce a real power, there is no power to
> account for.

Suggest you review transmission line theory. If reverse voltage and reverse current exists, the transmission line forces their ratio to be Z0, i.e. 450 ohms, i.e. in phase. V*I*cos(0) = watts. Since reflections are causing ghosting, it is prima facie evidence that "real power" is being extracted from the reflected wave.
--
73, Cecil http://www.w5dxp.com

2999. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 23:21:04 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <nkn8031qr7j40q4ck7l4omt55tb49fkvdk@4ax.com>
Source record: 44264

On 23 Mar 2007 09:21:07 -0700, "Dr. Honeydew" <dr_b_honeydew@msn.com>
wrote:

>Thank you, Mr. Clark. But I'm having trouble reconciling what you
>wrote with what Mr. Harrison posted about the output impedance being
>equal to the conjugate of the load which dissipates the most power.
>Clearly the 40 ohm load dissipates more power than the 50 ohm load, so
>we don't see how your answer and Mr. Harrison's posting can both be
>correct.

It is a problem of apples and oranges. Your source is not
representative of either a commercial transmitter, nor a amateur
transmitter. It is a precision source. It has no need to exhibit
impedance matching, and is thus not designed to perform that purpose.
It is happy to run quite inefficiently as efficiency is a discardable
quality. Rather, it is incumbent upon you to enforce matching by
careful load selection. Otherwise, its utility is wasted and makes it
a rather expensive choice for a general purpose signal generator.

73's
Richard Clark, KB7QHC

3000. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-23 23:50:00 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1174693800.552475.309030@e1g2000hsg.googlegroups.com>
Source record: 44266

On Mar 23, 7:18 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > I notice that you frequently use this example, unfortunately
> > never completing the analysis.
> > Since you leave it unspecified, let me choose the
> > output impedance of the TVSG to be 450 Ohms. Now there is
> > 'reverse power' in the ladder line but no ghosts. Where did
> > the 'reverse power' go such that it does not produce ghosts?
>
> Into heating the 450 ohm circulator load resistor that you
> would have to install to get the generator impedance to
> exhibit 450 ohms to the reflected waves. Otherwise, the
> generator will exhibit a mismatch to the 450 ohm line.
> It is *impossible* for the generator to see 450 ohms
> when looking into a Z0=450 ohm line with reflections. So
> it is impossible for the reflected wave to encounter a
> V/I ratio of 450 ohms in the active generator (unless a
> 450 ohm circulator resistor is installed).

You are trying too hard. Even your problem statement said
"no circulator". So I offer a simple example of such a
generator: a voltage source connected by a 450 Ohm resistor
to the output terminal. Voila: a generator with 450 Ohm
output impedance. Not too efficient perhaps, but the design
is used when quality source matching is desired or when
reflections need to be suppressed but it is impractical to
terminate the load in the characteristic impedance of the
line.

Now back to the problem... and the questions...

> Actually, "reflected energy" rather than "reverse power".
> Here is very close to an experiment we did at Texas A&M
> during the 50's. We observed the ghosting and the professor
> explained reflected energy waves to us.
>
> TVSG-----1000 feet 450 ohm ladder-line---75 ohm TV RCVR
>
> If the TV Signal Generator is not equipped with a circulator
> to get rid of the reflected energy wave, ghosts will appear on
> the TV RCVR. The ghosts are exactly where they should be if
> reflected wave energy exists. How would you explain the
> ghosting?

I notice that you frequently use this example, unfortunately
never completing the analysis.
Since you leave it unspecified, let me choose the
output impedance of the TVSG to be 450 Ohms. Now there is
'reverse power' in the ladder line but no ghosts. Where did
the 'reverse power' go such that it does not produce ghosts?

If it is re-reflected, then it is a delayed copy of the original,
i.e. a ghost. So where does it go? Seems to me there is only
two ways and the way that does not produce a ghost is into the
generator, so we need an accounting of this power within the
generator, iff it is real power.

Of course there is no issue once you let go of the notion of
'reverse power'. The reverse voltage and current pass into
the generator since the generator is matched to the line and
nothing is reflected.

> > And since multiplying reverse voltage by reverse current does
> > not, in general, produce a real power, there is no power to
> > account for.

> Suggest you review transmission line theory. If reverse
> voltage and reverse current exists, the transmission
> line forces their ratio to be Z0, i.e. 450 ohms, i.e. in
> phase. V*I*cos(0) = watts. Since reflections are causing
> ghosting, it is prima facie evidence that "real power"
> is being extracted from the reflected wave.

Oh I can do the math, and the units are definitely Watts
but that doesn't necessarily mean they offer any reality.
The toaster in my kitchen has 120 Volts on it and the lamp
is drawing 1 Amp (and the two are in phase), but that does not
mean that 120 toaster-lamp Watts has any meaning.

...Keith

3001. Re: Discone element needed.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 00:18:42 UTC
From: Boozo <boozo@bogpond.com>
Message-ID: <46046e6b$1_1@news.iprimus.com.au>
Source record: 44267

```
<jimp@specsol.spam.sux.com> wrote in message
news:t2h6d4-raq.ln1@mail.specsol.com...
> Boozo <boozo@bogpond.com> wrote:
>
>> "Owen Duffy" <none@no.where> wrote in message
>> news:Xns98FA5FE9CD137nonenowhere@61.9.191.5...
>> > "Boozo" <boozo@bogpond.com> wrote in
>> > news:45ff31b1_1@news.iprimus.com.au:
>> >> Does anyone know where I can get a few elements for my discone antenna
>> >> ?
>> >>
>> >> I bought it from Tandy(a.k.a.Radio Shack) electronics in the late 80's
>> >> but don't know the manufacturers name.
>> >>
>> >> Tandy was bought by Dick Smith electronics so I can't go back and ask.
>> >>
>> >> The elements are stainless steel hollow tubes;
>> >> 4.80mm OD x 81cm(approx) long.
>> >>
>> > I have never seen the thin walled stainless tubing you refer to in
>> > metals
>> > outlets in Australia. You could try model shops... but I doubt it.
>> >
>> > Why couldn't you just get some 3/16" stainless steel rod? It is
>> > probably a
>> > brass hub, so you could probably use 3/16" brass rod equally well.
>> >
>> > Owen
>> The stainless rod might be the way to go. Same as my other discone.
>> Have tried a couple of hobby shops but they only have aluminium and
>> brass,
>> and don't have the right size.
>> Definitely isn't aluminium.
>
>> Only other place I can think of is Hills Industries who make TV antennae
>> and
>> other products. The factory is located on South Rd, Edwardstown ??
>
>> I would've liked to get an original replacement if possible, but don't
>> like
>> my chances.
>
>> Boozo.
>
```

> Anything roughly the same diameter and length will do.
>
> A piece of brazing rod threaded on the end would work just fine and is
> cheap.
>
> Off course the die to make the threads will probably be the most expensive
> part if you don't have that stuff on hand, but that can probably be
> solved by asking around your neighborhood and friends with a six-pack
> in hand.
>
> --
> Jim Pennino
Will have to do something like that.
Thanks for the advice.

Boozo.

3002. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 01:21:56 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <U2%Mh.9604$yW.1498@newssvr11.news.prodigy.net>
Source record: 44268

Keith Dysart wrote:
> You are trying too hard. Even your problem statement said
> "no circulator". So I offer a simple example of such a
> generator: a voltage source connected by a 450 Ohm resistor
> to the output terminal. Voila: a generator with 450 Ohm
> output impedance.

The generator is an *active dynamic source*. It does
not have a 450 ohm output impedance just because you
install a 450 ohm resistor. Just as soon as reflected
waves are allowed to reach the source, the source
impedance dynamically shifts away from the 450 ohm
value.
--
73, Cecil http://www.w5dxp.com

3003. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 02:08:08 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1174702088.808692.18350@y66g2000hsf.googlegroups.com>
Source record: 44269

On Mar 23, 9:21 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > You are trying too hard. Even your problem statement said
> > "no circulator". So I offer a simple example of such a
> > generator: a voltage source connected by a 450 Ohm resistor
> > to the output terminal. Voila: a generator with 450 Ohm
> > output impedance.
>
> The generator is an *active dynamic source*. It does
> not have a 450 ohm output impedance just because you
> install a 450 ohm resistor. Just as soon as reflected
> waves are allowed to reach the source, the source
> impedance dynamically shifts away from the 450 ohm
> value.

I notice that you've skipped the important question posed in
the example. I'll try again.

Use my generator: voltage source, 450 Ohm resistor to the output.
No circulator.
Drive your system: 450 Ohm line terminated with a 75 Ohm TV receiver.

TVSG-----1000 feet 450 ohm ladder-line---75 ohm TV RCVR

Ghosts or no?
If no? Where did the 'reverse power' go?

If ghosts? Well, think very carefully before choosing this option
because there aren't.

...Keith

3004. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 03:06:23 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <PA0Nh.1175$YL5.168@newssvr29.news.prodigy.net>
Source record: 44270

Keith Dysart wrote:
> If ghosts? Well, think very carefully before choosing this option
> because there aren't.

There will be ghosting but because of the attenuation
in the 450 ohm series resistor, the ghosting will be
below the level detectable on a TV screen by the human
eye.
--
73, Cecil http://www.w5dxp.com

3005. Litz wire for AM Antenna Rod?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 04:29:04 UTC
From: Bill Bowden <wrongaddress@att.net>
Message-ID: <1174710544.066675.261910@n59g2000hsh.googlegroups.com>
Source record: 44271

How much improvement can I expect using Litz wire to wind a AM ferrite
Rod antenna as opposed to using solid copper wire?

Is it worth the trouble to obtain Litz wire, or can I expect almost
the same response at say 1 MHz using regular enamaled copper wire?

-Bill

3006. Nutty Antenna Idea -- Complete with Rhetorical Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 06:45:54 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <CO3Nh.78006$p17.47735@newsfe11.phx>
Source record: 44272

I have two multiband trap verticals They are not exactly the same, but close. Obviously they're intended to be mounted vertically above a ground.

What happens if I mount them horizontally, base-to base? If I feed one with coax as designed, would it see the other one as a counterpoise? Could I remove any base matching components and feed them both with a 1:1 balun, in effect duplicating the function of a horizontal wire trap dipole?

I'm really impressed with the lower noise of a horizontal antenna. Screw the directionality drawbacks of a horizontal! I can hear more stations.

I am having great fun with HF. My 10 meter copper pipe dipole is laying on the roof with one element extended using a short clip lead and some RG-6 TV coax. Tonight, my Kenwood TS-120 reached out from San Diego for a QSO with New Zealand on 20 meters, my first contact outside this hemisphere. Neat.

"Sal"
(really KD6VKW)

3007. antenna suggestions ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 07:56:54 UTC
From: Nick <a@b.com>
Message-ID: <aR4Nh.20785$0Z1.8430@newsfe7-win.ntli.net>
Source record: 44273

I have a friend who is visiting southern Spain shortly, has a 5 Watt all band portable set
and at the moment, just a "Miracle whip" for an antenna...

We are trying to make the contact between there and the southern UK and so trying to give ourselves
the best chance of making it. The UK station is 100 watts and W3DZZ trapped dipole, or a low horizontal
loop at about 15 feet approx 240 feet long, or a 40 foot vertical with several buried ground wires and earth rods
at base, the last two being matched with an SGC 230.

He is a very dry/arid area, although on reclaimed salt marshes, so guess ground conductivity might still be good
in a dry stone / brick built house with a roof balcony
approx 10 metres above ground. He can only lash up a temporary solution for the time he operates, so
perhaps a long wire/counterpoise, a dipole of some sort or an inverted V, pre-made at home before he goes

Can anyone recommend what aerial will likely give us best chance of making the contact, on which band
and at what time of day ? The distance is approx 1150 miles between us.

Thanks,

Nick

3008. Re: antenna suggestions ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 08:20:27 UTC
From: Ian Jackson <IanJacksonRemoveThisBit@g3ohx.demon.co.uk>
Message-ID: <uyu4ElFL9NBGFwdo@g3ohx.demon.co.uk>
Source record: 44274

In message <aR4Nh.20785$0Z1.8430@newsfe7-win.ntli.net>, Nick <a@b.com>
writes
>I have a friend who is visiting southern Spain shortly, has a 5 Watt all
>band portable set
>and at the moment, just a "Miracle whip" for an antenna...
>
>We are trying to make the contact between there and the southern UK and so
>trying to give ourselves
>the best chance of making it. The UK station is 100 watts and W3DZZ trapped
>dipole, or a low horizontal
>loop at about 15 feet approx 240 feet long, or a 40 foot vertical with
>several buried ground wires and earth rods
>at base, the last two being matched with an SGC 230.
>
>He is a very dry/arid area, although on reclaimed salt marshes, so guess
>ground conductivity might still be good
>in a dry stone / brick built house with a roof balcony
>approx 10 metres above ground. He can only lash up a temporary solution for
>the time he operates, so
>perhaps a long wire/counterpoise, a dipole of some sort or an inverted V,
>pre-made at home before he goes
>
>Can anyone recommend what aerial will likely give us best chance of making
>the contact, on which band
>and at what time of day ? The distance is approx 1150 miles between us.
>
>Thanks,
>
>Nick
>
>

Halfwave dipole / inverted V (about 32 foot end-to-end) for 20m ?
Contact during daytime.
Ian.
--

3009. Re: antenna suggestions ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 08:30:07 UTC
From: Nick <a@b.com>
Message-ID: <jk5Nh.17139$2F5.12384@newsfe5-win.ntli.net>
Source record: 44275

>>
>
> Halfwave dipole / inverted V (about 32 foot end-to-end) for 20m ? Contact
> during daytime.
> Ian.
> --
>

Hi Ian,

Many thanks - will get constructing and trimming...

Nick

3010. Re: Litz wire for AM Antenna Rod?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 08:47:32 UTC
From: nm5k@wt.net
Message-ID: <1174726052.411432.122430@l77g2000hsb.googlegroups.com>
Source record: 44276

On Mar 23, 10:29 pm, "Bill Bowden" <wrongaddr...@att.net> wrote:
> How much improvement can I expect using Litz wire to wind a AM ferrite
> Rod antenna as opposed to using solid copper wire?

Little if any I would think.
>
> Is it worth the trouble to obtain Litz wire, or can I expect almost
> the same response at say 1 MHz using regular enamaled copper wire?

Any ole wire will pretty much work. The wire size will effect Q to
some
degree. I think the larger the wire size, the higher the Q of the
small
loop.
MK

3011. 40 Mtr loading coil for CA-HV

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 08:56:02 UTC
From: Nick <a@b.com>
Message-ID: <CI5Nh.17327$NK3.1364@newsfe6-win.ntli.net>
Source record: 44277

Just getting HF mobile again and seem to have mis-placed my 40M loading coil
for the CA-HV - has anyone a surplus one e.g. from a damaged main antenna
that they would want to sell or even a part / complete aerial with this
item
included ?

Thanks,
Nick

3012. Re: Nutty Antenna Idea -- Complete with Rhetorical Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 10:11:45 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <4604f962$0$28100$4c368faf@roadrunner.com>
Source record: 44278

"Sal M. Onella" <salmonella@food.poisoning.org> wrote in message
news:CO3Nh.78006$p17.47735@newsfe11.phx...
>I have two multiband trap verticals They are not exactly the same, but
> close. Obviously they're intended to be mounted vertically above a
> ground.
>
> What happens if I mount them horizontally, base-to base? If I feed one
> with
> coax as designed, would it see the other one as a counterpoise? Could I
> remove any base matching components and feed them both with a 1:1 balun,
> in
> effect duplicating the function of a horizontal wire trap dipole?
>
> I'm really impressed with the lower noise of a horizontal antenna. Screw
> the directionality drawbacks of a horizontal! I can hear more stations.
>
> I am having great fun with HF. My 10 meter copper pipe dipole is laying
> on
> the roof with one element extended using a short clip lead and some RG-6
> TV
> coax. Tonight, my Kenwood TS-120 reached out from San Diego for a QSO with
> New Zealand on 20 meters, my first contact outside this hemisphere. Neat.
>
> "Sal"
> (really KD6VKW)
>
>

What you would have is a trap dipole, a fairly common antenna. With out
seeing the antennas I am not sure how the twoo different types would
intereact but its worth a try. You will probably need a tuner.

3013. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 10:48:18 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1174733298.091755.294270@e65g2000hsc.googlegroups.com>
Source record: 44279

On Mar 23, 11:06 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > If ghosts? Well, think very carefully before choosing this option
> > because there aren't.
>
> There will be ghosting but because of the attenuation
> in the 450 ohm series resistor, the ghosting will be
> below the level detectable on a TV screen by the human
> eye.

It would be much more convincing if you were to compute the
magnitude of the ghost rather than handwaving an answer.

Though when you do so, you will find that it is exactly zero,
so be prepared.

...Keith

3014. Re: Litz wire for AM Antenna Rod?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 11:19:27 UTC
From: amdx <amdx@knology.net>
Message-ID: <33b97$46050931$45011502$15078@KNOLOGY.NET>
Source record: 44280

"Bill Bowden" <wrongaddress@att.net> wrote in message
news:1174710544.066675.261910@n59g2000hsh.googlegroups.com...
> How much improvement can I expect using Litz wire to wind a AM ferrite
> Rod antenna as opposed to using solid copper wire?
>
> Is it worth the trouble to obtain Litz wire, or can I expect almost
> the same response at say 1 MHz using regular enamaled copper wire?
>
> -Bill
>
I think you will find some degradation in the Q and more interwinding
capacitance.
The extra interwinding capacitance might make it more difficult to tune the
upper
end of the AM band. (If you are trying to tune 540khz to 1710khz.)
Run some tests on a loop from an existing AM loop coil with litz wire, then
rewind it
with solid wire. Let us know the results.
Mike

3015. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 12:06:41 UTC
From: Dave <noone@nowhere.com>
Message-ID: <lv8Nh.145$NO.143@trndny05>
Source record: 44281

"Keith Dysart" <kd1@sympatico.ca> wrote in message
news:1174733298.091755.294270@e65g2000hsc.googlegroups.com...
> On Mar 23, 11:06 pm, Cecil Moore <nos...@w5dxp.com> wrote:
>> Keith Dysart wrote:
>> > If ghosts? Well, think very carefully before choosing this option
>> > because there aren't.
>>
>> There will be ghosting but because of the attenuation
>> in the 450 ohm series resistor, the ghosting will be
>> below the level detectable on a TV screen by the human
>> eye.
>
> It would be much more convincing if you were to compute the
> magnitude of the ghost rather than handwaving an answer.
>
> Though when you do so, you will find that it is exactly zero,
> so be prepared.
>
> ...Keith
>
its all ghosts and mirrors!

forget power, forget energy, they are products of other calculations. all
that is needed is impedance and voltage OR current. once you know voltage
OR current and the impedance you can calculate all the rest.

3016. Re: Litz wire for AM Antenna Rod?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 12:19:12 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <4H8Nh.21$H_5.7@newssvr23.news.prodigy.net>
Source record: 44282

Bill Bowden wrote:
> How much improvement can I expect using Litz wire to wind a AM ferrite
> Rod antenna as opposed to using solid copper wire?
>
> Is it worth the trouble to obtain Litz wire, or can I expect almost
> the same response at say 1 MHz using regular enamaled copper wire?

Are you trying to improve the S/N ratio?
--
73, Cecil http://www.w5dxp.com

3017. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 12:45:56 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <849Nh.9689$yW.8724@newssvr11.news.prodigy.net>
Source record: 44283

Keith Dysart wrote:
> It would be much more convincing if you were to compute the
> magnitude of the ghost rather than handwaving an answer.

I made the rough computation of -25 dB before I responded.
It is below the ability of the human eye to detect TV
ghosting.
--
73, Cecil http://www.w5dxp.com

3018. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 12:56:06 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <Gd9Nh.9692$yW.9587@newssvr11.news.prodigy.net>
Source record: 44284

Dave wrote:
> forget power, forget energy, they are products of other calculations. all
> that is needed is impedance and voltage OR current. once you know voltage
> OR current and the impedance you can calculate all the rest.

What would you do if you were dealing with EM light waves
instead of EM RF waves? Optical physicists don't have the
luxury of dealing with "impedance and voltage OR current".
They are forced to deal with the essence of EM waves which
is photonic energy. They have done it for over a century
and have learned a lot about the nature of EM waves. They
did not "forget power, forget energy".
--
73, Cecil http://www.w5dxp.com

3019. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 12:58:00 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1174741080.915052.107030@e1g2000hsg.googlegroups.com>
Source record: 44285

On Mar 24, 8:45 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > It would be much more convincing if you were to compute the
> > magnitude of the ghost rather than handwaving an answer.
>
> I made the rough computation of -25 dB before I responded.
> It is below the ability of the human eye to detect TV
> ghosting.

Would you care to reveal the details of the calculations
so that we can locate the error(s) that lead to a non-zero
answer?

...Keith

3020. Re: Nutty Antenna Idea -- Complete with Rhetorical Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 13:21:15 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <nb9a03dpa291as8hpb66v29duk103on57p@4ax.com>
Source record: 44286

On Sat, 24 Mar 2007 06:11:45 -0400, "Jimmie D"
<GFENDER@carolina.rr.com> wrote:

>
>"Sal M. Onella" <salmonella@food.poisoning.org> wrote in message
>news:CO3Nh.78006$p17.47735@newsfe11.phx...
>>I have two multiband trap verticals They are not exactly the same, but
>> close. Obviously they're intended to be mounted vertically above a
>> ground.
>>
>> What happens if I mount them horizontally, base-to base? If I feed one
>> with
>> coax as designed, would it see the other one as a counterpoise? Could I
>> remove any base matching components and feed them both with a 1:1 balun,
>> in
>> effect duplicating the function of a horizontal wire trap dipole?
>>
>> I'm really impressed with the lower noise of a horizontal antenna. Screw
>> the directionality drawbacks of a horizontal! I can hear more stations.
>>
>> I am having great fun with HF. My 10 meter copper pipe dipole is laying
>> on
>> the roof with one element extended using a short clip lead and some RG-6
>> TV
>> coax. Tonight, my Kenwood TS-120 reached out from San Diego for a QSO with
>> New Zealand on 20 meters, my first contact outside this hemisphere. Neat.
>>
>> "Sal"
>> (really KD6VKW)
>>
>>
>
>What you would have is a trap dipole, a fairly common antenna. With out
>seeing the antennas I am not sure how the twoo different types would
>intereact but its worth a try. You will probably need a tuner.
>

If both were the same, I think he would be better off, but it should
turn into a rotatable dipole similar to a multiband beam, but without
the directors and reflectors. I see there is no reason it shouldn't
work once he gets them tuned.

Buck

--
73 for now
Buck, N4PGW
www.lumpuckeroo.com

3021. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 14:02:41 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <5caNh.9704$yW.4419@newssvr11.news.prodigy.net>
Source record: 44287

Keith Dysart wrote:
> On Mar 24, 8:45 am, Cecil Moore <nos...@w5dxp.com> wrote:
>> I made the rough computation of -25 dB before I responded.
>> It is below the ability of the human eye to detect TV
>> ghosting.
>
> Would you care to reveal the details of the calculations
> so that we can locate the error(s) that lead to a non-zero
> answer?

As I said, it was a rough computation based on your 450
ohm series padding resistor and a lot of simplified
assumptions about the configuration of the system.

In order to avoid ambiguity, would you please give us
better specifications for the source? Ramo and Whinnery
warn us not to draw any conclusions about what happens
inside a Thevenin equivalent source so your specification
must be an achievable well-defined real-world source.
How about a class-A linear amplifier with no filters,
no impedance transformation, and no protection circuitry?
Vrms/Irms = 75 ohms Vrms*Irms*cos(0) = 1 watt

The amount of interference cannot be calculated without
magnitude and phase. Shall we assume that the 450 ohm
line is an integer number of wavelengths and lossless?
i.e. Z0-matched to 75 ohms?

If you require detailed calculations, more specified
information is needed.
--
73, Cecil http://www.w5dxp.com

3022. Re: Nutty Antenna Idea -- Complete with Rhetorical Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 14:05:28 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <IeaNh.9705$yW.5953@newssvr11.news.prodigy.net>
Source record: 44288

Buck wrote:
> If both were the same, I think he would be better off, but it should
> turn into a rotatable dipole similar to a multiband beam, but without
> the directors and reflectors. I see there is no reason it shouldn't
> work once he gets them tuned.

How much would it weigh?
--
73, Cecil http://www.w5dxp.com

3023. Re: Smith chart

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 15:14:16 UTC
From: Phil <agatized@sprynet.com>
Message-ID: <cfbNh.17180$JI.11568@newsread3.news.pas.earthlink.net>
Source record: 44289

Frank's wrote:
> <Craig.Kinney@Blueyonder.co.uk> wrote in message
> news:1173187467.306167.194350@j27g2000cwj.googlegroups.com...
>> Does anyone have any smith chart tutorials that are easy to follow as
>> i have some technicians who require some study aids, most of the
>> tutorials around are a bit over burdened with math.
>>
>> cheers
>
> RF Circuit Design by Chris Bowick has an excellent
> description of the Smith Chart. Available at
> www.amazon.com for $26.37.
>
> Frank
>
>
I second Frank's recommendation of Bowick. It also has very good
information on matching networks and transistor biasing.

Erich
KA6AMD

3024. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 15:40:37 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1174750837.077106.106640@d57g2000hsg.googlegroups.com>
Source record: 44290

On Mar 24, 10:02 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > On Mar 24, 8:45 am, Cecil Moore <nos...@w5dxp.com> wrote:
> >> I made the rough computation of -25 dB before I responded.
> >> It is below the ability of the human eye to detect TV
> >> ghosting.
>
> > Would you care to reveal the details of the calculations
> > so that we can locate the error(s) that lead to a non-zero
> > answer?
>
> As I said, it was a rough computation based on your 450
> ohm series padding resistor and a lot of simplified
> assumptions about the configuration of the system.
>
> In order to avoid ambiguity, would you please give us
> better specifications for the source? Ramo and Whinnery
> warn us not to draw any conclusions about what happens
> inside a Thevenin equivalent source so your specification
> must be an achievable well-defined real-world source.
> How about a class-A linear amplifier with no filters,
> no impedance transformation, and no protection circuitry?
> Vrms/Irms = 75 ohms Vrms*Irms*cos(0) = 1 watt
>
> The amount of interference cannot be calculated without
> magnitude and phase. Shall we assume that the 450 ohm
> line is an integer number of wavelengths and lossless?
> i.e. Z0-matched to 75 ohms?
>
> If you require detailed calculations, more specified
> information is needed.

Standard analysis can tell us quite a bit about the situation
without the need for further information. The information
we have:
- Generator with 450 Ohm output impedance
- connected directly to a 1000 foot line with 450 Ohm
characteristic impedance
- connected to a load with 75 Ohm input impedance.

Remembering that reflection coefficient is RC = (Z2-Z1)/(Z2+Z1) let
use compute the RCs at all the connection points:
RCgen-line = (450-450)/(450+450) -> 0
RCline-load = (75-450)/(75+450) -> -0.714
RCline-gen = (450-450)/(450+450) -> 0

Let the output of the generator into a 450 Ohm load be Vout.

Forward voltage supplied by the generator into the line:
Vfwd = Vout
This is also the Vfwd that reaches the load (for the purposes of
example we are dealing with lossless lines).

The reflected voltage at the load:
Vref = Vfwd * RCline-load = Vfwd * -0.714 = Vout * -0.714

The voltage applied to the load:
Vload = Vfwd + Vref = Vout * 0.286

The voltage reflected from the load that arrives back at the
generator:
Vref = Vout * -0.714

The amount of Vref reaching the generator that is reflected back
to the load:
Vrefref = RCline-gen * Vref = 0 * Vref = 0

There for no ghosts since there is no re-reflection.

A few other things of possible interest...
Power delivered to the load:
Pload = Vload * Vload / 75 = Vout * Vout * 0.0816 / 75
= Vout * Vout * .0011
This is the actual power that flows in the line.

Forwarwd power as indicated by a directional wattmeter in the line:
Pfwd = Vfwd * Vfwd / 450
Reverse power as indicated by a directional wattmeter in the line:
Prev = Vref * Vref / 450

Net power flowing in the line:
Pfwd - Prev = (Vfwd*Vfwd)/450 - (Vref*Vref)/450
= Vout*Vout/450 - Vout*RC*Vout*RC/450
= Vout*Vout*(1-(RC*RC))/450
= Vout * Vout * 0.0011
Which is the same as the load power; this being as expected
since directional wattmeters are useful for obtaining the
net power.

It is also useful to know what we can not compute from the
provided information....

The voltage at the generator output and its phase with respect
to the current since this is dependant on the velocity factor
of the line and the signal frequency. Though if the output is DC
(e.g. a step function) than this can be easily computing for
the situation after one round trip delay.

Generator dissipation since we would need to know the internal
construction of the generator and the actual voltage and current
phase at the output of the generator.

Still, using conventional techniques we have derived quite a
bit about the system without knowing the internals of the generator.

Cecil, are you saying that your techniques can not produce any
derivations without knowing the internal construction of the
generator and the length of the line (in wavelengths)?

...Keith

3025. Re: Nutty Antenna Idea -- Complete with Rhetorical Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 16:05:54 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <46054c5f$0$28104$4c368faf@roadrunner.com>
Source record: 44291

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:IeaNh.9705$yW.5953@newssvr11.news.prodigy.net...
> Buck wrote:
>> If both were the same, I think he would be better off, but it should
>> turn into a rotatable dipole similar to a multiband beam, but without
>> the directors and reflectors. I see there is no reason it shouldn't
>> work once he gets them tuned.
>
> How much would it weigh?
> --
> 73, Cecil http://www.w5dxp.com

Yeah I thought about that too after my inital post. It would be a bear to
make a rotateable dipole using this if its anything like my old trap
vertical.

3026. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 16:09:40 UTC
From: Dave <noone@nowhere.com>
Message-ID: <83cNh.167$NO.131@trndny05>
Source record: 44292

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:Gd9Nh.9692$yW.9587@newssvr11.news.prodigy.net...
> Dave wrote:
>> forget power, forget energy, they are products of other calculations.
>> all that is needed is impedance and voltage OR current. once you know
>> voltage OR current and the impedance you can calculate all the rest.
>
> What would you do if you were dealing with EM light waves
> instead of EM RF waves? Optical physicists don't have the
> luxury of dealing with "impedance and voltage OR current".
> They are forced to deal with the essence of EM waves which
> is photonic energy. They have done it for over a century
> and have learned a lot about the nature of EM waves. They
> did not "forget power, forget energy".
> --
yes they do. but photons are propagating em waves, they aren't currents and
voltages, they are E and B fields. you can do the exact same calculations
using either E or B and the refractive index or epsilon/mu. again, all you
need is 2 of them, and you can compute the third, and then you know it all.

3027. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 16:40:37 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <9wcNh.95$Q23.73@newssvr17.news.prodigy.net>
Source record: 44293

Keith Dysart wrote:
> Standard analysis can tell us quite a bit about the situation
> without the need for further information. The information
> we have:
> - Generator with 450 Ohm output impedance

There are a number of techniques to ensure that the
reflected waves encounter an impedance of 450 ohms
but none of those techniques are implemented in
amateur radio transmitters. Your generator is
obviously equipped with a circulator load of 450
ohms, 450 ohm attenuation pads, or some active
feedback. Given that, your analysis is correct but
moot. Your point is already known and accepted by
every initiated person including me.

I freely admit that if the proper circulator load
exists or if 450 ohm attenuator pads exist, they
will dissipate the reflected power by heating
up the circulator load resistor or the pads.

But it's tough to argue that there is no energy in
the reflected waves while they are being used to boil
water.
--
73, Cecil http://www.w5dxp.com

3028. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 16:45:41 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <VAcNh.2405$u03.378@newssvr21.news.prodigy.net>
Source record: 44294

Dave wrote:
> yes they do. but photons are propagating em waves, they aren't currents and
> voltages, they are E and B fields. you can do the exact same calculations
> using either E or B and the refractive index or epsilon/mu. again, all you
> need is 2 of them, and you can compute the third, and then you know it all.

True, but how do they measure two of them? Ever
tried to measure the E-field of visible photons?
Hint: It is an irradiance (power density) time-
averaged measurement proportion to E^2.
--
73, Cecil http://www.w5dxp.com

3029. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 17:08:48 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <AWcNh.2411$u03.1264@newssvr21.news.prodigy.net>
Source record: 44296

Richard Clark wrote:
> Cecil Moore <nospam@w5dxp.com> wrote:
>> your analysis is correct but moot
>
> Is he stealing your style?

"Moot" is an interesting word, Richard. From
Webster's - "moot - 1. a: debatable, b: disputed"
--
73, Cecil http://www.w5dxp.com

3030. Re: Some ideas ...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 17:13:04 UTC
From: Uncle Peter <radioconnection@cox.net>
Message-ID: <N_cNh.42124$_R.17864@newsfe23.lga>
Source record: 44297

"John Smith I" <assemblywizard@gmail.com> wrote in message
news:etus10hop1@nnrp.linuxfan.it...
>I have been searching the internet, it seems to me someone would have:
>
> 1) Constructed an airtight room, filled it with a gas such as neon and
> placed an antenna in such a room. The power/freq to the antenna could be
> varied and "patterns" observed in how the rf was exciting the gas into
> "glowing" in the visible range while observing any visible patterns in
> such.
>

The gas would ionize, conduct, and severely detune the antenna.

Pete

3031. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 17:54:26 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <rapa031nai43826mhn6hiiduo29j3ricss@4ax.com>
Source record: 44295

On Sat, 24 Mar 2007 11:40:37 -0500, Cecil Moore <nospam@w5dxp.com>
wrote:

> your analysis is correct but moot

Is he stealing your style?

3032. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-24 22:01:58 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1174773718.331340.138250@n76g2000hsh.googlegroups.com>
Source record: 44298

On Mar 24, 12:40 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Standard analysis can tell us quite a bit about the situation
> > without the need for further information. The information
> > we have:
> > - Generator with 450 Ohm output impedance
>
> There are a number of techniques to ensure that the
> reflected waves encounter an impedance of 450 ohms
> but none of those techniques are implemented in
> amateur radio transmitters. Your generator is
> obviously equipped with a circulator load of 450
> ohms, 450 ohm attenuation pads, or some active
> feedback.

While it might be, none of the above are necessary nor
included in the example I have analyzed.
A simple voltage source in series with 450 Ohms resistor
or a current source in parallel with one will produce
exactly the same results.

Look carefully at the analysis and you will find no
evidence of any of the items you have mentioned above,
unless you consider the 450 Ohm resistor to be an
attenuation pad. (Though it is this resistor which matches
the line and ensures there is no reflection).

> Given that, your analysis is correct but
> moot. Your point is already known and accepted by
> every initiated person including me.

Not you, I suspect, since you seem to find it necessary
to add some components which were not in the description
of the setup.

> I freely admit that if the proper circulator load
> exists or if 450 ohm attenuator pads exist, they
> will dissipate the reflected power by heating
> up the circulator load resistor or the pads.

Yes, indeed they would. The more challenging case for
you is the example I presented without these components.
How do you explain the absence of ghosts? And the
unaccountability of the 'reflected power'.

While an example with a circulator makes it easy to
locate and account for the 'reflected power', there is
more to be learned by studying the example without.

If you can not demonstrate a flaw in the analysis then you
may wish to explore why the example without a circulator
(or other additional components) causes you difficulty.

> But it's tough to argue that there is no energy in
> the reflected waves while they are being used to boil
> water.

While you can construct examples where the 'reflected
power' will boil water, there are alternate examples where
the total system dissipation drops in the presence of
'reflected power'. So sometimes 'reflected power' boils
water and sometimes it does not. Not a very reliable source
of energy it seems.

But I do suggest going back to the example. If there is no
flaw in the analysis, please explain where the 'reflected
power' goes.

...Keith

3033. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-25 01:50:31 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98FE787CF4EDFnonenowhere@61.9.191.5>
Source record: 44299

Cecil Moore <nospam@w5dxp.com> wrote in news:9wcNh.95$Q23.73
@newssvr17.news.prodigy.net:

>
> I freely admit that if the proper circulator load
> exists or if 450 ohm attenuator pads exist, they
> will dissipate the reflected power by heating
> up the circulator load resistor or the pads.

Considering only the attenuator case, you suggest in such a general statement that reflected power always increases the dissipation in a real source that includes an attenuator for the purpose of constraining the equivalent source impedance.

Such a suggestion is incorrect in the steady state, some loads may increase the generator's internal dissipation, some may decrease it depending on the attenuator circuit.

Owen

3034. Re: Nutty Antenna Idea -- Complete with Rhetorical Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-25 01:52:00 UTC
From: mcalhoun@ksu.edu
Message-ID: <eu4kk0$2jo@unix1.cc.ksu.edu>
Source record: 44300

>I have two multiband trap verticals They are not exactly the same, but
>close. Obviously they're intended to be mounted vertically above a ground.
>What happens if I mount them horizontally, base-to base? If I feed one with
>....[snip]....

I've done it with pairs of identical "hamsticks" (not multiband, but
quick-disconnects made it relatively easy to change bands), coax fed,
and mounted (horizontally, pointed fore and aft, of course!-) about
two feet above the cab of my pickup. It made a GREAT NVIS HF antenna!

--
--Myron A. Calhoun; W0PBV; 2001 Dunbar Road; Manhattan, KS 66502-3907
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
NRA Life Member & Certified Instructor for Rifle, Pistol, & Home Firearm Safety
Also Certified Instructor for the Kansas Concealed-Carry Handgun (CCH) license

3035. be adivised this a areply to known theif and cyber stalker

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-25 03:53:29 UTC
From: Mark@kb9rqz.org
Message-ID: <hhsb039ouq1bbasd9229qvuipicbhjdo8b@4ax.com>
Source record: 44301
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.misc

On 16 Mar 2007 18:25:39 -0700, "Dloyd Lavies" <N0vfpsucks@aol.com>
wrote:

>
be adivised this a areply to known theif and cyber stalker
"Dloyd Lavies" youd better hope I never realiable pentrate your security
http://markmorgansucks.blogspot.com/
http://dloydlaviessweatlord.blogspot.com/
http://worldofdloyd.blogspot.com/2007/01/new-year.html
stealing data from my wifes accounts is unaccaptable

--
Posted via a free Usenet account from http://www.teranews.com

3036. Re: Antenna optimizers

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-25 05:01:56 UTC
From: Mike Coslo <mcoslo@youknow.comcast.net>
Message-ID: <Xns98FE572BE40mcoslocomcastnet@216.196.97.136>
Source record: 44302

"Yuri Blanarovich" <K3BU@optonline.net> wrote in
news:thyIh.1522$L_2.147@newsfe12.lga:

> Global Scam of all times. Not even antenna optimizers or Gausian
> gizmos can do a thing about it. As soon as Algore got his Ossskar, God
> blew wave of cold to show him who is in charge :-)

So let me get this straight, Yuri,

A cold snap in your neighborhood means that Global warming is
invalid?

I always offer this challenge:

A number of gaseous components naturally occurring in the
atmosphere have an effect that tends to retain heat. These are
collectively referred to as greenhouse gases. That paragraph is a fact.
It has been experimentally proven.

Through various methods, the amount of at least one of those gases
has increased significantly since the beginning of the industrial age.
That is a measurable fact.

note: there have been some fairly dramatic increases in other gases
that are much more "actice" in heat retention, like methane. Let's ignore
them for the purposes of this argument.

Give me a compelling and scientific reason why proven scientific
facts are not having a measurable effect on the earth's temperature. Then
invalidate the apparent measured effects that would tend to support the
warming. I am willing to abandon the thought of global warming if someone
can give me a real and non-political argument.

Of course, that means no offhand remarks about Left wingers,
commies, or the usual suspect trotted out as some kind of "proof" that
satisfies only those who get their science news from AM radio talkshow
hosts.

From a right-winger who looks beyond the politics.

(p.s. no one has done it yet)

- 73 de Mike KB3EIA -

3037. Re: Antenna optimizers

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-25 05:18:22 UTC
From: Mike Coslo <mcoslo@youknow.comcast.net>
Message-ID: <Xns98FE32086D4Amcoslocomcastnet@216.196.97.136>
Source record: 44303

Cecil Moore <mycall@hotmail.com> wrote in news:F1pIh.9068$jx3.404
@newssvr25.news.prodigy.net:

> Peter wrote:
>> Just what the Global Warming Paranoia brigade are doing these days
>> with their climatic change modelling software!!!
>
> Wonder what caused the Global Warming trend that
> began 140,000 years ago and eventually resulted
> in temperatures a lot higher than today?
>
> Wonder what triggered the present Global Warming
> trend that started 20,000 years ago? Caveman
> campfires?

Hardly likely Cecil. The amount of CO2 in the atmosphere has varied quite a bit over time. Lot's of sources of it, and lots of sources of other greenhouse gases.

Certainly the Deccan Traps indicate that volcanic activity likely had some effect on CO2 atmospheric content. That was quite a bit before 140,00 years ago.

The sun itself undergoes some variability. It is likely that many things contribute to temperature variations.

Human effects would hardly have made any impact before our population growth and inadvertant release of greenhouse gases did start to have that impact.

Let me ask a question of the doubters. Say that a new ice age came about. Say that Canada and much of the north were starting to freeze over. In the sothern Hemisphere, the same was happening. All this was meaning that Humanity was going to loook at a huge die off, as useable land were to shrink, and the present population became unsupportable.

But perhaps a way out was available. Burning as much carbon based fuels as possible would possibly raise global temperatures some. Perhaps land at the fringes would become able to support agriculture again, instead of being glaciated. Perhaps more humans could be saved.

Would that be okay then? Would it be worth the effort? Or should we just die off because it was a liberal plot? ;^)

- 73 de Mike KB3EIA -

3038. Re: Nutty Antenna Idea -- Complete with Rhetorical Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-25 05:25:53 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <EJnNh.78247$p17.6627@newsfe11.phx>
Source record: 44304

"Jimmie D" <GFENDER@carolina.rr.com> wrote in message
news:46054c5f$0$28104$4c368faf@roadrunner.com...
>
> "Cecil Moore" <nospam@w5dxp.com> wrote in message
> news:IeaNh.9705$yW.5953@newssvr11.news.prodigy.net...
> > Buck wrote:
> >> If both were the same, I think he would be better off, but it should
> >> turn into a rotatable dipole similar to a multiband beam, but without
> >> the directors and reflectors. I see there is no reason it shouldn't
> >> work once he gets them tuned.
> >
> > How much would it weigh?
> > --
> > 73, Cecil http://www.w5dxp.com
>
> Yeah I thought about that too after my inital post. It would be a bear to
> make a rotateable dipole using this if its anything like my old trap
> vertical.
>
>

I hadn't bargained on rotating it, although that's not out of the question. I think those verticals are about 20 pounds each, so it would be a project. I will weigh them tomorrow. I do have a rotator thrust bearing that I once used with a monster VHF TV antenna.

The Hustler four band (10, 15, 20 , 40) is 35 feet tall. The other antenna is a five-band, but I don't have the specs here at hand. It's presumably the same, unless they got 80 with some folding tricks, in which case I don't know how tall it would be.

Depending on where I would put a rotating 70-foot horizontal antenna, I'm sure I could either prune my neighbor's tree or make contact with the power company, via their overhead lines. Did I mention I am on a city street with a 100 x 100 lot? Hm-m-m -- better not rotate.

3039. Re: Nutty Antenna Idea -- Complete with Rhetorical Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-25 05:30:55 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <kOnNh.78249$p17.9080@newsfe11.phx>
Source record: 44305

<mcalhoun@ksu.edu> wrote in message news:eu4kk0$2jo@unix1.cc.ksu.edu...
>
> >I have two multiband trap verticals They are not exactly the same, but
> >close. Obviously they're intended to be mounted vertically above a
ground.
> >What happens if I mount them horizontally, base-to base? If I feed one
with
> >....[snip]....
>
> I've done it with pairs of identical "hamsticks" (not multiband, but
> quick-disconnects made it relatively easy to change bands), coax fed,
> and mounted (horizontally, pointed fore and aft, of course!-) about
> two feet above the cab of my pickup. It made a GREAT NVIS HF antenna!
>
> --
> --Myron A. Calhoun; W0PBV;

Thanks. I don't own any of them, yet, but it sounds like a possibility.
I'm probably going to want DX, though, so NVIS isn't something that I'm
seeking. If I'm horizontal, I'll want some elevation.

"Sal"

3040. Re: Nutty Antenna Idea -- Complete with Rhetorical Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-25 05:47:47 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <46060d00$0$1379$4c368faf@roadrunner.com>
Source record: 44306

"Sal M. Onella" <salmonella@food.poisoning.org> wrote in message
news:EJnNh.78247$p17.6627@newsfe11.phx...
>
> "Jimmie D" <GFENDER@carolina.rr.com> wrote in message
> news:46054c5f$0$28104$4c368faf@roadrunner.com...
>>
>> "Cecil Moore" <nospam@w5dxp.com> wrote in message
>> news:IeaNh.9705$yW.5953@newssvr11.news.prodigy.net...
>> > Buck wrote:
>> >> If both were the same, I think he would be better off, but it should
>> >> turn into a rotatable dipole similar to a multiband beam, but without
>> >> the directors and reflectors. I see there is no reason it shouldn't
>> >> work once he gets them tuned.
>> >
>> > How much would it weigh?
>> > --
>> > 73, Cecil http://www.w5dxp.com
>>
>> Yeah I thought about that too after my inital post. It would be a bear to
>> make a rotateable dipole using this if its anything like my old trap
>> vertical.
>>
>>
>
> I hadn't bargained on rotating it, although that's not out of the
> question.
> I think those verticals are about 20 pounds each, so it would be a
> project.
> I will weigh them tomorrow. I do have a rotator thrust bearing that I
> once
> used with a monster VHF TV antenna.
>
> The Hustler four band (10, 15, 20 , 40) is 35 feet tall. The other
> antenna
> is a five-band, but I don't have the specs here at hand. It's presumably
> the same, unless they got 80 with some folding tricks, in which case I
> don't
> know how tall it would be.
>
> Depending on where I would put a rotating 70-foot horizontal antenna, I'm
> sure I could either prune my neighbor's tree or make contact with the
> power
> company, via their overhead lines. Did I mention I am on a city street
> with

> a 100 x 100 lot? Hm-m-m -- better not rotate.
>
>

Make sure your antenna is OK before you try this a lot of those old Hustlers
are good for scrap.

3041. Balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-25 07:16:52 UTC
From: "Mike M." <notme@invalid.email.net>
Message-ID: <1g4c03thgmh4ug188j2lobrduereqculbi@4ax.com>
Source record: 44307

I built a 4:1 balun based on an old QST article.
http://www2.arrl.org/members-only/tis/info/pdf/9008028.pdf

I used 10 Fair-Rite 2643540002 beads on each of the 2 pieces of RG-71B/U 93 ohm coax. These are #43 ferrite .562 OD .250 ID and 1.125 inches long.

Is this enough #43 ferrite to be an effective balun on 80 thru 10 meters?

The balanced side is connected to about 30 ft of 450 Ohm window line that feeds a 135 ft off center fed dipole at 75 ft from one end. The unbalanced side is connect to the coax output of an AEA ET-1 manual tuner through 20 ft of Mini 8 coax.

Will this type balun work with the high swr that it will see on some bands?

I can get a good match on 80 thru 10 meters except for 12 meters. It seems to work, but I may be converting more RF to heat than radiating. The external balun is a matter of convenience as it is a lot easier to bring the coax into the tuner than it is to bring in the window line. Would it be better to just use a 1:1 balun between the coax and the window line?

Mike kc9doa

3042. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-25 07:36:42 UTC
From: Ian Jackson <IanJacksonRemoveThisBit@g3ohx.demon.co.uk>
Message-ID: <pMeZLIDKaiBGFwPV@g3ohx.demon.co.uk>
Source record: 44309

In message <AWcNh.2411$u03.1264@newssvr21.news.prodigy.net>, Cecil Moore
<nospam@w5dxp.com> writes
>Richard Clark wrote:
>> Cecil Moore <nospam@w5dxp.com> wrote:
>>> your analysis is correct but moot
>> Is he stealing your style?
>
>"Moot" is an interesting word, Richard. From
>Webster's - "moot - 1. a: debatable, b: disputed"

Have a look here.
http://en.wikipedia.org/wiki/Moot_hall
I remember 'Moot Hall' from my days at primary school (some 60 years
ago), learning about the Anglo-Saxons. I guess the word may possibly be
associated with 'meet', ie a meeting hall where things were debated.
However, my Anglo-Saxon is a bit rusty (not much call for it these
days).
Ian.
--

3043. Re: Nutty Antenna Idea -- Complete with Rhetorical Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-25 08:23:35 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98FEBB1B34B6Fnonenowhere@61.9.191.5>
Source record: 44311

"Sal M. Onella" <salmonella@food.poisoning.org> wrote in
news:CO3Nh.78006$p17.47735@newsfe11.phx:

> I have two multiband trap verticals They are not exactly the same,
> but close. Obviously they're intended to be mounted vertically above
> a ground.
>
> What happens if I mount them horizontally, base-to base? If I feed
> one with coax as designed, would it see the other one as a
> counterpoise? Could I remove any base matching components and feed
> them both with a 1:1 balun, in effect duplicating the function of a
> horizontal wire trap dipole?

Will water drain from the traps in their new configuration?

Owen

3044. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-25 08:31:13 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <dccc03h5no97a04mtg0q3ebbmn9vmrkgsl@4ax.com>
Source record: 44308

On Sat, 24 Mar 2007 17:08:48 GMT, Cecil Moore <nospam@w5dxp.com>
wrote:

>Richard Clark wrote:
>> Cecil Moore <nospam@w5dxp.com> wrote:
>>> your analysis is correct but moot
>>
>> Is he stealing your style?
>
>"Moot" is an interesting word, Richard. From
>Webster's - "moot - 1. a: debatable, b: disputed"

Correct but "disputed." Hmmm.
Correct but "debatable." Hmmm.

Sounds like the definition of masturbation without orgasm. Yes, I
recognize your style there.

3045. Re: Balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-25 08:47:10 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <n2dc039fmikhkuhvqovoa1cl3r9jl4k78v@4ax.com>
Source record: 44310

On Sun, 25 Mar 2007 07:16:52 GMT, Mike M. <notme@invalid.email.net>
wrote:

>I can get a good match on 80 thru 10 meters except for 12 meters. It
>seems to work, but I may be converting more RF to heat than radiating.

Hi Mike,

Perhaps, but without more data, it could be working just as well as it
appears to be.

>Would it be better to just use a 1:1 balun between the coax and the
>window line?

That is simple enough to check by simply moving one leg of the dipole
to the choked coax feeding the other side (and abandon the redundant
choked line). This, of course, returns us to my observation above.
Without more data, there is no way to say what would be "better."

73's
Richard Clark, KB7QHC

3046. Re: Nutty Antenna Idea -- Complete with Rhetorical Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-25 10:43:20 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <ofkc031lcu0ccjruq2kvfskd50rac6vkpl@4ax.com>
Source record: 44312

On Sat, 24 Mar 2007 14:05:28 GMT, Cecil Moore <nospam@w5dxp.com>
wrote:

>Buck wrote:
>> If both were the same, I think he would be better off, but it should
>> turn into a rotatable dipole similar to a multiband beam, but without
>> the directors and reflectors. I see there is no reason it shouldn't
>> work once he gets them tuned.
>
>How much would it weigh?

That part hadn't occurred to me. Come to think of it, I don't think
they were designed to withstand horizontal positioning, but then I
don't know the antennas. Anyway, good luck in the antenna.

Maybe a vertical dipole?

--
73 for now
Buck, N4PGW
www.lumpuckeroo.com

3047. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-25 10:48:02 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <93W+DRHiNlBGFAuf@ifwtech.co.uk>
Source record: 44313

Ian Jackson wrote:
>In message <AWcNh.2411$u03.1264@newssvr21.news.prodigy.net>, Cecil
>Moore <nospam@w5dxp.com> writes
>>Richard Clark wrote:
>>> Cecil Moore <nospam@w5dxp.com> wrote:
>>>> your analysis is correct but moot
>>> Is he stealing your style?
>>
>>"Moot" is an interesting word, Richard. From
>>Webster's - "moot - 1. a: debatable, b: disputed"
>
>Have a look here.
>http://en.wikipedia.org/wiki/Moot_hall
>I remember 'Moot Hall' from my days at primary school (some 60 years
>ago), learning about the Anglo-Saxons. I guess the word may possibly be
>associated with 'meet', ie a meeting hall where things were debated.
>However, my Anglo-Saxon is a bit rusty (not much call for it these days).

Cecil was using "moot" in its legal sense: that a point had become
irrelevant, or no longer needed to be decided because of a change in
circumstances.

Or at least, Cecil tried to claim that a point made by Keith had become
moot. But Keith disputed that... and so it rumbles on.

--

73 from Ian GM3SEK

3048. al coax

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-25 11:19:05 UTC
From: ml <m@di.net>
Message-ID: <m-653449.07190825032007@news.verizon.net>
Source record: 44314

hi

I've seen recently that some companies such as andrews etc are now offering different coax and hardline with al outer shielding

they advertise lower cost, and lighter weight then copper , ok i get that

but then they say the rf spec's are 'the same' so i ponder how do they do that i would think copper would have better spec's ? obviously i am missing something obvious

3049. Re: al coax

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-25 13:44:55 UTC
From: jimlux@earthlink.net
Message-ID: <1174830295.697778.255260@d57g2000hsg.googlegroups.com>
Source record: 44315

On Mar 25, 4:19 am, ml <m...@di.net> wrote:
> hi
>
> I've seen recently that some companies such as andrews etc are now
> offering different coax and hardline with al outer shielding
>
> they advertise lower cost, and lighter weight then copper , ok i get
> that
>
> but then they say the rf spec's are 'the same' so i ponder how do they
> do that i would think copper would have better spec's ? obviously i
> am missing something obvious

Skin effect means that the RF current is only being carried in a very,
very thin layer, so one can silver plate the inside of the aluminum
shield and the outside of the center conductor. At 100 MHz skin depth
for copper or silver is a bit more than 6 microns (0.25 mil), so it
doesn't take a very thick layer.

3050. Re: al coax

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-25 19:21:35 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1174850495.032369.40200@p15g2000hsd.googlegroups.com>
Source record: 44316

On 25 Mar, 06:44, jim...@earthlink.net wrote:
> On Mar 25, 4:19 am, ml <m...@di.net> wrote:
>
> > hi
>
> > I've seen recently that some companies such as andrews etc are now
> > offering different coax and hardline with al outer shielding
>
> > they advertise lower cost, and lighter weight then copper , ok i get
> > that
>
> > but then they say the rf spec's are 'the same' so i ponder how do they
> > do that i would think copper would have better spec's ? obviously i
> > am missing something obvious
>
> Skin effect means that the RF current is only being carried in a very,
> very thin layer, so one can silver plate the inside of the aluminum
> shield and the outside of the center conductor. At 100 MHz skin depth
> for copper or silver is a bit more than 6 microns (0.25 mil), so it
> doesn't take a very thick layer.

I had some 1/2" diameter stuff once that laid on the ground prior to
entering the house. A year or so later and the sheathing turned to
dust.
You may see some used for cable t.v. about 1 " diameter, these use air
as a dialectric and moisture can get in. All aluminum forms dislike
bending and easily kinks and do not straighten out easily. Personaly I
would avoid
aluminum for transmission lines.
Art

3051. Re: al coax

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-25 19:25:11 UTC
From: Uncle Peter <radioconnection@cox.net>
Message-ID: <F0ANh.55714$mJ1.25691@newsfe22.lga>
Source record: 44317

Aluminum has good conductivity. Before the corrugated copper lines became popular Times Wire made an Alumafoam cable with an aluminum sheath for many years. We still have some runs in service at several of my work locations..

Pete

3052. Re: Litz wire for AM Antenna Rod?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-25 22:06:05 UTC
From: AndyS <andysharpe@juno.com>
Message-ID: <1174860365.734723.202160@y80g2000hsf.googlegroups.com>
Source record: 44318

Bill Bowden wrote:
> How much improvement can I expect using Litz wire to wind a AM ferrite
> Rod antenna as opposed to using solid copper wire?
>
> Is it worth the trouble to obtain Litz wire, or can I expect almost
> the same response at say 1 MHz using regular enamaled copper wire?
>
> -Bill

Andy writes
The difference will not be noticeable...
A higher "Q" , which is theoretically available with litz wire, is
only useful
in separation of strong signals in your applications. If you are
building
a simple receiver, your biggest problem will be stations which are
located
nearby overpowering stations which are not. A little bit of
selectivity
resulting from a slightly higher "Q" ain't gonna make squat for
difference...
..... but that's just a technical term..... Forget it and build the
damn thing...

Andy W4OAH

3053. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-25 22:20:25 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <coud03dgtgm8vpfdt8dv951sojhgena572@4ax.com>
Source record: 44319

On Fri, 23 Mar 2007 15:10:40 -0800, Richard Clark <kb7qhc@comcast.net> wrote:

>On Fri, 23 Mar 2007 19:30:56 GMT, Walter Maxwell <walt@w2du.com>
>wrote:
>
>>I don't understand what you mean by 'taking only one
>>of two degrees of the 360.'
>
>Hi Walt,
>
>I offered:
>>> they take only one or two degrees of the 360.
>
>Arguments that are confined only at 0 or 180 (the one OR two degrees)
>and are submitted as proofs as though they boxed the compass. All too
>often I've seen one condition (at one phase angle) offered as a
>negation of internal heating to prove the source lacks its own
>internal resistance. When I've taken exactly the same circuit and
>explored the 180th degree alternative, I've demonstrated melt-down
>clear and simple. The dissipation of energies does not always lead to
>this consequence, but if we were to average the analysis over a
>complete 360 degrees, we can only arrive at the obvious evidence of
>resistance and calories expended.
>
>>>>>But even for coherent reflections, if the PA tank circuit has very low loss
>>>>>for incident power (which it does), why does it not have ~ equally low loss
>>>>>for load reflections of that power? Such would mean that load reflections
>>>>>would pass through the tank to appear at the output element of the PA, where
>>>>>they can add to its normal power dissipation.
>>
>>The paragraph above seems to me to imply that RF doesn't understand the destructive and
constructive
>>interference phenomena involved with re-reflection.
>
>Then asking a question to clarify would be in order. To me, it reads
>quite ordinarily as a statement of symmetry. In my own words, it
>would say that if a tank circuit can pass energy from source to load
>in one direction, it can certainly perform the same transformation in
>the opposite direction. After all, that is the function of
>transformation and a passive circuit composed of L and C is strictly
>linear. Circuit analysis allows us to treat a load as a source in the
>complete circuit description.

Richard, assume a mismatched load has produced both voltage and current refleftions on the
line that result in

a particular reactive impedance at the line input. The line input is connected to the output of the
transceiver that has a pi-network output coupling circuit. When the network has been adjusted to deliver all
the available power into the line the output source impedance is the complex conjugate of the line input
impedance. In this condition the reflected voltage and current waves are totally re-reflected back into the
line, while adding in phase to the voltage and current waves from the source, respectively. Consequently, the
reflected waves do not pass rearward through the network to be incident on the plate. Only if the network is
mistuned, such as being connected to the reactive input of the line without being retuned to resonance, in
which case the excessive plate current due to being mistuned will result in an inordinate amount of heating of
the plate.

>>>This is the symmetry of the illustration of external signals. You
>>>used external signals yourself as part of your case study; hence the
>>>relevance has been made by you.
>>
>>Whoa, Richard! You'll have to point out where I've discussed external signals in any case study involving
>>phase relationships between forward and reflected waves. I've never done so knowingly.
>
>It seems to me that in your initial post in the original thread (that
>was largely ignored for comment) you made mention of injecting a
>signal from an external source into the mouth of the dragon for the
>purposes of measuring the source Z. Am I wrong?

Yes, you are wrong here, because I made no mention of the 'mouth of a dragon'. That comment must have come
from another poster, twarn't I.

>>>And we return to the sine non quo for the discussion: phase.
>>
>>That's true, but although RF apparently realizes that the phase relationship is relevant, he doesn't seem to
>>understand the details of the phase requirements that achieve the necessary interferences that accomplish the
>>impedance matching.
>
>That is not what I read.
>
>>>It seems he is on the face of it, doesn't it? Afterall, he is quite
>>>explicit to this in the statement you are challenging.
>>
>>No Richard, I don't believe he is. I don't see the 'explicitness' you seem to find. It's the complete lack of
>>the explicitness that makes me believe he doesn't quite get it.

>
>That has not been my impression of the complete post.
>
>>>Nothing here contradicts anything either of you have to say.
>>
>>True, but RF just hasn't said it all, because, as I said above, I don't believe he understands the details of
>>the phase requirements to achieve the match.
>
>That has not been my impression of the complete post.

Richard, try this on for size and then determine whether you believe RF understands the function of the
phasing in impedance matching:

Assume a 150-ohm pure resistance terminates a 50-ohm line, producing a voltage reflection coefficient rhoV
=0.5 at 0ï¿½, a current reflection coefficient rhoi, yielding a 3:1 mismatch. We want to place a series stub at
the appropriate position on the line to yield a match at that point. The appropriate position on the line is
where the real portion of the line impedance is 50 ohms, with a residual reactance, which in this case is
-j57.7 ohms, determined by the 3:1 mismatch. A series stub having a terminal impedance of +j57.7 ohms cancels
the residual reactance, achieving a match at the stub point.

Now to the phase relationships that occur here that I believe RF has not considered.

First, the line rhoV at the stub is 0.5 at -60ï¿½, and the stub rhoV is 0.5 at +60ï¿½, with the resultant rho =
0ï¿½.
Second, the line rhoi at the stub is 0.5 at +120ï¿½, and the stub rhoi is 0.5 at -120ï¿½, with the resultant rho =
180ï¿½.
Third, with resultant voltage and current at 0ï¿½ and 180ï¿½, respectively, we have achieved a virtual open
circuit to waves reflected from the 150-ohm mismatch, causing total re-reflection of the reflected waves at
the stub point. Proof that total re-reflection has occurred is by observing that there is no evidence of any
reflected waves rearward from the stub point to the source.

Now, when adjusting the output network of a tube-type transceiver to deliver all the available power into a
line having reflections, the adjustment of the network accomplishes the same function as the stub on the line
in the above discussion. Consequently, this is the reason why the reflected power is totally re-reflected at
the output terminals of the network, and is never seen at the plate of the amp to cause heating.

This is the concept I believe Richard Fry is not appreciating. If I'm wrong on this I hope he'll straighten me
out.

Walt

3054. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 00:23:08 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <MnENh.1661$YL5.774@newssvr29.news.prodigy.net>
Source record: 44320

Keith Dysart wrote:
> While an example with a circulator makes it easy to
> locate and account for the 'reflected power', there is
> more to be learned by studying the example without.

You are not allowed to deny the existence of the 450 ohm
real world load while asserting that it still exists.
If it exists, it dissipates the reflected energy. If it
doesn't exist, it reflects the reflected energy. Please
choose one or the other - obviously, you cannot have both
at the same time.

> While you can construct examples where the 'reflected
> power' will boil water, there are alternate examples where
> the total system dissipation drops in the presence of
> 'reflected power'. So sometimes 'reflected power' boils
> water and sometimes it does not. Not a very reliable source
> of energy it seems.

If reflected energy is not dissipated, it undergoes destructive
interference and is redirected back toward the load as constructive
interference instead of being incident upon the source. Why
are you having difficulty with that concept from page 388
of "Optics", by Hecht, 4th edition?

> But I do suggest going back to the example. If there is no
> flaw in the analysis, please explain where the 'reflected
> power' goes.

Again, reflected power doesn't flow so it doesn't go anywhere.
Until you understand that simple fact of physics, further
discussion is unlikely to yield valid results. "Reflected power
that goes" is only one of your many conceptual flaws. So your
first logical step would be proving that reflected power actually
flows. After you do that, we can continue to your other conceptual
flaws.
--
73, Cecil http://www.w5dxp.com

3055. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 00:31:20 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <svENh.1663$YL5.511@newssvr29.news.prodigy.net>
Source record: 44321

Owen Duffy wrote:
> Considering only the attenuator case, you suggest in such a general
> statement that reflected power always increases the dissipation in a real
> source that includes an attenuator for the purpose of constraining the
> equivalent source impedance.

Owen, why do you feel compelled to lie about what I said?

If the reflected energy is dissipated within the source, it
increases the dissipation. If the reflected energy is not
dissipated within the source, it does not increase the
dissipation. Why is that so hard for you to understand?
--
73, Cecil http://www.w5dxp.com

3056. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 00:35:46 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <CzENh.1665$YL5.1117@newssvr29.news.prodigy.net>
Source record: 44322

Richard Clark wrote:
> Correct but "disputed." Hmmm.

i.e. 92% correct.

> Correct but "debatable." Hmmm.

i.e. 85% correct.
--
73, Cecil http://www.w5dxp.com

3057. Re: al coax

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 00:38:08 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <QBENh.1666$YL5.910@newssvr29.news.prodigy.net>
Source record: 44323

Uncle Peter wrote:
> Aluminum has good conductivity. Before the corrugated
> copper lines became popular Times Wire made an
> Alumafoam cable with an aluminum sheath for many
> years. We still have some runs in service at several of
> my work locations..

Aluminum is used extensively in cable TV coax.
--
73, Cecil http://www.w5dxp.com

3058. Re: al coax

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 01:55:41 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1174874141.197063.217380@o5g2000hsb.googlegroups.com>
Source record: 44324

On 25 Mar, 17:38, Cecil Moore <nos...@w5dxp.com> wrote:
> Uncle Peter wrote:
> > Aluminum has good conductivity. Before the corrugated
> > copper lines became popular Times Wire made an
> > Alumafoam cable with an aluminum sheath for many
> > years. We still have some runs in service at several of
> > my work locations..
>
> Aluminum is used extensively in cable TV coax.
> --
> 73, Cecil http://www.w5dxp.com

That is correct Cecil but they are using a insulator instead of air
because of moisture getting in. The coax is also covered with plasic
which with the
inside insulation makes it less liable to kink or attack by ground
alkali or moisture.
Actually some of the older air insulated coax did not have a plastic
covering but these were changed out when HDTV entered the mix.
The air filled coax makes useful parts for antennas, you apply a
voltage
to the inner wire and the heat allows the spacers to soften and
separate from the outer aluminum. The outer aluminum tubing is thicker
than the norm so it can be put into use in several ways. Couplings are
hard to get unless
you manage to get some when the coax is changed out, the center wire
is solid so it is not as easy to join as corregated copper types which
are tubular in form allowing for a conductive rod to be pushed into
the joining ends and then sliding a copper tube over the outer
corregation before soldering
Art

3059. Re: Litz wire for AM Antenna Rod?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 02:19:27 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1174875567.724946.198230@y66g2000hsf.googlegroups.com>
Source record: 44177

On 23 Mar, 21:29, "Bill Bowden" <wrongaddr...@att.net> wrote:
> How much improvement can I expect using Litz wire to wind a AM ferrite
> Rod antenna as opposed to using solid copper wire?
>
> Is it worth the trouble to obtain Litz wire, or can I expect almost
> the same response at say 1 MHz using regular enamaled copper wire?
>
> -Bill

Bill, to give you a better background so the answer is more understandable is to think about what Litz wire does for you. When are delving into lower frequencies than AM then the skin depth required of the wire is much deeper that at higher frequencies and if the wire diameter is relatively small then the resistance goes up because even if there was enough skin depth the circumference is small. If the wire was made of many strands insulated from each other then the resistance goes down since the wires are in parallel.
As I stated earlier Litz wire is used below AM frequencies. So now let us examine what wire resistance does at A.M. frequencies say on your auto, do you think that you could tell the difference on the radio if you replace the stainless whip with say a copper wire? No I don't think so. So for starters the Litz wire is not relavent for your frequency of use and 2 the conductivity of the whip will not affect your radios performance unless you took liberties with the conductivity and replaced your whip with a wooden stick
Art

3060. Best tiny directional antenna to get 500m range with at most 100mW at 150MHz?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 02:35:51 UTC
From: David Hooker <david.d.hooker@gmail.com>
Message-ID: <bkGNh.2582$tp3.24601@nasal.pacific.net.au>
Source record: 44178

Hello all,

I'm trying to make a carfinder, where a pocket-sized, keyring-attached transmitter sends a signal to a car, the car sends a reply, and the carfinder shows some kind of signal strength indication. Do this as the operator turns in a circle, and he should have an idea of where he left his car in the carpark.

In Australia, it is legal to use 150MHz for any purpose, so long as the output is limited to 100mW. I've found a pre-made transmitter unit for that frequency and power (which gets 10km with a good antenna), but I'm a novice to radio in general and am looking for pointers to information on choosing the right kind of antenna to that is small enough to fit.

In the car, I don't have much more space (I could use the car's antenna instead), but it would need to be omnidirectional.

Thankyou for your time.
--

3061. Re: Antenna optimizers

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 02:47:09 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1174877229.808451.150880@n59g2000hsh.googlegroups.com>
Source record: 44179

On 9 Mar, 20:20, John Smith I <assemblywiz...@gmail.com> wrote:
> j...@specsol.spam.sux.com wrote:
>
> > ...
>
> Dweeb? Jim, are you looking in a mirror while typing your posts?
>
> Definitions of "scientific theory" on the Web:
>
> * An explanation of why and how a specific natural phenomenon
> occurs. A lot of hypotheses are based on theories. In turn, theories may
> be redefined as new hypotheses are tested. Examples of theories:
> Newton's Theory of Gravitation, Darwin's Theory of Evolution, Mendel's
> theory of Inheritance, Einstein's Theory of Relativity.
> www.ncsu.edu/labwrite/res/res-glossary.html
>
> * A hypothesis that is widely accepted by the scientific community.
> www.ametsoc.org/amsedu/WES/glossary.html
>
> * a statement that postulates ordered relationships among natural
> phenomena.
> farahsouth.cgu.edu/dictionary/
>
> * The most logical explanation of why things work the way they do.
> A theory is a former hypothesis that has been tested with repeated
> experiments and observations and found always to work.
> jmsscienceweb.tripod.com/vocabulary.htm
>
> * A body of knowledge using controlled-variable experimental
> methods to construct a formal and mathematically structured system. It
> studies the character of natural reality. Scientific Management (6).
> System of management popular in the first decades of the 20th c.
> Proponants sought to transform industry, government and society through
> greater efficiency. Utilizes top-down approach.
> www.udmercy.edu/faculty_pages/staudenmaier_sj/ethics/glossary.html
>
> * a theory that explains scientific observations; "scientific
> theories must be falsifiable"
> wordnet.princeton.edu/perl/webwn
>
> * The word theory has a number distinct meanings depending on the
> context.
> en.wikipedia.org/wiki/Scientific_theory
>

> JS
> --http://assemblywizard.tekcities.com

Jim, your point is excellent. Amateurs would be hard put to design an efficient radiator array using known electrical laws as stated by Maxwell. Imagine trying to design a yagi antenna using only Maxwells observations
instead of the 'suck it and see' empirical methods used today. Known electrical laws are simplicity in themselves usually just a paragragh in length, could you supply the same for the Yagi? As I have stated earlier the Yagi put antenna design back by over half a century since it diverted thinking though around known electrical laws to taking the easy empirical way out.
Art

3062. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 02:53:58 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <aBGNh.10999$f56.5774@bgtnsc05-news.ops.worldnet.att.net>
Source record: 44180

Cecil Moore wrote:

*** 1 ***
>
> If reflected energy is not dissipated, it undergoes destructive
> interference and is redirected back toward the load as constructive
> interference instead of being incident upon the source. Why
> are you having difficulty with that concept from page 388
> of "Optics", by Hecht, 4th edition?
>

*** 2 ***

>
> Again, reflected power doesn't flow so it doesn't go anywhere.
> Until you understand that simple fact of physics, further
> discussion is unlikely to yield valid results. "Reflected power
> that goes" is only one of your many conceptual flaws. So your
> first logical step would be proving that reflected power actually
> flows. After you do that, we can continue to your other conceptual
> flaws.

Cecil,

Paragraphs 1 and 2 appear to declare exactly the opposite behavior for energy (power).

Is there some subtle re-definition going on to allow "redirected back toward the load" and "it doesn't go anywhere" in the same message?

What is it that you are trying to say?

73,
Gene
W4SZ

3063. Re: al coax

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 03:12:54 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns98FECD9FA8AB2spectrumhogstarbandn@198.186.192.196>
Source record: 44183

>> > I've seen recently that some companies such as andrews etc are now
>> > offering different coax and hardline with al outer shielding
>>
>> > they advertise lower cost, and lighter weight then copper , ok i
>> > get that
>>
>> > but then they say the rf spec's are 'the same' so i ponder how do
>> > they do that i would think copper would have better spec's ?
>> > obviously i am missing something obvious

Actually, the loss characteristics of solid jacket heliax depends much more on the dielectric material, physical diameter, and the size of the center conductor, than it does on the jacket material. Also, aluminum is a pretty good conductor anyway.

Ed K7AAT

3064. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 03:14:07 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <7cde03dg03qbgttijik6b50bkm41rp1can@4ax.com>
Source record: 44325

On Sun, 25 Mar 2007 22:20:25 GMT, Walter Maxwell <walt@w2du.com>
wrote:

>Richard, assume a mismatched load has produced both voltage and current refleftions on the line that result in
>a particular reactive impedance at the line input. The line input is connected to the output of the
>transceiver that has a pi-network output coupling circuit.

I call this condition 1. It exhibits a mismatch and it exhibits the
probability of the reflected energy being absorbed by the source to
the degree of the phase relationships.

>When the network has been adjusted to deliver all
>the available power into the line the output source impedance is the complex conjugate of the line input
>impedance.

I call this condition 2. It exhibits just what you describe:

>In this condition the reflected voltage and current waves are totally re-reflected back into the
>line, while adding in phase to the voltage and current waves from the source, respectively. Consequently, the
>reflected waves do not pass rearward through the network to be incident on the plate. Only if the network is
>mistuned, such as being connected to the reactive input of the line without being retuned to resonance, in
>which case the excessive plate current due to being mistuned will result in an inordinate amount of heating of
>the plate.

>>It seems to me that in your initial post in the original thread (that
>>was largely ignored for comment) you made mention of injecting a
>>signal from an external source into the mouth of the dragon for the
>>purposes of measuring the source Z. Am I wrong?
>
>Yes, you are wrong here, because I made no mention of the 'mouth of a dragon'. That comment must have come
>from another poster, twarn't I.

From March 14:
"2. The amplifier is now powered down and the load resistance RL is
measured across the input terminals of the resonant pi-network tank
circuit (from plate to ground) with an HP-4815 Vector Impedance
Meter."

>Richard, try this on for size and then determine whether you believe RF understands the function of the
>phasing in impedance matching:

...

>Now, when adjusting the output network of a tube-type transceiver to deliver all the available power into a
>line having reflections, the adjustment of the network accomplishes the same function as the stub on the line
>in the above discussion. Consequently, this is the reason why the reflected power is totally re-reflected at
>the output terminals of the network, and is never seen at the plate of the amp to cause heating.

If you follow my separation of arguments above, you will find it
demands that the source MUST have the intervention of an outside agent
to resolve its probability of facing destructive energy. In the arts,
this is called Deus ex Machina. In the world of science, we would
have to say that the source is extremely non-linear when its internal
state of Z (a distinctly non-Thevenin characteristic) changes to
follow the load.

In short, of course no energy finds its way in, we twisted knobs to
make that a self-fulfilling prophecy. Without this intervention
reflected energies present the real probability of destruction by
heat.

>This is the concept I believe Richard Fry is not appreciating. If I'm wrong on this I hope he'll straighten me
>out.

I will let him speak for himself.

73's
Richard Clark, KB7QHC

3065. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 03:16:57 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <emee035qg077lgaj6rja7dvn863pke28hh@4ax.com>
Source record: 44326

On Mon, 26 Mar 2007 00:35:46 GMT, Cecil Moore <nospam@w5dxp.com>
wrote:

>Richard Clark wrote:
>> Correct but "disputed." Hmmm.
>
>i.e. 92% correct.
>
>> Correct but "debatable." Hmmm.
>
>i.e. 85% correct.

This is from someone who's experience an orgasm in the 80 percentile?
Now we venture into almost pregnancies.

3066. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 03:42:39 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <PiHNh.2665$u03.107@newssvr21.news.prodigy.net>
Source record: 44184

Gene Fuller wrote:
> Cecil Moore wrote:
> *** 1 ***
>> If reflected energy is not dissipated, it undergoes destructive
>> interference and is redirected back toward the load as constructive
>> interference instead of being incident upon the source. Why
>> are you having difficulty with that concept from page 388
>> of "Optics", by Hecht, 4th edition?
>>
> *** 2 ***
>> Again, reflected power doesn't flow so it doesn't go anywhere.
>> Until you understand that simple fact of physics, further
>> discussion is unlikely to yield valid results. "Reflected power
>> that goes" is only one of your many conceptual flaws. So your
>> first logical step would be proving that reflected power actually
>> flows. After you do that, we can continue to your other conceptual
>> flaws.
>
> Paragraphs 1 and 2 appear to declare exactly the opposite behavior for
> energy (power).

Paragraph 1 is about energy and doesn't mention power at all.
Paragraph 2 is about power and doesn't mention energy at all.

Energy is as different from power as length is different from
velocity. Do you also get length and velocity confused?

> Is there some subtle re-definition going on to allow "redirected back
> toward the load" and "it doesn't go anywhere" in the same message?

Here's a quote from my web page:

"The term "power flow" has been avoided in favor of "energy flow".
Power is a measure of that energy flow per unit time through a plane."

The dimensions of power flow would be watts/sec. I'm not sure
what quantity watts/sec would represent or where it would go.
--
73, Cecil http://www.w5dxp.com

3067. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 03:45:01 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <1lHNh.2666$u03.618@newssvr21.news.prodigy.net>
Source record: 44185

Richard Clark wrote:
> This is from someone who's experience an orgasm in the 80 percentile?

At my age, I wish it was up to 80%. :-)
--
73, Cecil http://www.w5dxp.com

3068. Re: Best tiny directional antenna to get 500m range with at most 100mW at 150MHz?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 03:58:46 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <0uge035582uusudg10tor7c1fc8vb4qh2n@4ax.com>
Source record: 44181

On Mon, 26 Mar 2007 02:35:51 GMT, "David Hooker"
<david.d.hooker@gmail.com> wrote:

Hi David,

Presumably, you are speaking of
>a pocket-sized, keyring-attached
receiving antenna too, such that it can resolve the point of
transmission to a fairly narrow region.

It would take an especially large pocket to accomplish (not even a
'roo's). Such a design demands complexity in the form of volume at
the scale of 2 meters. You are off by a scale of 100 or so. Perhaps
if your frequency was set to 15GHz....

73's
Richard Clark, KB7QHC

3069. Re: Antenna optimizers

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 04:07:31 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <i9he03limor01acgv6v36o9k62tlkr45n0@4ax.com>
Source record: 44182

On 25 Mar 2007 19:47:09 -0700, "art" <aunwin@insightbb.com> wrote:

> the Yagi put antenna design back by over half a century

What a curious statement. The Yagi was invented when the science of
antennas was barely 20 years along. By art's accuracy in perverse
ungineering, the Yagi threw us back into the era of wired telegraphy
and semaphore.

Anyone want to ruminate on the absurdities of watching "I love Lucy"
reruns through Western Union telegrams? Flip through 525 quickly to
see one frame, but don't look at the bill at the commercial break! ;-)

73's
Richard Clark, KB7QHC

3070. Re: Best tiny directional antenna to get 500m range with at most 100mW at 150MHz?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 04:27:01 UTC
From: David Hooker <david.d.hooker@gmail.com>
Message-ID: <pYHNh.2585$tp3.24751@nasal.pacific.net.au>
Source record: 44186

Richard Clark wrote:

> On Mon, 26 Mar 2007 02:35:51 GMT, "David Hooker"
> <david.d.hooker@gmail.com> wrote:
>
> Hi David,
>
> Presumably, you are speaking of
> > a pocket-sized, keyring-attached
> receiving antenna too, such that it can resolve the point of
> transmission to a fairly narrow region.

Yes, I forgot to mention that. I always forget something when Usenet posting. Sorry.

> It would take an especially large pocket to accomplish (not even a
> 'roo's). Such a design demands complexity in the form of volume at
> the scale of 2 meters. You are off by a scale of 100 or so. Perhaps
> if your frequency was set to 15GHz....
>
> 73's
> Richard Clark, KB7QHC

Ahhh. OK, if I can legally call this a "radiodetermination transmitter" then I can use up to 25W (!) at 7.6-7.7GHz; otherwise the highest frequency I can use is 2.4-2.425GHz at 100mW.

But if I'm in a carpark and I'm using such a high frequency (please excuse me, I'm a novice) but wouldn't I have trouble with reflections from the metal of the cars and concrete around me?

--

3071. Re: Litz wire for AM Antenna Rod?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 05:03:30 UTC
From: Bill Bowden <wrongaddress@att.net>
Message-ID: <1174885410.423811.152830@d57g2000hsg.googlegroups.com>
Source record: 44187

On Mar 25, 6:19 pm, "art" <aun...@insightbb.com> wrote:
> On 23 Mar, 21:29, "Bill Bowden" <wrongaddr...@att.net> wrote:
>
> > How much improvement can I expect using Litz wire to wind a AM ferrite
> > Rod antenna as opposed to using solid copper wire?
>
> > Is it worth the trouble to obtain Litz wire, or can I expect almost
> > the same response at say 1 MHz using regular enamaled copper wire?
>
> > -Bill
>
> Bill, to give you a better background so the answer is more
> understandable is to think about what Litz wire does for you. When are
> delving into lower frequencies than AM then the skin depth required of
> the wire is much deeper that at higher frequencies and if the wire
> diameter is relatively small then the resistance goes up because even
> if there was enough skin depth the circumference is small. If the wire
> was made of many strands insulated from each other then the resistance
> goes down since the wires are in parallel.
> As I stated earlier Litz wire is used below AM frequencies. So now let
> us examine what wire resistance does at A.M. frequencies say on your
> auto, do you think that you could tell the difference on the radio if
> you replace the stainless whip with say a copper wire? No I don't
> think so. So for starters the Litz wire is not relavent for your
> frequency of use and 2 the conductivity of the whip will not affect
> your radios performance unless you took liberties with the
> conductivity and replaced your whip with a wooden stick
> Art

Well, according to this website, Litz wire will increase the Q factor
of a ferrite rod antenna by 6 times or more at 943Khz. The attainable
Q value is 141 with solid copper wire and 1030 using Litz wire. Quite
a significant difference. Of course the bandwidth is is only about 500
Hz with a high Q value and much wider at the lower Q, which may be
desirable. But it's much easier to start with a high Q and work down,
than the other way around.
Very easy to reduce efficiency, very hard to increase it.

Quote from website:

"Solid wire instead of litz?: Keep in mind that the work described
here used close-wound 125/46 litz wire. If one duplicates 'Coil and
Former B' in Table 2, except using 22 ga. solid copper wire (having
the same diameter) as 125/46 litz, the Q values drop to about 1/6 of
the values achieved with the litz wire. The cause is the large

proximity effect resistive losses in the solid wire. The proximity effect, but not the skin effect loss may be much reduced if the wires are space-wound. New trade-offs now must be considered: Same wire diameter, and therefore a longer solenoid, or a smaller wire diameter and the same overall length? If one wishes to use solid wire, it should probably be wound directly on the ferrite, not on a former. The overall Q will still be much less than when using litz, but the loss from the high (tan δ) dielectric of the ferrite will be pretty well swamped out because of the now higher losses from the skin and proximity effect losses. The Q values, using a close-wound solenoid of 22 ga. solid copper wire on a polyethylene former, as in 'Coil and Former' B in Table 2 are: 520 kHz: 130, 943 kHz: 141 and 1710 kHz: 150 when using the "best core". The Q drops only 3, 3, and 5 points respectively if the "worst core" is used. "

-Bill

3072. Re: Litz wire for AM Antenna Rod?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 05:07:26 UTC
From: Bill Bowden <wrongaddress@att.net>
Message-ID: <1174885646.791379.83230@e65g2000hsc.googlegroups.com>
Source record: 44188

On Mar 25, 9:03 pm, "Bill Bowden" <wrongaddr...@att.net> wrote:
> On Mar 25, 6:19 pm, "art" <aun...@insightbb.com> wrote:
>
>
>
> > On 23 Mar, 21:29, "Bill Bowden" <wrongaddr...@att.net> wrote:
>
> > > How much improvement can I expect using Litz wire to wind a AM ferrite
> > > Rod antenna as opposed to using solid copper wire?
>
> > > Is it worth the trouble to obtain Litz wire, or can I expect almost
> > > the same response at say 1 MHz using regular enamaled copper wire?
>
> > > -Bill
>
> > Bill, to give you a better background so the answer is more
> > understandable is to think about what Litz wire does for you. When are
> > delving into lower frequencies than AM then the skin depth required of
> > the wire is much deeper that at higher frequencies and if the wire
> > diameter is relatively small then the resistance goes up because even
> > if there was enough skin depth the circumference is small. If the wire
> > was made of many strands insulated from each other then the resistance
> > goes down since the wires are in parallel.
> > As I stated earlier Litz wire is used below AM frequencies. So now let
> > us examine what wire resistance does at A.M. frequencies say on your
> > auto, do you think that you could tell the difference on the radio if
> > you replace the stainless whip with say a copper wire? No I don't
> > think so. So for starters the Litz wire is not relavent for your
> > frequency of use and 2 the conductivity of the whip will not affect
> > your radios performance unless you took liberties with the
> > conductivity and replaced your whip with a wooden stick
> > Art
>
> Well, according to this website, Litz wire will increase the Q factor
> of a ferrite rod antenna by 6 times or more at 943Khz. The attainable
> Q value is 141 with solid copper wire and 1030 using Litz wire. Quite
> a significant difference. Of course the bandwidth is is only about 500
> Hz with a high Q value and much wider at the lower Q, which may be
> desirable. But it's much easier to start with a high Q and work down,
> than the other way around.
> Very easy to reduce efficiency, very hard to increase it.
>
> Quote from website:

>
> "Solid wire instead of litz?: Keep in mind that the work described
> here used close-wound 125/46 litz wire. If one duplicates 'Coil and
> Former B' in Table 2, except using 22 ga. solid copper wire (having
> the same diameter) as 125/46 litz, the Q values drop to about 1/6 of
> the values achieved with the litz wire. The cause is the large
> proximity effect resistive losses in the solid wire. The proximity
> effect, but not the skin effect loss may be much reduced if the wires
> are space-wound. New trade-offs now must be considered: Same wire
> diameter, and therefore a longer solenoid, or a smaller wire diameter
> and the same overall length? If one wishes to use solid wire, it
> should probably be wound directly on the ferrite, not on a former.
> The overall Q will still be much less than when using litz, but the
> loss from the high (tan δ) dielectric of the ferrite will be pretty
> well swamped out because of the now higher losses from the skin and
> proximity effect losses. The Q values, using a close-wound solenoid
> of 22 ga. solid copper wire on a polyethylene former, as in 'Coil and
> Former' B in Table 2 are: 520 kHz: 130, 943 kHz: 141 and 1710 kHz: 150
> when using the "best core". The Q drops only 3, 3, and 5 points
> respectively if the "worst core" is used. "
>
> -Bill

I forgot the link to the website. Here it is:

http://www.bentongue.com/xtalset/29MxQFL/29MxQFL.html

-Bill

3073. Re: Best tiny directional antenna to get 500m range with at most 100mW at 150MHz?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 06:58:36 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3hre03d5reaivia35fig05di3ffcf2uvks@4ax.com>
Source record: 44189

On Mon, 26 Mar 2007 04:27:01 GMT, "David Hooker"
<david.d.hooker@gmail.com> wrote:

>Ahhh. OK, if I can legally call this a "radiodetermination
>transmitter" then I can use up to 25W (!) at 7.6-7.7GHz; otherwise the
>highest frequency I can use is 2.4-2.425GHz at 100mW.
>
>But if I'm in a carpark and I'm using such a high frequency (please
>excuse me, I'm a novice) but wouldn't I have trouble with reflections
>from the metal of the cars and concrete around me?

Hi David,

100 mW in the 2M region is enough power to communicate with the space
shuttle. You are not lacking for power, you are lacking for scale.
Your inspiration of 7+ Ghz comes close enough to be achievable (and
using Gunn Diodes as transmission sources). However, scale will still
make the product about as long as a pencil, or the entire structure
the size of a business card. Not quite the key fob, but closer.

73's
Richard Clark, KB7QHC

3074. Re: al coax

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 07:40:09 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <AmfZreEZj3BGFAId@ifwtech.co.uk>
Source record: 44191

Ed wrote:
>
>>> > I've seen recently that some companies such as andrews etc are now
>>> > offering different coax and hardline with al outer shielding
>>>
>>> > they advertise lower cost, and lighter weight then copper , ok i
>>> > get that
>>>
>>> > but then they say the rf spec's are 'the same' so i ponder how do
>>> > they do that i would think copper would have better spec's ?
>>> > obviously i am missing something obvious
>
>
> Actually, the loss characteristics of solid jacket heliax depends much
>more on the dielectric material, physical diameter, and the size of the
>center conductor, than it does on the jacket material. Also, aluminum is
>a pretty good conductor anyway.

In order of importance, the size of the centre conductor contributes most to losses, followed by the outer shield and the dielectric.

This is simply because the centre conductor is smallest. It carries the same current as the shield; but the current *density* on the centre conductor is several times higher. RF current flows only on the surfaces - the outside of the centre conductor, and the inside of the shield - so it works out that the resistive losses are proportional to diameter-squared.

Because losses in the shield are much less important, a small increase due to using aluminium will have almost no effect on the overall cable losses. The problems with aluminium-shielded coax are almost entirely about corrosion.

Dielectric losses don't come into this at all, because they are only a small part of the overall cable loss (at least, for frequencies up through UHF). "Low-loss foam" is simply marketing guff. When someone designs a lower-loss version of a standard cable, it has to start with a larger centre conductor - because that is the only change that *really* makes a difference. A foamed or semi-airspaced dielectric is something the designer was *forced* to use, to keep the same characteristic impedance.

It is technically true that the dielectric losses are a little bit lower than for the same solid material; but dielectric losses aren't important anyway, so using foam makes almost no difference to the overall cable loss. The designer knows that... but at some stage the message switches

over to "low-loss foam", because that's what the managers, the company,
the industry and its victXXXXcustomers expect to hear.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

3075. Re: Best tiny directional antenna to get 500m range with at most 100mW at 150MHz?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 07:43:40 UTC
From: Jeff <jeff@local.host>
Message-ID: <460779a8$0$21942$834e42db@reader.greatnowhere.com>
Source record: 44190

> I'm
> a novice to radio in general and am looking for pointers to information
> on choosing the right kind of antenna to that is small enough to fit.
>
> In the car, I don't have much more space (I could use the car's antenna
> instead), but it would need to be omnidirectional.
>

Getting any kind of directivity at 150MHz with small aerials is very difficult. The wavelength at 150MHz in 2m so you can see that element lengths will be quite long. One possibility might be a ferrite rod type antenna if you can find some vhf ferrite. Some older pagers used them so that may be a source. However you may still struggle to get very good directivity.

Perhaps an active solution may be a better bet. Try Googling for Handifinder, which is basically 2 small antennas that are switched at a fast rate, this produces a tone in the receiver which vanishes when both antennas have equal path length to the source.

Regards
Jeff

3076. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 08:24:16 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns98FFBB38569EDnonenowhere@61.9.191.5>
Source record: 44192

Cecil Moore <nospam@w5dxp.com> wrote in
news:svENh.1663$YL5.511@newssvr29.news.prodigy.net:

> Owen Duffy wrote:
>> Considering only the attenuator case, you suggest in such a general
>> statement that reflected power always increases the dissipation in a
>> real source that includes an attenuator for the purpose of
>> constraining the equivalent source impedance.
>
> Owen, why do you feel compelled to lie about what I said?

You are not being paranoid here are you Cecil?

>
> If the reflected energy is dissipated within the source, it
> increases the dissipation. If the reflected energy is not
> dissipated within the source, it does not increase the
> dissipation. Why is that so hard for you to understand?

Cecil, I can understand the above paragraph ok, it is self defining
though so I don't consider it to be any great advance of the art.

Whilst I can understand the paragraph, the content is so trivial I can't
understand why you felt it necessary to state it.

Owen

3077. Re: Best tiny directional antenna to get 500m range with at most 100mW at 150MHz?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 08:51:05 UTC
From: Ian Jackson <IanJacksonRemoveThisBit@g3ohx.demon.co.uk>
Message-ID: <tkSYBKI5l4BGFwNV@g3ohx.demon.co.uk>
Source record: 44193

In message <460779a8$0$21942$834e42db@reader.greatnowhere.com>, Jeff
<jeff@local.host> writes
>
>> I'm
>> a novice to radio in general and am looking for pointers to information
>> on choosing the right kind of antenna to that is small enough to fit.
>>
>> In the car, I don't have much more space (I could use the car's antenna
>> instead), but it would need to be omnidirectional.
>>
>
>
>Getting any kind of directivity at 150MHz with small aerials is very
>difficult. The wavelength at 150MHz in 2m so you can see that element
>lengths will be quite long. One possibility might be a ferrite rod type
>antenna if you can find some vhf ferrite. Some older pagers used them so
>that may be a source. However you may still struggle to get very good
>directivity.
>
>Perhaps an active solution may be a better bet. Try Googling for
>Handifinder, which is basically 2 small antennas that are switched at a fast
>rate, this produces a tone in the receiver which vanishes when both antennas
>have equal path length to the source.
>
>Regards
>Jeff
>
>

I found that, when using a 2m handheld (Trio 2200, therefore both
hands!), using your body as a shield can be used to give a useful
indication of where the signal is coming from.
Ian.
--

3078. interlacing, stacking

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 10:17:09 UTC
From: David J Windisch <davidjw@cinci.rr.com>
Message-ID: <46079dad$0$24755$4c368faf@roadrunner.com>
Source record: 44194

Hi, all concerned:

I have a CC A50-6S (20' boom), and enough CC 40M loaded elements to make a 2el 30M yagi.

1. Where do I start to model the two interlaced on the same boom, in EZNEC3?

2. If the interlace works, can it be stacked midway between a CC 402CD and a HyGain TH11 which are 12' apart?

TIA & 73, Dave, N3HE

3079. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 12:07:30 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <6IONh.408$Q23.252@newssvr17.news.prodigy.net>
Source record: 44195

Owen Duffy wrote:
> You are not being paranoid here are you Cecil?

The word would be inebriated to the point of poor
judgment. It was a rough day loading and unloading
a full 6x12 U-Haul trailer all by myself. I apologize.

>> If the reflected energy is dissipated within the source, it
>> increases the dissipation. If the reflected energy is not
>> dissipated within the source, it does not increase the
>> dissipation. Why is that so hard for you to understand?
>
> Cecil, I can understand the above paragraph ok, it is self defining
> though so I don't consider it to be any great advance of the art.

Didn't say it was an advance. It is my position that
you questioned and it really seems obvious to me.

> Whilst I can understand the paragraph, the content is so trivial I can't
> understand why you felt it necessary to state it.

It was apparently necessary to get you to understand my
position. Wherever the circulator load resistor is
located is where the dissipation of the energy in the
reflected wave will occur. It can be either inside the
source box or outside the source box.
--
73, Cecil http://www.w5dxp.com

3080. Re: al coax

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 12:56:06 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1174913766.449749.67210@l75g2000hse.googlegroups.com>
Source record: 44196

On 26 Mar, 00:40, Ian White GM3SEK <gm3...@ifwtech.co.uk> wrote:
> Ed wrote:
>
> >>> > I've seen recently that some companies such as andrews etc are now
> >>> > offering different coax and hardline with al outer shielding
>
> >>> > they advertise lower cost, and lighter weight then copper , ok i
> >>> > get that
>
> >>> > but then they say the rf spec's are 'the same' so i ponder how do
> >>> > they do that i would think copper would have better spec's ?
> >>> > obviously i am missing something obvious
>
> > Actually, the loss characteristics of solid jacket heliax depends much
> >more on the dielectric material, physical diameter, and the size of the
> >center conductor, than it does on the jacket material. Also, aluminum is
> >a pretty good conductor anyway.
>
> In order of importance, the size of the centre conductor contributes
> most to losses, followed by the outer shield and the dielectric.
>
> This is simply because the centre conductor is smallest. It carries the
> same current as the shield; but the current *density* on the centre
> conductor is several times higher. RF current flows only on the surfaces
> - the outside of the centre conductor, and the inside of the shield - so
> it works out that the resistive losses are proportional to
> diameter-squared.
>
> Because losses in the shield are much less important, a small increase
> due to using aluminium will have almost no effect on the overall cable
> losses. The problems with aluminium-shielded coax are almost entirely
> about corrosion.
>
> Dielectric losses don't come into this at all, because they are only a
> small part of the overall cable loss (at least, for frequencies up
> through UHF). "Low-loss foam" is simply marketing guff. When someone
> designs a lower-loss version of a standard cable, it has to start with a
> larger centre conductor - because that is the only change that *really*
> makes a difference. A foamed or semi-airspaced dielectric is something
> the designer was *forced* to use, to keep the same characteristic
> impedance.
>
> It is technically true that the dielectric losses are a little bit lower
> than for the same solid material; but dielectric losses aren't important

> anyway, so using foam makes almost no difference to the overall cable
> loss. The designer knows that... but at some stage the message switches
> over to "low-loss foam", because that's what the managers, the company,
> the industry and its victXXXXcustomers expect to hear.

I disagree. The cable companies are changing out to foam filled cable
for good reason even if it is expensive.When a joint allows moisture
in it accumulates and cables that hang between poles sag such that
water collects at the center. This accumulation does make a difference
and the only correction is to replace that section.Fortunately the
foam used in cables are 'closed cell' which prevents moisture seeping
in.
Art

>
> --
>
> 73 from Ian GM3SEK 'In Practice' columnist for RadCom
(RSGB)http://www.ifwtech.co.uk/g3sek- Hide quoted text -
>
> - Show quoted text -

3081. Re: Best tiny directional antenna to get 500m range with at most 100mW at 150MHz?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 13:01:11 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <ruPNh.73553$DN.69770@pd7urf2no>
Source record: 44197

Richard Clark wrote:

> On Mon, 26 Mar 2007 04:27:01 GMT, "David Hooker"
> <david.d.hooker@gmail.com> wrote:
>
>
>>Ahhh. OK, if I can legally call this a "radiodetermination
>>transmitter" then I can use up to 25W (!) at 7.6-7.7GHz; otherwise the
>>highest frequency I can use is 2.4-2.425GHz at 100mW.
>>
>>But if I'm in a carpark and I'm using such a high frequency (please
>>excuse me, I'm a novice) but wouldn't I have trouble with reflections
>
>>from the metal of the cars and concrete around me?
>
> Hi David,
>
> 100 mW in the 2M region is enough power to communicate with the space
> shuttle. You are not lacking for power, you are lacking for scale.
> Your inspiration of 7+ Ghz comes close enough to be achievable (and
> using Gunn Diodes as transmission sources). However, scale will still
> make the product about as long as a pencil, or the entire structure
> the size of a business card. Not quite the key fob, but closer.
>
> 73's
> Richard Clark, KB7QHC

You could always use a fractal antenna! :-)

Irv VE6BP

3082. Re: Litz wire for AM Antenna Rod?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 13:30:48 UTC
From: amdx <amdx@knology.net>
Message-ID: <dea86$4607cb09$45011502$30671@KNOLOGY.NET>
Source record: 44198

"Bill Bowden" <wrongaddress@att.net> wrote in message
news:1174885410.423811.152830@d57g2000hsg.googlegroups.com...
On Mar 25, 6:19 pm, "art" <aun...@insightbb.com> wrote:
> On 23 Mar, 21:29, "Bill Bowden" <wrongaddr...@att.net> wrote:
>
> > How much improvement can I expect using Litz wire to wind a AM ferrite
> > Rod antenna as opposed to using solid copper wire?
>
> > Is it worth the trouble to obtain Litz wire, or can I expect almost
> > the same response at say 1 MHz using regular enamaled copper wire?
>
> > -Bill
>
> Bill, to give you a better background so the answer is more
> understandable is to think about what Litz wire does for you. When are
> delving into lower frequencies than AM then the skin depth required of
> the wire is much deeper that at higher frequencies and if the wire
> diameter is relatively small then the resistance goes up because even
> if there was enough skin depth the circumference is small. If the wire
> was made of many strands insulated from each other then the resistance
> goes down since the wires are in parallel.
> As I stated earlier Litz wire is used below AM frequencies. So now let
> us examine what wire resistance does at A.M. frequencies say on your
> auto, do you think that you could tell the difference on the radio if
> you replace the stainless whip with say a copper wire? No I don't
> think so. So for starters the Litz wire is not relavent for your
> frequency of use and 2 the conductivity of the whip will not affect
> your radios performance unless you took liberties with the
> conductivity and replaced your whip with a wooden stick
> Art

>Well, according to this website, Litz wire will increase the Q factor
>of a ferrite rod antenna by 6 times or more at 943Khz. The attainable
>Q value is 141 with solid copper wire and 1030 using Litz wire. Quite
>a significant difference. Of course the bandwidth is is only about 500
>Hz with a high Q value and much wider at the lower Q, which may be
>desirable. But it's much easier to start with a high Q and work down,
>than the other way around.
>Very easy to reduce efficiency, very hard to increase it.

I'm with you on this Bill. All of these measurments are unloaded Q.
Your not going to use it unloaded, so whatever Q you start with it will be
less in circuit.
I have many ferrite loopsticks and they all have Litz wire not solid wire.
The manufacturers spend the extra money for a reason.

I think Ben's loopstick work was done regarding use in crystal radio work.
The end result is driving a speaker with what little power is left after
losses.
Mike

3083. Re: Litz wire for AM Antenna Rod?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 13:56:53 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1174917413.545773.178450@n76g2000hsh.googlegroups.com>
Source record: 44199

On 25 Mar, 22:07, "Bill Bowden" <wrongaddr...@att.net> wrote:
> On Mar 25, 9:03 pm, "Bill Bowden" <wrongaddr...@att.net> wrote:
>
>
>
>
>
> > On Mar 25, 6:19 pm, "art" <aun...@insightbb.com> wrote:
>
> > > On 23 Mar, 21:29, "Bill Bowden" <wrongaddr...@att.net> wrote:
>
> > > > How much improvement can I expect using Litz wire to wind a AM ferrite
> > > > Rod antenna as opposed to using solid copper wire?
>
> > > > Is it worth the trouble to obtain Litz wire, or can I expect almost
> > > > the same response at say 1 MHz using regular enamaled copper wire?
>
> > > > -Bill
>
> > > Bill, to give you a better background so the answer is more
> > > understandable is to think about what Litz wire does for you. When are
> > > delving into lower frequencies than AM then the skin depth required of
> > > the wire is much deeper that at higher frequencies and if the wire
> > > diameter is relatively small then the resistance goes up because even
> > > if there was enough skin depth the circumference is small. If the wire
> > > was made of many strands insulated from each other then the resistance
> > > goes down since the wires are in parallel.
> > > As I stated earlier Litz wire is used below AM frequencies. So now let
> > > us examine what wire resistance does at A.M. frequencies say on your
> > > auto, do you think that you could tell the difference on the radio if
> > > you replace the stainless whip with say a copper wire? No I don't
> > > think so. So for starters the Litz wire is not relavent for your
> > > frequency of use and 2 the conductivity of the whip will not affect
> > > your radios performance unless you took liberties with the
> > > conductivity and replaced your whip with a wooden stick
> > > Art
>
> > Well, according to this website, Litz wire will increase the Q factor
> > of a ferrite rod antenna by 6 times or more at 943Khz. The attainable
> > Q value is 141 with solid copper wire and 1030 using Litz wire. Quite
> > a significant difference. Of course the bandwidth is is only about 500
> > Hz with a high Q value and much wider at the lower Q, which may be
> > desirable. But it's much easier to start with a high Q and work down,

> > than the other way around.
> > Very easy to reduce efficiency, very hard to increase it.
>
> > Quote from website:
>
> > "Solid wire instead of litz?: Keep in mind that the work described
> > here used close-wound 125/46 litz wire. If one duplicates 'Coil and
> > Former B' in Table 2, except using 22 ga. solid copper wire (having
> > the same diameter) as 125/46 litz, the Q values drop to about 1/6 of
> > the values achieved with the litz wire. The cause is the large
> > proximity effect resistive losses in the solid wire. The proximity
> > effect, but not the skin effect loss may be much reduced if the wires
> > are space-wound. New trade-offs now must be considered: Same wire
> > diameter, and therefore a longer solenoid, or a smaller wire diameter
> > and the same overall length? If one wishes to use solid wire, it
> > should probably be wound directly on the ferrite, not on a former.
> > The overall Q will still be much less than when using litz, but the
> > loss from the high (tan δ) dielectric of the ferrite will be pretty
> > well swamped out because of the now higher losses from the skin and
> > proximity effect losses. The Q values, using a close-wound solenoid
> > of 22 ga. solid copper wire on a polyethylene former, as in 'Coil and
> > Former' B in Table 2 are: 520 kHz: 130, 943 kHz: 141 and 1710 kHz: 150
> > when using the "best core". The Q drops only 3, 3, and 5 points
> > respectively if the "worst core" is used. "
>
> > -Bill
>
> I forgot the link to the website. Here it is:
>
> http://www.bentongue.com/xtalset/29MxQFL/29MxQFL.html
>
> -Bill- Hide quoted text -
>
> - Show quoted text -

Very interesting Bill but in a way the report appears to be distorted
to over emphasdise the advantages the author is declaring.To compare
the "best with the worst" is some what unusual. It would have been
better served if
average type ferrites were used and a smaller size former than that
chosen by the author. As a scientific paper it does a good job in
pointing out gains and losses between two aproaches but in real life
the differences appear to be over played. Certainly it brought up
things that had not previously thought about and I suppose the final
test of its merits depends pretty much on whether industry changes
over design for its A.M. radios and that the customer will be able to
discern advantages.. I may be wrong but it does seem to suggest that
larger ferrites are to be used
which avoids convention of small compact receivers, a much larger
negative

than any perceived advantage and the author has only emphasised
perceived advantages to enlargen the importance of his reseach.
However it was you that brought up the question in the first place and
now the supposed scientific report which begs the question what sort
of comments you were expecting from the group.
Art

3084. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 14:35:11 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <zSQNh.194289$5j1.91485@bgtnsc04-news.ops.worldnet.att.net>
Source record: 44200

Cecil Moore wrote:
> Gene Fuller wrote:
>> Cecil Moore wrote:
>> *** 1 ***
>>> If reflected energy is not dissipated, it undergoes destructive
>>> interference and is redirected back toward the load as constructive
>>> interference instead of being incident upon the source. Why
>>> are you having difficulty with that concept from page 388
>>> of "Optics", by Hecht, 4th edition?
>>>
>> *** 2 ***
>>> Again, reflected power doesn't flow so it doesn't go anywhere.
>>> Until you understand that simple fact of physics, further
>>> discussion is unlikely to yield valid results. "Reflected power
>>> that goes" is only one of your many conceptual flaws. So your
>>> first logical step would be proving that reflected power actually
>>> flows. After you do that, we can continue to your other conceptual
>>> flaws.
>>
>> Paragraphs 1 and 2 appear to declare exactly the opposite behavior for
>> energy (power).
>
> Paragraph 1 is about energy and doesn't mention power at all.
> Paragraph 2 is about power and doesn't mention energy at all.
>
> Energy is as different from power as length is different from
> velocity. Do you also get length and velocity confused?
>
>> Is there some subtle re-definition going on to allow "redirected back
>> toward the load" and "it doesn't go anywhere" in the same message?
>
> Here's a quote from my web page:
>
> "The term "power flow" has been avoided in favor of "energy flow".
> Power is a measure of that energy flow per unit time through a plane."
>
> The dimensions of power flow would be watts/sec. I'm not sure
> what quantity watts/sec would represent or where it would go.

Cecil,

I understand the physics quite well, thank you.

What I neglected to fully pick up was the silly semantic game you were
playing. We all know that "power flow" is a bit of an oxymoron, but it

still is widely used as an equivalent to "energy flow". I was just trying to understand the phase of the moon in Texas for this particular thread.

73,
Gene
W4SZ

3085. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 14:43:23 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1174920203.609534.92110@d57g2000hsg.googlegroups.com>
Source record: 44201

On Mar 25, 3:48 am, Ian White GM3SEK <gm3...@ifwtech.co.uk> wrote:
> Ian Jackson wrote:
> >In message <AWcNh.2411$u03.1...@newssvr21.news.prodigy.net>, Cecil
> >Moore <nos...@w5dxp.com> writes
> >>Richard Clark wrote:
> >>> Cecil Moore <nos...@w5dxp.com> wrote:
> >>>> your analysis is correct but moot
> >>> Is he stealing your style?
>
> >>"Moot" is an interesting word, Richard. From
> >>Webster's - "moot - 1. a: debatable, b: disputed"
>
> >Have a look here.
> >http://en.wikipedia.org/wiki/Moot_hall
> >I remember 'Moot Hall' from my days at primary school (some 60 years
> >ago), learning about the Anglo-Saxons. I guess the word may possibly be
> >associated with 'meet', ie a meeting hall where things were debated.
> >However, my Anglo-Saxon is a bit rusty (not much call for it these days).
>
> Cecil was using "moot" in its legal sense: that a point had become
> irrelevant, or no longer needed to be decided because of a change in
> circumstances.
>
> Or at least, Cecil tried to claim that a point made by Keith had become
> moot. But Keith disputed that... and so it rumbles on.
>
> --
>
> 73 from Ian GM3SEK

Rumbles, yes indeed. But does it retain any entertainment value, or
has it simply gotten painful to watch?

Cheers,
Tom

3086. Re: Best tiny directional antenna to get 500m range with at most 100mW at 150MHz?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 15:26:02 UTC
From: Allodoxaphobia <bit-bucket@config.com>
Message-ID: <slrnf0fpga.66q.bit-bucket@shell.config.com>
Source record: 44202

On Mon, 26 Mar 2007 02:35:51 GMT, David Hooker wrote:
> Hello all,
>
> I'm trying to make a carfinder, where a pocket-sized, keyring-attached
> transmitter sends a signal to a car, the car sends a reply, and the
> carfinder shows some kind of signal strength indication. Do this as
> the operator turns in a circle, and he should have an idea of where he
> left his car in the carpark.

You realise, don't you, that in a large parking lot filled with cars
(that's why you can't see yours - isn't it) you will be surounded by a
multitude of large RF reflectors?

Use your ears.
Honk the horn.
Your ears will be more directional than any
RF-with-tiny-directional-antenna-at-150mcs solution could be.

Or, get an amateur radio license and mount a large, honkin' 80M mobile
whip on it.
Use your eyes -- the *most* directional.

Jonesy
--
Marvin L Jones | jonz | W3DHJ | linux
38.24N 104.55W | @ config.com | Jonesy | OS/2
*** Killfiling google posts: <http://jonz.net/ng.htm>

3087. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 16:04:00 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <Q9SNh.1965$YL5.1046@newssvr29.news.prodigy.net>
Source record: 44203

Gene Fuller wrote:
> We all know that "power flow" is a bit of an oxymoron, but it
> still is widely used as an equivalent to "energy flow".

From your last posting it was not readily apparent
that you knew the difference between energy and power.

There is no reflected power wave but there is a
reflected RF energy traveling wave, the power of which
can be measured at a fixed point. A Bird directional
wattmeter indirectly senses the reflected power at the
fixed location of the Bird.
--
73, Cecil http://www.w5dxp.com

3088. Ameritron RCS4

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 16:50:49 UTC
From: Jim Leder <k8cxm@fuse.net>
Message-ID: <bf16c$4607f9e9$d0660f9a$30070@FUSE.NET>
Source record: 44204

I am most likely going to buy a new Ameritron RCS4 antenna switch so I can not have so many coax cables coming into the house. Question: does anyone know if this switch shorts all the unused connectors to ground? How about when the switch is turned off?

Thanks
--
Jim Bob Buckeye
AKA
**** Jim Leder****
K8CXM since 1961
IBM retiree since 1999
http://home.fuse.net/k8cxm/

3089. Re: al coax

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 17:01:36 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns98FF65FBDFBB6spectrumhogstarbandn@198.186.192.196>
Source record: 44205

>
> It is technically true that the dielectric losses are a little bit
> lower than for the same solid material; but dielectric losses aren't
> important anyway, so using foam makes almost no difference to the
> overall cable loss.

While I have no disagreement with everything else Ian stated, I do take some exception to the above comment about foam. Just take a look at RG-8 for example. With all other aspects of it remaining the same, there certainly is a significant difference in loss figures when the dielectric is changed from solid to foam.

Ed K7AAT

3090. Re: al coax

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 17:47:33 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <UGTNh.1642$Rg4.184@newssvr19.news.prodigy.net>
Source record: 44206

Ed wrote:
> While I have no disagreement with everything else Ian stated, I do take
> some exception to the above comment about foam. Just take a look at RG-8
> for example. With all other aspects of it remaining the same, there
> certainly is a significant difference in loss figures when the dielectric
> is changed from solid to foam.

Significance is in the eye of the beholder. At 400 MHz,
RG-8 foam seems to have a loss advantage over ordinary
RG-8 of ~2 dB per 100 feet. At 10 MHz, it is ~0.2 dB.
Is that significant?
--
73, Cecil http://www.w5dxp.com

3091. Re: Ameritron RCS4

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 18:35:46 UTC
From: Alan WA4SCA <APBIDDLE@UNITED.NET>
Message-ID: <bh4g035003jv86nn9f33kualk5uostucjn@4ax.com>
Source record: 44208

You can download the manual here:

http://www.ameritron.com/products.php?prodid=RCS-4

The schematic does not show any grounding for the unused ports, nor
does the word description. Hope this helps.

--
Alan
WA4SCA

3092. Re: al coax

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 18:49:42 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <0a5g03prq1t4deabebmvjsmohs2as7p1bh@4ax.com>
Source record: 44207

On 26 Mar 2007 17:01:36 GMT, Ed <Huckleberry_REMOVE_@bigvalley.net>
wrote:

>With all other aspects of it remaining the same, there
>certainly is a significant difference in loss figures when the dielectric
>is changed from solid to foam.

Hi Ed,

Actually, all other aspects do not remain the same when you go from
one dielectric to the other.

The size of the inner conductor changes, and with it so does loss. The
loss is in the conductor, not the dielectric.

73's
Richard Clark, KB7QHC

3093. Re: Ameritron RCS4

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 19:30:39 UTC
From: KC8GXW-Jim <kc8gxw@CENTURYTEL.NET>
Message-ID: <RtedncK5W4f9gpXbnZ2dnUVZ_tzinZ2d@centurytel.net>
Source record: 44209

Jim Leder wrote:
> I am most likely going to buy a new Ameritron RCS4 antenna switch so I can
> not have so many coax cables coming into the house. Question: does anyone
> know if this switch shorts all the unused connectors to ground? How about
> when the switch is turned off?
>
> Thanks
I have I think the RCS8, there are 8 positions but none were grounded.
I grounded the #1 position and everytime I shut down I would chose
position #1 and my coax would always be grounded

3094. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 19:56:02 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <jnbg03dig64o87flbgmr77jh7bv1s2v6nb@4ax.com>
Source record: 44210

On Sun, 25 Mar 2007 19:14:07 -0800, Richard Clark <kb7qhc@comcast.net> wrote:

>On Sun, 25 Mar 2007 22:20:25 GMT, Walter Maxwell <walt@w2du.com>
>wrote:
>
>>Richard, assume a mismatched load has produced both voltage and current refleftions on the line that result in
>>a particular reactive impedance at the line input. The line input is connected to the output of the
>>transceiver that has a pi-network output coupling circuit.
>
>I call this condition 1. It exhibits a mismatch and it exhibits the
>probability of the reflected energy being absorbed by the source to
>the degree of the phase relationships.

Richard, although it exhibits a mismatch, and thus detunes the source, the probability of the reflected energy
being absorbed by the source is zero. The additional power dissipated in the source is due to lowered
impedance of the network resulting from off-resonance operation, thus increasing the plate current. The
reflected energy does not enter the network, but only results in a decrease in the power delivered relative to
that when the reactance in the load is cancelled by correct retuning of the source network.

>>When the network has been adjusted to deliver all
>>the available power into the line the output source impedance is the complex conjugate of the line input
>>impedance.
>
>I call this condition 2. It exhibits just what you describe:
>
>>In this condition the reflected voltage and current waves are totally re-reflected back into the
>>line, while adding in phase to the voltage and current waves from the source, respectively. Consequently, the
>>reflected waves do not pass rearward through the network to be incident on the plate. Only if the network is
>>mistuned, such as being connected to the reactive input of the line without being retuned to resonance, in
>>which case the excessive plate current due to being mistuned will result in an inordinate amount of heating of
>>the plate.
>
>>>>It seems to me that in your initial post in the original thread (that

>>>was largely ignored for comment) you made mention of injecting a
>>>signal from an external source into the mouth of the dragon for the
>>>purposes of measuring the source Z. Am I wrong?
>>
>>Yes, you are wrong here, because I made no mention of the 'mouth of a dragon'. That comment must have come
>>from another poster, twarn't I.
>
>From March 14:
>"2. The amplifier is now powered down and the load resistance RL is
>measured across the input terminals of the resonant pi-network tank
>circuit (from plate to ground) with an HP-4815 Vector Impedance
>Meter."
>
>>Richard, try this on for size and then determine whether you believe RF understands the function of the
>>phasing in impedance matching:
>
>...
>
>>Now, when adjusting the output network of a tube-type transceiver to deliver all the available power into a
>>line having reflections, the adjustment of the network accomplishes the same function as the stub on the line
>>in the above discussion. Consequently, this is the reason why the reflected power is totally re-reflected at
>>the output terminals of the network, and is never seen at the plate of the amp to cause heating.
>
>If you follow my separation of arguments above, you will find it
>demands that the source MUST have the intervention of an outside agent
>to resolve its probability of facing destructive energy. In the arts,
>this is called Deus ex Machina. In the world of science, we would
>have to say that the source is extremely non-linear when its internal
>state of Z (a distinctly non-Thevenin characteristic) changes to
>follow the load.
>
>In short, of course no energy finds its way in, we twisted knobs to
>make that a self-fulfilling prophecy. Without this intervention
>reflected energies present the real probability of destruction by
>heat.

Twisting the knobs is what adjusts the output impedance of the network to the complex conjugate of the load.
But without this intervention the real probability of destruction by heat is not resulting from the reflected
energy reaching the plate--it is only that the reflected energy detuned the network, causing the plate current
to rise because the network is off resonance.

>>This is the concept I believe Richard Fry is not appreciating. If I'm wrong on this I hope he'll straighten me
>>out.
>
>I will let him speak for himself.

OK, Richard F, speak up.

>73's
>Richard Clark, KB7QHC

3095. Re: al coax

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 20:07:58 UTC
From: Tam/WB2TT <t-tammaru@c0mca$t.net>
Message-ID: <TIudnVIFZc2OtZXbnZ2dnUVZ_h-vnZ2d@comcast.com>
Source record: 44211

"ml" <m@di.net> wrote in message
news:m-653449.07190825032007@news.verizon.net...
> hi
>
> I've seen recently that some companies such as andrews etc are now
> offering different coax and hardline with al outer shielding
>
> they advertise lower cost, and lighter weight then copper , ok i get
> that
>
> but then they say the rf spec's are 'the same' so i ponder how do they
> do that i would think copper would have better spec's ? obviously i
> am missing something obvious

I think you are referring to the Times Microwave LMR cables. The LMR240 is sort of a low loss RG8X, and the LMR400 is a low loss RG213. These cables are made like RG6 in that there is 100% foil coverage bonded to the inner dielectric with normally a tinned copper braid over it. The aluminum versions of these replace the copper braid with aluminum braid. They claim the loss is the same because the bonded foil is the same. The only problem I see is soldering to the aluminum braid, and I suspect crimp on connectors will be easier to install. You can still solder the center conductor. Check out
www.timesmicrowave.com
BTW, the LMR240UF makes for great patch cords. It has a stranded center conductor. 1/4 inch cable that is rated at 1500W. The LMR240 without the UF suffix has a solid center conductor, costs about half as much, and I use it for longer runs below 30 MHz. Haven't seen any of the aluminum stuff yet.

Tam/WB2TT

3096. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 20:18:00 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <YTVNh.13070$f56.10662@bgtnsc05-news.ops.worldnet.att.net>
Source record: 44212

Cecil Moore wrote:
> Gene Fuller wrote:
>> We all know that "power flow" is a bit of an oxymoron, but it still is
>> widely used as an equivalent to "energy flow".
>
> From your last posting it was not readily apparent
> that you knew the difference between energy and power.
>
> There is *** no reflected power wave*** but there is a
> *** reflected RF energy traveling wave*** , the power of which
> can be measured at a fixed point. A Bird directional
> wattmeter indirectly senses the *** reflected power*** at the
> fixed location of the Bird.

Cecil,

It was late, but I did not think I was dreaming. You do indeed use
energy and power interchangeably and randomly.

I will try to keep that flexibility in mind in the future.

8-)

73,
Gene
W4SZ

3097. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 20:44:11 UTC
From: Dave <noone@nowhere.com>
Message-ID: <vgWNh.3436$5E3.2273@trndny01>
Source record: 44213

"art" <aunwin@insightbb.com> wrote in message
news:1174918889.954850.13600@p77g2000hsh.googlegroups.com...
> Antennas seemed to have evolved into structures that
> are parallel or at right angles to the earths surface
> Why is this or is it asthetics that is driving this thinking?
> My research on the subject evolves around the vector formation
> of radiation and where the addition of the vectors involved
> which creats radiation is at an angle to the radiator..
> This suggests that for best radiative advantage it is
> this vector that should be parallel to the earths surface
> and not the physical radiator. This appears to be born out
> by following my Gaussian approach to radiator design.
> So the question of habitual arrangement of antenna arrays
> parallel or at right angles to the earths surface as
> being the best arrangement needs some sort of validation.
> Any thoughts as to why it should be so and the scientific
> facts that support it?
> Art
>
yes, there are many... but none that you will want to hear.

3098. Re: al coax

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 21:25:41 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <BZj4mqMVpDCGFASh@ifwtech.co.uk>
Source record: 44215

Ed wrote:
>
>>
>> It is technically true that the dielectric losses are a little bit
>> lower than for the same solid material; but dielectric losses aren't
>> important anyway, so using foam makes almost no difference to the
>> overall cable loss.
>
>
> While I have no disagreement with everything else Ian stated, I do take
>some exception to the above comment about foam. Just take a look at RG-8
>for example. With all other aspects of it remaining the same, there
>certainly is a significant difference in loss figures when the dielectric
>is changed from solid to foam.

Detailed specifications, please?

It is impossible to change only the dielectric and have literally "all other aspects remaining the same". If you want to keep the same characteristic impedance, at least one more thing has to be changed - either the centre conductor diameter or the shield diameter (or possibly both).

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

3099. Re: Ameritron RCS4

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 21:34:30 UTC
From: Brian Kelly <kelly@dvol.com>
Message-ID: <1174944870.449950.73890@y66g2000hsf.googlegroups.com>
Source record: 44214

On Mar 26, 11:50 am, "Jim Leder" <k...@fuse.net> wrote:
> I am most likely going to buy a new Ameritron RCS4 antenna switch so I can
> not have so many coax cables coming into the house. Question: does anyone
> know if this switch shorts all the unused connectors to ground? How about
> when the switch is turned off?

You might consider a Top Ten Devices switch. Six positions, full
grounding.

http://www.qth.com/topten/sixway.htm

Note that they also sell a weatherproof version of the switch

> Thanks
> --
> Jim Bob Buckeye
> AKA
> **** Jim Leder****
> K8CXM since 1961
> IBM retiree since 1999http://home.fuse.net/k8cxm/

w3rv

3100. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 21:52:24 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <rgXNh.442$Q23.23@newssvr17.news.prodigy.net>
Source record: 44216

Gene Fuller wrote:
>> There is *** no reflected power wave*** but there is a
>> *** reflected RF energy traveling wave*** , the power of which
>> can be measured at a fixed point. A Bird directional
>> wattmeter indirectly senses the *** reflected power*** at the
>> fixed location of the Bird.
>
> It was late, but I did not think I was dreaming. You do indeed use
> energy and power interchangeably and randomly.

I see you are still confused. Waves flow. Power doesn't
flow. Energy flows. Does your Bird wattmeter move while
it's indicating power or does it stand still while
indicating joules of energy passing a fixed point in
one second?
--
73, Cecil http://www.w5dxp.com

3101. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 21:59:28 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <4nXNh.13283$f56.3929@bgtnsc05-news.ops.worldnet.att.net>
Source record: 44217

Cecil Moore wrote:
> Gene Fuller wrote:
>>> There is *** no reflected power wave*** but there is a
>>> *** reflected RF energy traveling wave*** , the power of which
>>> can be measured at a fixed point. A Bird directional
>>> wattmeter indirectly senses the *** reflected power*** at the
>>> fixed location of the Bird.
>>
>> It was late, but I did not think I was dreaming. You do indeed use
>> energy and power interchangeably and randomly.
>
> I see you are still confused. Waves flow. Power doesn't
> flow. Energy flows. Does your Bird wattmeter move while
> it's indicating power or does it stand still while
> indicating joules of energy passing a fixed point in
> one second?

Cecil,

Keep on babbling, but remember, when you are in a hole stop digging.

73,
Gene
W4SZ

3102. Re: al coax

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 22:00:25 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990051741C065nonenowhere@61.9.191.5>
Source record: 44218

Ian White GM3SEK <gm3sek@ifwtech.co.uk> wrote in
news:BZj4mqMVpDCGFASh@ifwtech.co.uk:

> Ed wrote:
...
>> While I have no disagreement with everything else Ian stated, I do
>> take
>>some exception to the above comment about foam. Just take a look at
>>RG-8 for example. With all other aspects of it remaining the same,
>>there certainly is a significant difference in loss figures when the
>>dielectric is changed from solid to foam.
>
> Detailed specifications, please?
>
> It is impossible to change only the dielectric and have literally "all
> other aspects remaining the same". If you want to keep the same
> characteristic impedance, at least one more thing has to be changed -
> either the centre conductor diameter or the shield diameter (or
> possibly both).
>
>

There is a market for lower loss cables that are of similar dimensions to existing cables like RG213 and RG58. In my experience there are a range of cables with the same outside conductor dimensions, foam dielectric and a effectively larger inner conductor. It is often stated that the foam dielectric give the cable its lower loss, whereas the mechanism at HF is that for the same sized outer conductor, the lower permittivity of the foam dielectric requires a larger centre conductor for same Zo.

For example, the k1, k2 factors for a loss=k1*f^0.5+k2*f model for two dimensionally similar cables are:

Belden 8262 (RG58C/U): 1.30e-5, 2.95e-10
Times Microwave LMR195: 1.17e-5, 1.54e-11

k1 is proportional to copper loss, and k2 is proportional to dielectric loss.

Looking at LMR195, the reduced loss at 10MHz is almost entirely due to the reduced copper loss.

It is not until about 2GHz that the dielectric loss in RG58 equals the copper loss.

The message to carry away is that an 'RG8 foam' cable may be manufactured with the same diameter dielectic and braid, but use a larger inner

conductor. Connector compatibility might be more about compatibiility with the inner conductor than the connector body.

Owen

3103. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 22:40:58 UTC
From: Dave <noone@nowhere.com>
Message-ID: <_ZXNh.2111$J21.560@trndny03>
Source record: 44219

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:rgXNh.442$Q23.23@newssvr17.news.prodigy.net...
> Gene Fuller wrote:
>>> There is *** no reflected power wave*** but there is a
>>> *** reflected RF energy traveling wave*** , the power of which
>>> can be measured at a fixed point. A Bird directional
>>> wattmeter indirectly senses the *** reflected power*** at the
>>> fixed location of the Bird.
>>
>> It was late, but I did not think I was dreaming. You do indeed use energy
>> and power interchangeably and randomly.
>
> I see you are still confused. Waves flow. Power doesn't
> flow. Energy flows. Does your Bird wattmeter move while
> it's indicating power or does it stand still while
> indicating joules of energy passing a fixed point in
> one second?
> --
> 73, Cecil http://www.w5dxp.com

none of them flow. electrons move, this is called CURRENT. a current
causes a voltage which is related to it by an impedance. that is all you
need to know. power flow, energy flow, birds flying, those are all
secondary effects calculated from the fundamental elements of current,
impedance, and voltage. nothing else is necessary, everything else is
confusing since important details get lost when most people do calculations
of power or energy. stick with the basics and it will all become clear!

3104. Re: al coax

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 22:43:53 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990058D2BF8ACnonenowhere@61.9.191.5>
Source record: 44220

"Tam/WB2TT" <t-tammaru@c0mca$t.net> wrote in
news:TIudnVlFZc2OtZXbnZ2dnUVZ_h-vnZ2d@comcast.com:

> BTW, the LMR240UF makes for great patch cords. It has a stranded
> center conductor. 1/4 inch cable that is rated at 1500W. The LMR240

From the spec sheet, the average power rating at 30MHz is 1240W. I assume that is with VSWR=1, so that a further derating is required for mismatch. For example, at VSWR=2, the heating at a current maximum is nearly double that for a flat line, so the power rating might be more like 620W with VSWR=2.

Of course, in SSB telephony, the average power is very low and the cable is probably limited by voltage breakdown at peaks, specified as 5.6kW for LMR240UF.

Owen

3105. home made Mobile Ant

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 23:24:27 UTC
From: Lushy <david.lush@bigpond.com>
Message-ID: <LCYNh.2112$M.1759@news-server.bigpond.net.au>
Source record: 44223

I have a old 2 piece hollow 11 ft surf rod in the shed and need a mobile antenna and a sand flag on my Jeep Wrangler. I thought I would be able to do both with the fishing rod.
Question 1. How much minimum wire would I need to load it up on all Hf Freqs (I have a tuner).
Question 2. Could I bottom load it with a coil?
It would be connected to the tuner with RG 58 coax (about 10 ft).
Lushy
VK3HDL

--
This life is not a rehearsal it is the real thing!

3106. Thankyou all for your replies

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 23:28:26 UTC
From: David Hooker <david.d.hooker@gmail.com>
Message-ID: <uGYNh.2698$tp3.24625@nasal.pacific.net.au>
Source record: 44222

Thankyou all for your replies

3107. Re: al coax

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-26 23:51:32 UTC
From: Tam/WB2TT <t-tammaru@c0mca$t.net>
Message-ID: <tvGdncg30ubkwZXbnZ2dnUVZ_sudnZ2d@comcast.com>
Source record: 44224

"Owen Duffy" <none@no.where> wrote in message
news:Xns990058D2BF8ACnonenowhere@61.9.191.5...
> "Tam/WB2TT" <t-tammaru@c0mca$t.net> wrote in
> news:TIudnVlFZc2OtZXbnZ2dnUVZ_h-vnZ2d@comcast.com:
>
>> BTW, the LMR240UF makes for great patch cords. It has a stranded
>> center conductor. 1/4 inch cable that is rated at 1500W. The LMR240
>
> From the spec sheet, the average power rating at 30MHz is 1240W. I assume
> that is with VSWR=1, so that a further derating is required for mismatch.
> For example, at VSWR=2, the heating at a current maximum is nearly double
> that for a flat line, so the power rating might be more like 620W with
> VSWR=2.
>
> Of course, in SSB telephony, the average power is very low and the cable
> is
> probably limited by voltage breakdown at peaks, specified as 5.6kW for
> LMR240UF.
>
> Owen
Something happened to my cut and paste. The 1500W was supposed to refer to
the non UF.

Tam/WB2TT

3108. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 00:09:48 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <e4lg0318j83mj62bi8korblml7iclvjdlk@4ax.com>
Source record: 44221

On Mon, 26 Mar 2007 19:56:02 GMT, Walter Maxwell <walt@w2du.com>
wrote:

>>I call this condition 1. It exhibits a mismatch and it exhibits the
>>probability of the reflected energy being absorbed by the source to
>>the degree of the phase relationships.
>
>Richard, although it exhibits a mismatch, and thus detunes the source, the probability of the reflected energy
>being absorbed by the source is zero. The additional power dissipated in the source is due to lowered
>impedance of the network resulting from off-resonance operation, thus increasing the plate current. The
>reflected energy does not enter the network, but only results in a decrease in the power delivered relative to
>that when the reactance in the load is cancelled by correct retuning of the source network.

Hi Walt,

Examples of separable energies in lines abound. We needn't have to go into circulators, isolators, directional couplers (the real ones, not the Bruene variety) and the rest, which all exhibit classic separation to achieve many design goals. Hence, it follows that reverse energy is real. The longer you pour energy into a mismatch, the longer it will reflect it back. Longer brings time into the discussion and hence power. Power is directly correlateable to heat.

Now, the amount of heat is directly correlateable to phase relations. If they are aligned at one of the cardinal points, heat will drive up. If they are aligned at the other cardinal point (180 degrees away) heat will fall. Heat is positive proof of resistance. Being hot or cold is sensation, not heat per se. That is, if the source cools, this is not proof of the source not exhibiting a source resistance - phase does not create nor diminish resistance. Or to put it another way, source resistance is not a function of phase.

There is a continuum of phase relationships expressed in angles between 0 and 360. Half will tend to heat, half will tend to cool. Energy is dissipated for the full 360 degrees.

When that reverse energy arrives by transmission line, it sees a load. Complex as it is, it must resolve to find itself within this continuum of response. Examples of plate incandescence or arcing are not trivial parlor tricks. You can force the situation with a lumped equivalent, but a lumped equivalent will not prove any invalidity of

the transmission line model it replaces (which, on the face of it, is an ironic appeal). This can be simply proven in that a lumped equivalent does not exhibit ALL the characteristics of energy storage in a long line.

Some (others than you, Walt) may be tempted to trot out the ghosts in the TV line proof. That is certainly one characteristic that a lumped equivalent can never exhibit (and yet the equivalent acts like the line to an amazing degree for many considerations). No, I won't delve into the endless debate about transient vs. steady state. This is an argument about as insipid as can be offered (by others than you, Walt) as if it made any difference. Rather, a resonant line will exhibit identical properties of resonance at harmonics - a lumped equivalent will not. It is quite obvious that a lumped equivalent is not wholly equivalent, except for a highly constrained example. To say (by others than you, Walt) it supports a general solution that invalidates the line's reality is as absurd a notion as any that are trotted around the track here. In short, if a line exhibits itself as a source of energy for any example, no equivalent can negate that physical truth in a proof for other use.

Hence, it follows that:
1. reflected energy is real and consequential;
2. sources exhibit resistance to energy flow;
3. 1 & 2 combine by their phase to result in a change of heat - dissipation;
4. the operator of either a tube or transistorized rig can adjust the phase of 1 through the intermediary of tuning (or conjugating);
5. absolutely no intervention impacts 2, except by degree;
6. successful/unsuccessful intervention still proves 3.

73's
Richard Clark, KB7QHC

3109. For your bookmarks : Antenna Search, a new search engine for antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 00:20:09 UTC
From: oli <oli004@wanadoo.fr>
Message-ID: <46086342$0$25916$ba4acef3@news.orange.fr>
Source record: 44225

Good mornig all,

I'am happy to present you "Antenna Search", a search engine dedicated to the antennas of any nature.

http://www.les-antennes.fr/

Antenna Search is actualy a beta version, but seems to work correctly.

Best regards,

Oli

3110. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 00:27:53 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <dyZNh.3302$Kd3.2086@newssvr27.news.prodigy.net>
Source record: 44226

Dave wrote:
> none of them flow. electrons move, this is called CURRENT. a current
> causes a voltage which is related to it by an impedance. that is all you
> need to know. power flow, energy flow, birds flying, those are all
> secondary effects calculated from the fundamental elements of current,
> impedance, and voltage.

Sorry Dave, the essence of an EM wave is its electromagnetic
energy. Voltage and current are the secondary effects of
the photons encountering a conductor. What happens when one
doesn't have a conductor?

What's the voltage and current in the light from Alpha
Centauri? Optical physicists have known for decades what
is the essence of EM waves and they don't use voltage and
current except for some esoteric calculation.
--
73, Cecil http://www.w5dxp.com

3111. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 00:41:42 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <46086842$0$16743$4c368faf@roadrunner.com>
Source record: 44127

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:e4lg0318j83mj62bi8korblml7iclvjdlk@4ax.com...
> On Mon, 26 Mar 2007 19:56:02 GMT, Walter Maxwell <walt@w2du.com>
> wrote:
>
>>>I call this condition 1. It exhibits a mismatch and it exhibits the
>>>probability of the reflected energy being absorbed by the source to
>>>the degree of the phase relationships.
>>
>>Richard, although it exhibits a mismatch, and thus detunes the source, the
>>probability of the reflected energy
>>being absorbed by the source is zero. The additional power dissipated in
>>the source is due to lowered
>>impedance of the network resulting from off-resonance operation, thus
>>increasing the plate current. The
>>reflected energy does not enter the network, but only results in a
>>decrease in the power delivered relative to
>>that when the reactance in the load is cancelled by correct retuning of
>>the source network.
>
> Hi Walt,
>
> Examples of separable energies in lines abound. We needn't have to go
> into circulators, isolators, directional couplers (the real ones, not
> the Bruene variety) and the rest, which all exhibit classic separation
> to achieve many design goals. Hence, it follows that reverse energy
> is real. The longer you pour energy into a mismatch, the longer it
> will reflect it back. Longer brings time into the discussion and
> hence power. Power is directly correlateable to heat.
>
> Now, the amount of heat is directly correlateable to phase relations.
> If they are aligned at one of the cardinal points, heat will drive up.
> If they are aligned at the other cardinal point (180 degrees away)
> heat will fall. Heat is positive proof of resistance. Being hot or
> cold is sensation, not heat per se. That is, if the source cools,
> this is not proof of the source not exhibiting a source resistance -
> phase does not create nor diminish resistance. Or to put it another
> way, source resistance is not a function of phase.
>
> There is a continuum of phase relationships expressed in angles
> between 0 and 360. Half will tend to heat, half will tend to cool.
> Energy is dissipated for the full 360 degrees.
>
> When that reverse energy arrives by transmission line, it sees a load.

> Complex as it is, it must resolve to find itself within this continuum
> of response. Examples of plate incandescence or arcing are not
> trivial parlor tricks. You can force the situation with a lumped
> equivalent, but a lumped equivalent will not prove any invalidity of
> the transmission line model it replaces (which, on the face of it, is
> an ironic appeal). This can be simply proven in that a lumped
> equivalent does not exhibit ALL the characteristics of energy storage
> in a long line.
>
> Some (others than you, Walt) may be tempted to trot out the ghosts in
> the TV line proof. That is certainly one characteristic that a lumped
> equivalent can never exhibit (and yet the equivalent acts like the
> line to an amazing degree for many considerations). No, I won't delve
> into the endless debate about transient vs. steady state. This is an
> argument about as insipid as can be offered (by others than you, Walt)
> as if it made any difference. Rather, a resonant line will exhibit
> identical properties of resonance at harmonics - a lumped equivalent
> will not. It is quite obvious that a lumped equivalent is not wholly
> equivalent, except for a highly constrained example. To say (by
> others than you, Walt) it supports a general solution that invalidates
> the line's reality is as absurd a notion as any that are trotted
> around the track here. In short, if a line exhibits itself as a
> source of energy for any example, no equivalent can negate that
> physical truth in a proof for other use.
>
> Hence, it follows that:
> 1. reflected energy is real and consequential;
> 2. sources exhibit resistance to energy flow;
> 3. 1 & 2 combine by their phase to result in a change of heat -
> dissipation;
> 4. the operator of either a tube or transistorized rig can adjust the
> phase of 1 through the intermediary of tuning (or conjugating);
> 5. absolutely no intervention impacts 2, except by degree;
> 6. successful/unsuccessful intervention still proves 3.
>
> 73's
> Richard Clark, KB7QHC

I wish somone would convince my boss reverse power isnt real. Then he wouldnt be so angry about the power meter head I blew up because I forgot to put an attnuator on it. Even with the -20db of the coupler ther is still 20 watts peak on the reverse side.

3112. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 01:26:51 UTC
From: richardharrison@webtv.net
Message-ID: <7477-460872DB-819@storefull-3258.bay.webtv.net>
Source record: 44128

Cecil, W5DXP wrote:
"Others use the term 'power wave', but I DO NOT, so please stop accusing me of something I am not guilty."

Power waves are respectable but a writer chooses his own words.

Searching the web on topic: "power reflection on mismatched line" yielded 12,778 hits. First two were from the physics department of the University of Queensland in Australia. No qualms about the word "power" are shown and sample problems are worked. Here is one statement: "Note that the power reflection coefficient is equal to the square of the voltage (or current) coefficient because forward or reflected waves are in rhe same impedance."

Remarkable or not, that is the seesnce of what the Bird Electronic Corporation says in instructions for its "Thruline Wattmeter".

Power is acceptable and accepted. Why avoid the term?

Best regards, Richard Harrison, KB5WZI

3113. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 01:44:39 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <n31h03908usb01vucpval3mvgf8er2eri4@4ax.com>
Source record: 44129

On Mon, 26 Mar 2007 20:41:42 -0400, "Jimmie D" <GFENDER@carolina.rr.com> wrote:

>I wish somone would convince my boss reverse power isnt real. Then he
>wouldnt be so angry about the power meter head I blew up because I forgot to
>put an attnuator on it. Even with the -20db of the coupler ther is still 20
>watts peak on the reverse side.
>
Jimmie, are you stating your belief that reverse, or reflected power isn't REAL power?

Ya gotta be kidding! Listen to your boss, he's right!

Walt, W2DU

3114. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 02:19:15 UTC
From: richardharrison@webtv.net
Message-ID: <2576-46087F23-944@storefull-3252.bay.webtv.net>
Source record: 44131

Walter Maxwell, W2DU wrote:
"When the matching is accomplished the phase relationship between the forward and reflected voltages can either be 0 degrees or 180 degrees, resulting in a total re-reflection of the voltage. If the resultant voltage is 0 degrees, then the resultant current is 180 degrees, thus voltage sees a virtual open circuit and the current sees a virtual sees a virtual short circuit. The result is that the reflected voltage and current are totally re-reflected IN PHASE with the source voltage and current. This is the reason the forward power in the line is greater than the source power when the line is mismatched at the load, but where the matching device has re-reflected the reflected waves."

Eloquently stated and significant because there are many who would swear that a properly matched transmitter re-reflects the reflected waves, but don`t have a clue as to why.

Best regards, Richard Harrison, KB5WZI

3115. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 02:23:34 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <46088023$0$18931$4c368faf@roadrunner.com>
Source record: 44130

"Walter Maxwell" <walt@w2du.com> wrote in message
news:n31h03908usb01vucpval3mvgf8er2eri4@4ax.com...
> On Mon, 26 Mar 2007 20:41:42 -0400, "Jimmie D" <GFENDER@carolina.rr.com>
> wrote:
>
>
>>I wish somone would convince my boss reverse power isnt real. Then he
>>wouldnt be so angry about the power meter head I blew up because I forgot
>>to
>>put an attnuator on it. Even with the -20db of the coupler ther is still
>>20
>>watts peak on the reverse side.
>>
> Jimmie, are you stating your belief that reverse, or reflected power isn't
> REAL power?
>
> Ya gotta be kidding! Listen to your boss, he's right!
>
> Walt, W2DU

If reflected power wasnt real I wouldnt be in trouble or at least on the
shame list. I picked up 30 db pad to put on the pwer meter some body
started talking to me and I forgot to put the thing on before I took the
reading. In other words my origional reply was a kind of tongue in cheek
raz to anyone who doesnt believe reflected power is real.

Jimmie

3116. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 02:27:13 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <460880fd$0$5199$4c368faf@roadrunner.com>
Source record: 44132

"art" <aunwin@insightbb.com> wrote in message
news:1174918889.954850.13600@p77g2000hsh.googlegroups.com...
> Antennas seemed to have evolved into structures that
> are parallel or at right angles to the earths surface
> Why is this or is it asthetics that is driving this thinking?
> My research on the subject evolves around the vector formation
> of radiation and where the addition of the vectors involved
> which creats radiation is at an angle to the radiator..
> This suggests that for best radiative advantage it is
> this vector that should be parallel to the earths surface
> and not the physical radiator. This appears to be born out
> by following my Gaussian approach to radiator design.
> So the question of habitual arrangement of antenna arrays
> parallel or at right angles to the earths surface as
> being the best arrangement needs some sort of validation.
> Any thoughts as to why it should be so and the scientific
> facts that support it?
> Art
>

What angle did you derive was the best angle to mount an anenna? Please show
experimental data to backup your conclusions.

Jimmie

3117. Re: al coax

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 02:54:40 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns98FFCA8ABE399spectrumhogstarbandn@198.186.192.196>
Source record: 44133

> Ed wrote:
>> While I have no disagreement with everything else Ian stated, I do
>> take some exception to the above comment about foam. Just take a
>> look at RG-8 for example. With all other aspects of it remaining the
>> same, there certainly is a significant difference in loss figures
>> when the dielectric is changed from solid to foam.
>
> Significance is in the eye of the beholder. At 400 MHz,
> RG-8 foam seems to have a loss advantage over ordinary
> RG-8 of ~2 dB per 100 feet. At 10 MHz, it is ~0.2 dB.
> Is that significant?

Actually, significance is based on the frequency of operation, as you
just indicated. Since the original poster was talking about an aluminum
jacketed heliax, I assumed the pertinent frequencies to be at least VHF,
if not higher; which would make the difference between the foam dielectric
RG-8 and solid dielectric RG-8 signifacant!

Ed

3118. Re: al coax

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 03:08:12 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns98FFCCD5E853Fspectrumhogstarbandn@198.186.192.196>
Source record: 44134

Richard Clark <kb7qhc@comcast.net> wrote in
news:0a5g03prq1t4deabebmvjsmohs2as7p1bh@4ax.com:

> On 26 Mar 2007 17:01:36 GMT, Ed <Huckleberry_REMOVE_@bigvalley.net>
> wrote:
>
>>With all other aspects of it remaining the same, there
>>certainly is a significant difference in loss figures when the
>>dielectric is changed from solid to foam.
>
> Hi Ed,
>
> Actually, all other aspects do not remain the same when you go from
> one dielectric to the other.
>
> The size of the inner conductor changes, and with it so does loss. The
> loss is in the conductor, not the dielectric.
>
> 73's
> Richard Clark, KB7QHC

I will eat my words! My previous experience has apparently been
comparing apples and oranges. I just compared Belden 9913 with 9914...
the only real difference between these two being one has a solid
dielectric and the other a foam dielectric.... the loss differences were
basically non-existant!

Sorry for all the bother!

Ed K7AAT

3119. Re: home made Mobile Ant

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 03:19:08 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns98FFCEB05AFEspectrumhogstarbandn@198.186.192.196>
Source record: 44135

> I have a old 2 piece hollow 11 ft surf rod in the shed and need a
> mobile antenna and a sand flag on my Jeep Wrangler. I thought I would
> be able to do both with the fishing rod. Question 1. How much minimum
> wire would I need to load it up on all Hf Freqs (I have a tuner).
> Question 2. Could I bottom load it with a coil? It would be connected
> to the tuner with RG 58 coax (about 10 ft). Lushy
> VK3HDL
>

Regarding Question 2, absolutely! Personally, that's the way I went with a similar project. I took much pleasure in reading Nylo's website at:

http://www.qsl.net/n1lo/mobilhf.pdf

Also, plenty of information in the handbook, and if you have a recent copy of the handbook, (or was it the ARRL Antenna Manual?), the disk in the back contains a little ARRL program called "mobile.exe" which would be right up the alley for your project. Good Luck.

Ed K7AAT

3120. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 03:22:17 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <I50Oh.1363$H_5.1098@newssvr23.news.prodigy.net>
Source record: 44136

Richard Harrison wrote:
> Power is acceptable and accepted. Why avoid the term?

Jim Kelley, AC6XG, has convinced me to make the
distinction between the nature of EM energy and
the nature of EM power. Power is what exists at
a point or plane. Energy is what is moving past
the point or through the plane. Reflected power
is measured at a point. Reflected energy is
what is doing the moving past that point.

In addition, there's the difference in definitions
between the fields of RF engineering and the field
of physics. In physics, zero work implies zero power.

I am not avoiding power. I am avoiding "power waves"
and "power flow". The dimensions of power flowing past
a point would be watts/second. I don't know what physical
quantity that would represent.
--
73, Cecil http://www.w5dxp.com

3121. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 03:24:13 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <w70Oh.1364$H_5.572@newssvr23.news.prodigy.net>
Source record: 44137

Walter Maxwell wrote:
> "Jimmie D" <GFENDER@carolina.rr.com> wrote:
>> I wish somone would convince my boss reverse power isnt real.

> Ya gotta be kidding!

Yep, he is kidding.
--
73, Cecil http://www.w5dxp.com

3122. Re: al coax

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 03:40:00 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <km0Oh.11789$Um6.6070@newssvr12.news.prodigy.net>
Source record: 44138

Ed wrote:
> Actually, significance is based on the frequency of operation, as you
> just indicated. Since the original poster was talking about an aluminum
> jacketed heliax, I assumed the pertinent frequencies to be at least VHF,
> if not higher; which would make the difference between the foam dielectric
> RG-8 and solid dielectric RG-8 signifacant!

I'm moving to a new QTH and have only kept up
with this thread sporadically. I have now gathered
that the point is that it's not the foam per se
that has the largest effect, but the larger center
conductor required to bring the impedance back
to 50 ohms. Consider the fact that the 9913 center
conductor is #10 while the RG-213 center conductor
is #12.
--
73, Cecil http://www.w5dxp.com

3123. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 03:55:21 UTC
From: KU2S <ku2s@arast.org>
Message-ID: <6a5h03hcda6ij7hm35ob7eufi8tt3tuhuq@4ax.com>
Source record: 44139

On Mon, 26 Mar 2007 22:27:13 -0400, "Jimmie D"
<GFENDER@carolina.rr.com> wrote:

>
>"art" <aunwin@insightbb.com> wrote in message
>news:1174918889.954850.13600@p77g2000hsh.googlegroups.com...
>> Antennas seemed to have evolved into structures that
>> are parallel or at right angles to the earths surface
>> Why is this or is it asthetics that is driving this thinking?
>> My research on the subject evolves around the vector formation
>> of radiation and where the addition of the vectors involved
>> which creats radiation is at an angle to the radiator..
>> This suggests that for best radiative advantage it is
>> this vector that should be parallel to the earths surface
>> and not the physical radiator. This appears to be born out
>> by following my Gaussian approach to radiator design.
>> So the question of habitual arrangement of antenna arrays
>> parallel or at right angles to the earths surface as
>> being the best arrangement needs some sort of validation.
>> Any thoughts as to why it should be so and the scientific
>> facts that support it?
>> Art
>>
>
>What angle did you derive was the best angle to mount an anenna? Please show
>experimental data to backup your conclusions.
>
>Jimmie
>

Oh, and don't forget to correlate that angle to include the effects of
local objects, terrain, and other variables so that everyone can
construct THIER antennas to match the ascetic ideal of similarly
aligned angles of radiation

--

Raymond Sirois - KU2S
http://www.hamxam.org
10-10 #70270

3124. Re: Litz wire for AM Antenna Rod?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 04:39:24 UTC
From: Bill Bowden <wrongaddress@att.net>
Message-ID: <1174970364.911050.134080@d57g2000hsg.googlegroups.com>
Source record: 44140

On Mar 26, 5:56 am, "art" <aun...@insightbb.com> wrote:
> On 25 Mar, 22:07, "Bill Bowden" <wrongaddr...@att.net> wrote:
>
>
>
> > On Mar 25, 9:03 pm, "Bill Bowden" <wrongaddr...@att.net> wrote:
>
> > > On Mar 25, 6:19 pm, "art" <aun...@insightbb.com> wrote:
>
> > > > On 23 Mar, 21:29, "Bill Bowden" <wrongaddr...@att.net> wrote:
>
> > > > > How much improvement can I expect using Litz wire to wind a AM ferrite
> > > > > Rod antenna as opposed to using solid copper wire?
>
> > > > > Is it worth the trouble to obtain Litz wire, or can I expect almost
> > > > > the same response at say 1 MHz using regular enamaled copper wire?
>
> > > > > -Bill
>
> > > > Bill, to give you a better background so the answer is more
> > > > understandable is to think about what Litz wire does for you. When are
> > > > delving into lower frequencies than AM then the skin depth required of
> > > > the wire is much deeper that at higher frequencies and if the wire
> > > > diameter is relatively small then the resistance goes up because even
> > > > if there was enough skin depth the circumference is small. If the wire
> > > > was made of many strands insulated from each other then the resistance
> > > > goes down since the wires are in parallel.
> > > > As I stated earlier Litz wire is used below AM frequencies. So now let
> > > > us examine what wire resistance does at A.M. frequencies say on your
> > > > auto, do you think that you could tell the difference on the radio if
> > > > you replace the stainless whip with say a copper wire? No I don't
> > > > think so. So for starters the Litz wire is not relavent for your
> > > > frequency of use and 2 the conductivity of the whip will not affect
> > > > your radios performance unless you took liberties with the
> > > > conductivity and replaced your whip with a wooden stick
> > > > Art
>
> > > Well, according to this website, Litz wire will increase the Q factor
> > > of a ferrite rod antenna by 6 times or more at 943Khz. The attainable
> > > Q value is 141 with solid copper wire and 1030 using Litz wire. Quite
> > > a significant difference. Of course the bandwidth is is only about 500
> > > Hz with a high Q value and much wider at the lower Q, which may be
> > > desirable. But it's much easier to start with a high Q and work down,

> > > than the other way around.
> > > Very easy to reduce efficiency, very hard to increase it.
>
> > > Quote from website:
>
> > > "Solid wire instead of litz?: Keep in mind that the work described
> > > here used close-wound 125/46 litz wire. If one duplicates 'Coil and
> > > Former B' in Table 2, except using 22 ga. solid copper wire (having
> > > the same diameter) as 125/46 litz, the Q values drop to about 1/6 of
> > > the values achieved with the litz wire. The cause is the large
> > > proximity effect resistive losses in the solid wire. The proximity
> > > effect, but not the skin effect loss may be much reduced if the wires
> > > are space-wound. New trade-offs now must be considered: Same wire
> > > diameter, and therefore a longer solenoid, or a smaller wire diameter
> > > and the same overall length? If one wishes to use solid wire, it
> > > should probably be wound directly on the ferrite, not on a former.
> > > The overall Q will still be much less than when using litz, but the
> > > loss from the high (tan δ) dielectric of the ferrite will be pretty
> > > well swamped out because of the now higher losses from the skin and
> > > proximity effect losses. The Q values, using a close-wound solenoid
> > > of 22 ga. solid copper wire on a polyethylene former, as in 'Coil and
> > > Former' B in Table 2 are: 520 kHz: 130, 943 kHz: 141 and 1710 kHz: 150
> > > when using the "best core". The Q drops only 3, 3, and 5 points
> > > respectively if the "worst core" is used. "
>
> > > -Bill
>
> > I forgot the link to the website. Here it is:
>
> >http://www.bentongue.com/xtalset/29MxQFL/29MxQFL.html
>
> > -Bill- Hide quoted text -
>
> > - Show quoted text -
>
> Very interesting Bill but in a way the report appears to be distorted
> to over emphasdise the advantages the author is declaring.To compare
> the "best with the worst" is some what unusual. It would have been
> better served if
> average type ferrites were used and a smaller size former than that
> chosen by the author. As a scientific paper it does a good job in
> pointing out gains and losses between two aproaches but in real life
> the differences appear to be over played. Certainly it brought up
> things that had not previously thought about and I suppose the final
> test of its merits depends pretty much on whether industry changes
> over design for its A.M. radios and that the customer will be able to
> discern advantages.. I may be wrong but it does seem to suggest that
> larger ferrites are to be used
> which avoids convention of small compact receivers, a much larger

> negative
> than any perceived advantage and the author has only emphasised
> perceived advantages to enlargen the importance of his reseach.
> However it was you that brought up the question in the first place and
> now the supposed scientific report which begs the question what sort
> of comments you were expecting from the group.
> Art

I brought up the question before I found the website which was
provided by someone from another group <sci.electronics.basic>

Another glaring error pointed out was the bandwidth limitations using
a high Q coil. As the Q goes up, the bandwidth goes down to possibly
unusable values. At 800Khz and a Q of 1000, the bandwidth is only 400
Hz. Not very good at audio frequencies.

I think the answer is to use as high a Q as possible and then
load the antenna coil so the Q falls to the desired value. It's easy
to drop the Q, very hard to increase it.

Thanks,

-Bill

3125. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 04:49:21 UTC
From: richardharrison@webtv.net
Message-ID: <2576-4608A251-958@storefull-3252.bay.webtv.net>
Source record: 44141

Art wrote:
"Any thoughts as to why it sgould be so and the scientific facts to support it?"

We have plumb lines and bubble levels which allow easy determination of vertical and horizontal directions.

We often inhabit a nearly horizontal plane

If we are as likely as not to communicate with any particular direction, an omidirectional vertical antenna makes sense. An inclined wire would favor some direction to the detriment of another. Sure a slopimg wire works but doesn`t reach maximum height or length as effectively as a vertical or horizontal wire would.

Why a straight dipole and not a V-shaped element? The V-shape corrupts the nulls at the ends of the straight wire.

Vertical and horizontal antennas are not solely accidents of history.

Best regards, Richard Harrison, KB5WZI

3126. Re: Nutty Antenna Idea -- Complete with Rhetorical Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 05:46:32 UTC
From: mcalhoun@ksu.edu
Message-ID: <euab3o$dsm@unix1.cc.ksu.edu>
Source record: 44142

>> I've done it with pairs of identical "hamsticks" ....
>> two feet above the cab of my pickup. It made a GREAT NVIS HF antenna!

>Thanks. I don't own any of them, yet, but it sounds like a possibility.
>I'm probably going to want DX, though, so NVIS isn't something that I'm
>seeking. If I'm horizontal, I'll want some elevation.

The NVIS was not caused by the hamsticks, themselves,
but by their being VERY LOW!
(2 feet above my pickup cab is only 8-9 feet high)

I'm not in any way claiming hamsticks are the "best" antenna,
but if you elevated a dipole made of them, I'm sure they
would not act like cloud-burners anymore.

--
--Myron A. Calhoun; W0PBV; 2001 Dunbar Road; Manhattan, KS 66502-3907
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
NRA Life Member & Certified Instructor for Rifle, Pistol, & Home Firearm Safety
Also Certified Instructor for the Kansas Concealed-Carry Handgun (CCH) license

3127. Re: al coax

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 07:24:29 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <cnhsFZGtaMCGFACD@ifwtech.co.uk>
Source record: 44143

Cecil Moore wrote:
>Ed wrote:
>> Actually, significance is based on the frequency of operation, as
>>you just indicated. Since the original poster was talking about an
>>aluminum jacketed heliax, I assumed the pertinent frequencies to be
>>at least VHF, if not higher; which would make the difference between
>>the foam dielectric RG-8 and solid dielectric RG-8 signifacant!
>
>I'm moving to a new QTH and have only kept up
>with this thread sporadically. I have now gathered
>that the point is that it's not the foam per se
>that has the largest effect, but the larger center
>conductor required to bring the impedance back
>to 50 ohms.

From the designer's point of view, it was the other way around: centre conductor first, dielectric constant second.

The boss says: "We want a lower-loss coax, in the same outline as RG213 and still 50 ohms."

Starting from RG213, the first thing the designer does is increase the diameter of the centre conductor, because that's where most of the losses come from. He now has a lower-loss solid polyethylene cable that will fit an RG213 connector body, but has an impedance of around 40 ohms.

>Consider the fact that the 9913 center
>conductor is #10 while the RG-213 center conductor
>is #12.

Just so.

To bring the impedance back up to 50 ohms, the designer then has to reduce the dielectric constant, by using either foam dielectric or a semi-airspaced construction such as 9913. The losses do reduce a little more in the second step, but not much.

As I said yesterday, the third step is that Marketing gets hold of it... and that's where it all turns into foam.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

3128. Re: home made Mobile Ant

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 07:30:16 UTC
From: Lushy <david.lush@bigpond.com>
Message-ID: <cK3Oh.2319$M.964@news-server.bigpond.net.au>
Source record: 44144

Ed wrote:
>> I have a old 2 piece hollow 11 ft surf rod in the shed and need a
>> mobile antenna and a sand flag on my Jeep Wrangler. I thought I would
>> be able to do both with the fishing rod. Question 1. How much minimum
>> wire would I need to load it up on all Hf Freqs (I have a tuner).
>> Question 2. Could I bottom load it with a coil? It would be connected
>> to the tuner with RG 58 coax (about 10 ft). Lushy
>> VK3HDL
>>
>
>
> Regarding Question 2, absolutely! Personally, that's the way I
> went with a similar project. I took much pleasure in reading Nylo's
> website at:
>
> http://www.qsl.net/n1lo/mobilhf.pdf
>
> Also, plenty of information in the handbook, and if you have a
> recent copy of the handbook, (or was it the ARRL Antenna Manual?),
> the disk in the back contains a little ARRL program called
> "mobile.exe" which would be right up the alley for your project.
> Good Luck.
>
>
> Ed K7AAT

Thanks mate will have a look
Lushy

3129. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 07:47:04 UTC
From: richardharrison@webtv.net
Message-ID: <7477-4608CBF8-850@storefull-3258.bay.webtv.net>
Source record: 44145

Richard Clark, KB7QHC wrote:
"There is a continuum of phase relationships expressed in degrees
between 0 and 360."

We are discussing transmission lines and assuming near perfection.
Indeed the phase of the wave depends on that of the generator when it
was launched and the phase of the generator continues to advance with
time, but a good line enforces its Zo, a resistance.

Terman says on page 85 of his 1955 opus:
"The incident wave on the transmission line can therefore be described
as a voltage accompanied by a current that is everywhere in phase with
and proportional to, the voltage and dropping back uniformly in phase as
the load is approached."

The transmission line treats the wave reflected from a discontinuity
exactly the same as it does the incident wave.

The reflected wave is identical with the incident wave except that it is
traveling toward the generator.

At an open circuit or high-impedance load, there is tto much line
current for the high-impedance to accept gven the limited voltage. The
surplus current must reverse phase and the wave must travel back toward
the generator. There is no change in the phase of the voltage.

At a short circuit or low-impedance load, there is too much line voltage
for the low-impedance to accept, given the limited current. The surlus
voltage must reverse phase and the wave must travel back toward the
generator. There is no change in the phase of the current.

There are two phasing conditions between the voltage and current on an
ideal transmission line, 0 degrees and 180 degrees.

Best regards, Richard Harrison, KB5WZI

3130. Re: al coax

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 14:59:13 UTC
From: Tam/WB2TT <t-tammaru@c0mca$t.net>
Message-ID: <e-ydnbr38PWorJTbnZ2dnUVZ_sCinZ2d@comcast.com>
Source record: 44146

"Tam/WB2TT" <t-tammaru@c0mca$t.net> wrote in message
news:tvGdncg30ubkwZXbnZ2dnUVZ_sudnZ2d@comcast.com...
>
> "Owen Duffy" <none@no.where> wrote in message
> news:Xns990058D2BF8ACnonenowhere@61.9.191.5...
>> "Tam/WB2TT" <t-tammaru@c0mca$t.net> wrote in
>> news:TIudnVlFZc2OtZXbnZ2dnUVZ_h-vnZ2d@comcast.com:
>>
>>> BTW, the LMR240UF makes for great patch cords. It has a stranded
>>> center conductor. 1/4 inch cable that is rated at 1500W. The LMR240
>>
>> From the spec sheet, the average power rating at 30MHz is 1240W. I assume
>> that is with VSWR=1, so that a further derating is required for mismatch.
>> For example, at VSWR=2, the heating at a current maximum is nearly double
>> that for a flat line, so the power rating might be more like 620W with
>> VSWR=2.
>>
>> Of course, in SSB telephony, the average power is very low and the cable
>> is
>> probably limited by voltage breakdown at peaks, specified as 5.6kW for
>> LMR240UF.
>>
>> Owen
> Something happened to my cut and paste. The 1500W was supposed to refer to
> the non UF.
>
> Tam/WB2TT
>
Found some Tables of loss and power handling for various cables. At 30 MHz:

LMR240 has a max power of 1490W, compared to RG213 of 1800W.
LMR240 has a loss of 1.3 DB, compared to RG213 of 1.2 DB.
Not a whole lot of difference, but the 213 has about 3X the cross section
area. The LMR240 has 90 DB shielding, the 213 is not specified.

I assume that these were specified under the same conditions. It is
interesting that at 900 MHz, the LMR240 has less loss than RG213. Compared
to RG8X, the 240 has 4 times the power handling capacity.

Tam

3131. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 15:25:09 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <pHaOh.200178$5j1.84910@bgtnsc04-news.ops.worldnet.att.net>
Source record: 44147

Cecil Moore wrote:
> Richard Harrison wrote:
>> Power is acceptable and accepted. Why avoid the term?
>
> Jim Kelley, AC6XG, has convinced me to make the
> distinction between the nature of EM energy and
> the nature of EM power. Power is what exists at
> a point or plane. Energy is what is moving past
> the point or through the plane. Reflected power
> is measured at a point. Reflected energy is
> what is doing the moving past that point.
>
> In addition, there's the difference in definitions
> between the fields of RF engineering and the field
> of physics. In physics, zero work implies zero power.
>
> I am not avoiding power. I am avoiding "power waves"
> and "power flow". The dimensions of power flowing past
> a point would be watts/second. I don't know what physical
> quantity that would represent.

Cecil,

Utter nonsense. Jim was pulling your chain, and I guess you fell for it.

I have been a professional physicist for nearly 40 years. Real physicists fully understand the difference between power as work and power as energy transport. Both definitions are used as needed. I would hazard a guess that most engineers understand and use both definitions as well.

All of your ramblings about the difference between energy and power, as well as joules and watts, add nothing but noise to the discussion. It is highly likely that everyone reading this group understands the concept of time.

73,
Gene
W4SZ

3132. MFJ - Mighty Fine Junk or good stuff

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 15:54:21 UTC
From: Stanislav_Luniev <Stanislav_Luniev@Spy_4_Motherland.gov.ru>
Message-ID: <Yr6dnd0r9NjEoJTbnZ2dnUVZ_obinZ2d@hawaiiantel.net>
Source record: 44148

I havent purchased any MFJ stuff for years now.
Last time I purchased something I was not really happy with the quality.
Can anyone tell me if they have upgraded or is the stuff still Mighty Fine
Junk!

3133. Spacing and Element order for 6 element 10 meter yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 16:13:27 UTC
From: Dennis Klipa <klipadk@gmail.com>
Message-ID: <1175012007.125291.39320@e65g2000hsc.googlegroups.com>
Source record: 44149

I have a disassembled 6 element, 10 meter yagi made by KLM, which is probably Model KLM 28-30-6. Tjhe elements are assembled but removed from the mast. I can pretty much tell where the elements go based on the marks on the mast but it isn't at all obvious which elements go where. Most beams have the longest element as the reflector and the shortest element as the last director. This beam appears to have two drivent elements. The driven element with the balun attached is the shortest of the six! The second driven element is connected to it by two lengths of aluminum flat stock, 40 inches between bolt holes.

Can anyone tell me the element order and spacing for this beam?

The stats are as follows
Boom: 29.5'
Elements:
219.5" or 18' 3.5"
200" or 16' 8" Second Driven Element (40" separation
from 1st)
191.5" or 15' 11.5"
187" or 15' 7"
183.5" or 15' 3.5"
171" or 14" 3" First Driven Element
Ferrite Balun Model # 3-60-4:1
The balun has KLM embossed on both endcaps

Thanks
Dennis Klipa, N8ERF

3134. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 16:29:54 UTC
From: richardharrison@webtv.net
Message-ID: <14024-46094682-1040@storefull-3255.bay.webtv.net>
Source record: 44150

Gene Fuller, W4SZ wrote:
"Utter nonsense."

Cecil knows as well as anybody the difference between energy and power,
Power is the rate of doing work. The electrical unit is the watt
(joule/second). It is also the rate of transmission from source to load.

A wattmeter keeps track of the rate of energy flow, and the watt-hour
meter measures the integral of active power during the integration
interval.

The power company bills you for the energy consumed during an interval
determined by successive watt-hour meter readings.

Best regards, Richard Harrison, KB5WZI

3135. Re: Spacing and Element order for 6 element 10 meter yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 16:42:19 UTC
From: The Shadow <repose@zilch.com>
Message-ID: <KPbOh.104111$g24.93544@newsfe12.phx>
Source record: 44151

ManualMall has the manual for Model KLM 28-30-6 price $4.00 URL:
http://www.manualmall.com/JA_LU.html

Good Luck'
Lamont

"Dennis Klipa" <klipadk@gmail.com> wrote in message
news:1175012007.125291.39320@e65g2000hsc.googlegroups.com...
>I have a disassembled 6 element, 10 meter yagi made by KLM, which is
> probably Model KLM 28-30-6. Tjhe elements are assembled but removed
> from the mast. I can pretty much tell where the elements go based on
> the marks on the mast but it isn't at all obvious which elements go
> where. Most beams have the longest element as the reflector and the
> shortest element as the last director. This beam appears to have two
> drivent elements. The driven element with the balun attached is the
> shortest of the six! The second driven element is connected to it by
> two lengths of aluminum flat stock, 40 inches between bolt holes.
>
> Can anyone tell me the element order and spacing for this beam?
>
> The stats are as follows
> Boom: 29.5'
> Elements:
> 219.5" or 18' 3.5"
> 200" or 16' 8" Second Driven Element (40" separation
> from 1st)
> 191.5" or 15' 11.5"
> 187" or 15' 7"
> 183.5" or 15' 3.5"
> 171" or 14" 3" First Driven Element
> Ferrite Balun Model # 3-60-4:1
> The balun has KLM embossed on both endcaps
>
> Thanks
> Dennis Klipa, N8ERF
>

3136. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 16:45:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <j7und4-la.ln1@mail.specsol.com>
Source record: 44152

art <aunwin@insightbb.com> wrote:
> On 26 Mar, 21:49, richardharri...@webtv.net (Richard Harrison) wrote:
> > Art wrote:
> >
> > "Any thoughts as to why it sgould be so and the scientific facts to
> > support it?"
> >
> > We have plumb lines and bubble levels which allow easy determination of
> > vertical and horizontal directions.
> >
> > We often inhabit a nearly horizontal plane
> >
> > If we are as likely as not to communicate with any particular direction,
> > an omidirectional vertical antenna makes sense. An inclined wire would
> > favor some direction to the detriment of another. Sure a slopimg wire
> > works but doesn`t reach maximum height or length as effectively as a
> > vertical or horizontal wire would.
> >
> > Why a straight dipole and not a V-shaped element? The V-shape corrupts
> > the nulls at the ends of the straight wire.
> >
> > Vertical and horizontal antennas are not solely accidents of history.
> >
> > Best regards, Richard Harrison, KB5WZI

> But the question is why?

Because except for some very specialized applications there is
nothing to be gained by using anything other than horizontal
or vertical elements and it is the simplest way to make things.

Have you ever heard of a helix?

<snip crap>

--
Jim Pennino

Remove .spam.sux to reply.

3137. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 16:55:12 UTC
From: richardharrison@webtv.net
Message-ID: <16236-46094C70-764@storefull-3251.bay.webtv.net>
Source record: 44153

Art wrote:
"---yet I am not finding any documented proof other than emperical work."

As usual, Terman has answers. See page 882 of his 1955 opus: "Effect of Ground on the Directional Pattern of Ungrounded Antennas - Image Antennas."

It`s in the book; math, diagrams, tables, as needed to imagine what happens.

Best regards, Richard Harrison, KB5WZI

3138. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 17:20:01 UTC
From: richardharrison@webtv.net
Message-ID: <16237-46095241-120@storefull-3251.bay.webtv.net>
Source record: 44155

Jim Pennino wrote:
"Have you ever heard of a helix?"

Most would likely enjoy Kraus` story of his invention of the axial-mode helix in his 3rd edition of "Antennas". This is a choice book!

Best regards, Richard Harrison, KB5WZI

3139. Re: Spacing and Element order for 6 element 10 meter yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 17:23:56 UTC
From: Dennis Klipa <klipadk@gmail.com>
Message-ID: <1175016236.806078.195540@l77g2000hsb.googlegroups.com>
Source record: 44154

On Mar 27, 12:42 pm, "The Shadow" <rep...@zilch.com> wrote:
> ManualMall has the manual for Model KLM 28-30-6 price $4.00
URL:http://www.manualmall.com/JA_LU.html
>
> Good Luck'
> Lamont
>
> "Dennis Klipa" <klip...@gmail.com> wrote in message
>
> news:1175012007.125291.39320@e65g2000hsc.googlegroups.com...
>
>
>
> >I have a disassembled 6 element, 10 meter yagi made by KLM, which is
> > probably Model KLM 28-30-6. Tjhe elements are assembled but removed
> > from the mast. I can pretty much tell where the elements go based on
> > the marks on the mast but it isn't at all obvious which elements go
> > where. Most beams have the longest element as the reflector and the
> > shortest element as the last director. This beam appears to have two
> > drivent elements. The driven element with the balun attached is the
> > shortest of the six! The second driven element is connected to it by
> > two lengths of aluminum flat stock, 40 inches between bolt holes.
>
> > Can anyone tell me the element order and spacing for this beam?
>
> > The stats are as follows
> > Boom: 29.5'
> > Elements:
> > 219.5" or 18' 3.5"
> > 200" or 16' 8" Second Driven Element (40" separation
> > from 1st)
> > 191.5" or 15' 11.5"
> > 187" or 15' 7"
> > 183.5" or 15' 3.5"
> > 171" or 14" 3" First Driven Element
> > Ferrite Balun Model # 3-60-4:1
> > The balun has KLM embossed on both endcaps
>
> > Thanks
> > Dennis Klipa, N8ERF- Hide quoted text -
>
> - Show quoted text -

Lamont,
Thanks for the lead. I placed an order with them but got a odd web page response after I placed the order. When I tried to call the voice phone number on their web site I got a "phone company recording". Do you know that this is a legitimate business? I did a Google search and found a number of references to the company so I am assuming it is but the responses I got make me a little nervous. I did a reverse look up on the address and got a name and phone number. Looking at the address on Google Earth, I see what looks to be like a UHF yagi on the roof, so I did a reverse lookup for a call sign at the ARRL sight and found the call for the name.

I am probably just being paranoid, but I have been burnt before.
Thanks again for the lead.
Dennis

3140. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 17:51:41 UTC
From: gwatts <gwatts@frontiernet.net>
Message-ID: <NQcOh.5533$B25.301@news01.roc.ny>
Source record: 44156

```
Richard Harrison wrote:
> Jim Pennino wrote:
> "Have you ever heard of a helix?"
>
> Most would likely enjoy Kraus` story of his invention of the axial-mode
> helix in his 3rd edition of "Antennas".

' "No," he replied, "I've tried it and it doesn't work."'
```

3141. Re: home made Mobile Ant

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 18:18:54 UTC
From: nm5k@wt.net
Message-ID: <1175019534.734997.171430@y80g2000hsf.googlegroups.com>
Source record: 44157

On Mar 26, 5:24 pm, "Lushy" <david.l...@bigpond.com> wrote:
> I have a old 2 piece hollow 11 ft surf rod in the shed and need a mobile antenna and a sand flag on my Jeep Wrangler. I thought I would be able to do both with the fishing rod.
> Question 1. How much minimum wire would I need to load it up on all Hf Freqs (I have a tuner).
> Question 2. Could I bottom load it with a coil?
> It would be connected to the tuner with RG 58 coax (about 10 ft).
> Lushy
> VK3HDL
>
> --
> This life is not a rehearsal it is the real thing!

How would you mount, insulate a surf rod? Seems it would be
easier to just scrounge up an old glass whip antenna, and modify
it. It will fit the usual threads for antenna mounts.
I have a couple of those that I have built, and both work all
bands. But mine are center loaded, not base loaded.
I strip all the original winding from the glass whip, and then
wind a new larger coil bugcatcher style.
The one I usually use is a 6 ft glass whip, which was originally a
20 meter hamstick. The coil which is appx 3 inches diameter,
and wound on a light plastic tube is just below the tip at the
5+ foot level. I then clamp a 5 ft stinger whip to the top of the
glass whip. The antenna is 11 ft tall total, and exactly center
fed. I also can use a 3 ft hustler mast at the base and the
antenna is 14 ft, and the coil at 8 ft+. I only do that parked.
I change bands the same way you would a bugcatcher by
tapping the coil, and I can also go higher in freq by using a
shorter stinger.
My original all band antenna was basically the same, but it's
total length is 10 ft, and was built on a 5 ft firestick CB antenna.
It's coil is 2.5 feet above the base. I still use it if I want the
coil
lower for tree purposes, etc..
Using a tuner to load a mobile whip is about the last way you
want to go. On most lower bands, max current will be at the
tuner coil. No bueno.. A base load would be better, but a
center load gives much better current distribution and efficiency.
Thats why my newer antenna has the coil higher, and also
is why I often add the lower mast when parked. That extra
3 ft below the coil really gives the efficiency a good boost
when on the lower bands. My coil is at the level some other
antennas tips would be.. :) In most cases, my antenna will

thrash those.. I've done it a few times on "park and compare"
tests.. I once compared against a usual hustler setup on 75m.
I almost felt sorry for the owner, who is a friend of mine. :/
That hustler was a dummy load on a stick...
MK

3142. GFCI problem when running high power

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 18:27:28 UTC
From: "John, N9JG" <john@Xremove.MeYgotwals.com>
Message-ID: <kmdOh.18250$G23.8609@newsreading01.news.tds.net>
Source record: 44158

I am using an Orion to drive my Drake L-4B, and I operate mostly on 40 meters. My antenna is a 110 feet long dipole, center-fed with open-wire feed line, and elevated about 30 feet with the support for one end attached to the house chimney. My shack is in a 2nd floor bedroom, and the circuit breaker panel is located in the basement at the opposite end of the house. The house has a brick exterior, and one end of the antenna is only a few feet from the shack.

When I operate high power on 40 meters, a GFCI equipped circuit breaker, which is located in the house circuit breaker panel, moves to the open position. None of my station equipment is attached to this breaker; this particular breaker powers four outlets in the garage and two outlets on the house exterior. None of these outlets are normally in use. Is it possible (or even desirable) to install one or more bypass capacitors inside the breaker panel, and immediately adjacent to, the ground-fault circuit interrupter? If so, what type of capacitor is recommended?

John, N9JG

3143. Re: MFJ - Mighty Fine Junk or good stuff

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 18:36:37 UTC
From: "John, N9JG" <john@Xremove.MeYgotwals.com>
Message-ID: <VudOh.18251$G23.1014@newsreading01.news.tds.net>
Source record: 44159

I am using the MFJ-1124 DC Power Outlet strip, and its quality is quite good. I am contemplating the purchase of one of their line noise meters to help me locate one or more line noise generators, which are a big nuisance at my location. Maybe someone can make some comments on the MFJ-856 or MFJ-852 noise finders.

John, N9JG

"Stanislav_Luniev" <Stanislav_Luniev@Spy_4_Motherland.gov.ru> wrote in message news:Yr6dnd0r9NjEoJTbnZ2dnUVZ_obinZ2d@hawaiiantel.net...
>I havent purchased any MFJ stuff for years now.
> Last time I purchased something I was not really happy with the quality.
> Can anyone tell me if they have upgraded or is the stuff still Mighty Fine
> Junk!

3144. Re: GFCI problem when running high power

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 19:04:25 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <130iqltrel6nvec@corp.supernews.com>
Source record: 44160

A GFCI measures the common mode current flowing on the "hot" and "neutral" conductor combination, and is designed to trip quickly when this exceeds a small, set value (indicating that the individual currents on the two conductors are unequal). And common mode current is just what your signal is inducing on those wires. What you need to do is block the common mode RF without upsetting the detection of common mode 60 Hz AC. What I'd try is to clamp a ferrite core over the combination of black and white wires on each side of the GFCI. A single pass through most of the common ferrite cores should have a very low impedance at 60 Hz, so shouldn't inhibit normal GFCI operation, but would add significant impedance to the common mode RF. I've never had to do this, though, so it would be interesting to hear from people who have had to deal with this problem.

Roy Lewallen, W7EL

John, N9JG wrote:
> I am using an Orion to drive my Drake L-4B, and I operate mostly on 40
> meters. My antenna is a 110 feet long dipole, center-fed with open-wire feed
> line, and elevated about 30 feet with the support for one end attached to
> the house chimney. My shack is in a 2nd floor bedroom, and the circuit
> breaker panel is located in the basement at the opposite end of the house.
> The house has a brick exterior, and one end of the antenna is only a few
> feet from the shack.
>
> When I operate high power on 40 meters, a GFCI equipped circuit breaker,
> which is located in the house circuit breaker panel, moves to the open
> position. None of my station equipment is attached to this breaker; this
> particular breaker powers four outlets in the garage and two outlets on the
> house exterior. None of these outlets are normally in use. Is it possible
> (or even desirable) to install one or more bypass capacitors inside the
> breaker panel, and immediately adjacent to, the ground-fault circuit
> interrupter? If so, what type of capacitor is recommended?
>
> John, N9JG
>
>

3145. Re: MFJ - Mighty Fine Junk or good stuff

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 19:13:33 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns99007C5C7814Ddoldridgsprintca@64.59.135.159>
Source record: 44161

Stanislav_Luniev <Stanislav_Luniev@Spy_4_Motherland.gov.ru> wrote in
news:Yr6dnd0r9NjEoJTbnZ2dnUVZ_obinZ2d@hawaiiantel.net:

> I havent purchased any MFJ stuff for years now.
> Last time I purchased something I was not really happy with the
> quality. Can anyone tell me if they have upgraded or is the stuff
> still Mighty Fine Junk!

In my considerable experience, it's a mixed bag. I like my 993B automatic tuner. I also like my 784B audio DSP filter. The 1026 noise canceller came with a flaky connector for the whip but it does work as advertised. The 931 artificial ground is a bit fragile and needed to be repaired after getting it second hand (the wire had come off the capacitor inside due to a cold solder joint breaking from shipping vibration). And I LOVE my 259B analyzer. It has saved me lots of trouble and trial and error.

I also have a nice little magnetic field strength indicator which is nice for spotting antenna currents on house wiring and feedlines. I forget the number and it's too far to run and look.

We used to use their basic keyer for commercial CW at Halifax Coast Guard Radio during the last phase of Marine CW there. They weren't complicated, had no fancy memories or anything, but worked day in and day out.

--
Dave Oldridge+
ICQ 1800667

3146. Re: MFJ - Mighty Fine Junk or good stuff

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 19:17:12 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <m7ri03hhctgld43iamr11ui3bkp252jfs9@4ax.com>
Source record: 44162

On Tue, 27 Mar 2007 05:54:21 -1000, Stanislav_Luniev
<Stanislav_Luniev@Spy_4_Motherland.gov.ru> wrote:

>I havent purchased any MFJ stuff for years now.
>Last time I purchased something I was not really happy with the quality.
>Can anyone tell me if they have upgraded or is the stuff still Mighty Fine
>Junk!

They have their products that include good, medium and cheep! Just
figure out which it is before you buy.

Buck
N4pgw

--
73 for now
Buck, N4PGW
www.lumpuckeroo.com

3147. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 19:22:42 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1175023362.620685.278670@n76g2000hsh.googlegroups.com>
Source record: 44163

On 27 mar, 19:47, "art" <aun...@insightbb.com> wrote:
> On 27 Mar, 10:20, richardharri...@webtv.net (Richard Harrison) wrote:
>
> > Jim Pennino wrote:
>
> > "Have you ever heard of a helix?"
>
> > Most would likely enjoy Kraus` story of his invention of the axial-mode
> > helix in his 3rd edition of "Antennas". This is a choice book!
>
> > Best regards, Richard Harrison, KB5WZI
>
> I have his second edition and I find no mention of radiation from the
> beginning where current is applied onwards. Have you found anything
> that can
> contribute other than empirical grounds? You have avoided the question
> so far

Hello Art,

Radiation from accelerating charge is fully understood (from theory and verified practically), hence antenna theory. When you take the complete formula for fields (near and far) generated by a short wire segment (hertzian dipole), you can calculate the far and near field (magnitude, orientation, phase, etc) from every construction. The only problem is that you have to know the current distribution in your construction.

It is not of interest whether the charge is excited by just a voltage source or EM radiation (like in reflection of waves on conductors and dielectrics). This is done in many FEM programs.

Of course in many practical circumstances it is easier to use the "laws" from other people (that are derived from basic theory). One of the results are the Fresnel formulas for reflection.

When you know the properties of the soil at the operating frequency, you can calculate the complex surface impedance and hence the complex reflection coefficient.

Just mentioning words as "curl", "vector", "Gaussian" etc, doesn't make sense without further information.

Best Regards,

Wim

3148. Re: Best tiny directional antenna to get 500m range with at most 100mW at 150MHz?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 19:23:25 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns99007E08D3D48doldridgsprintca@64.59.135.159>
Source record: 44164

Richard Clark <kb7qhc@comcast.net> wrote in
news:0uge035582uusudg10tor7c1fc8vb4qh2n@4ax.com:

> On Mon, 26 Mar 2007 02:35:51 GMT, "David Hooker"
> <david.d.hooker@gmail.com> wrote:
>
> Hi David,
>
> Presumably, you are speaking of
>>a pocket-sized, keyring-attached
> receiving antenna too, such that it can resolve the point of
> transmission to a fairly narrow region.
>
> It would take an especially large pocket to accomplish (not even a
> 'roo's). Such a design demands complexity in the form of volume at
> the scale of 2 meters. You are off by a scale of 100 or so. Perhaps
> if your frequency was set to 15GHz....

Why not, due to the close range, think inverse square law instead of directivity? Could still be a bit confusing in an underground carpark, but basically, the source and the receiver are close enough that a few steps ought to make a readable difference in strength. Just walk in a circle and keep widening it on the side where the signal is strongest and narrowing where it is weakest. The closer you get, the less sensitivity you need, so have some method of turning that down. And 100mw is LOTS of power for this!

--
Dave Oldridge+
ICQ 1800667

3149. Re: GFCI problem when running high power

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 19:31:50 UTC
From: "John, N9JG" <john@Xremove.MeYgotwals.com>
Message-ID: <GieOh.18252$G23.14922@newsreading01.news.tds.net>
Source record: 44165

Thank you very much for your suggestion. Your solution is much easier than
my bypass method and can not possibly violate any wiring codes.
John, N9JG

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:130iqltrel6nvec@corp.supernews.com...
>A GFCI measures the common mode current flowing on the "hot" and "neutral"
>conductor combination, and is designed to trip quickly when this exceeds a
>small, set value (indicating that the individual currents on the two
>conductors are unequal). And common mode current is just what your signal
>is inducing on those wires. What you need to do is block the common mode RF
>without upsetting the detection of common mode 60 Hz AC. What I'd try is to
>clamp a ferrite core over the combination of black and white wires on each
>side of the GFCI. A single pass through most of the common ferrite cores
>should have a very low impedance at 60 Hz, so shouldn't inhibit normal GFCI
>operation, but would add significant impedance to the common mode RF. I've
>never had to do this, though, so it would be interesting to hear from
>people who have had to deal with this problem.
>
> Roy Lewallen, W7EL
>
> John, N9JG wrote:
>> I am using an Orion to drive my Drake L-4B, and I operate mostly on 40
>> meters. My antenna is a 110 feet long dipole, center-fed with open-wire
>> feed
>> line, and elevated about 30 feet with the support for one end attached to
>> the house chimney. My shack is in a 2nd floor bedroom, and the circuit
>> breaker panel is located in the basement at the opposite end of the
>> house.
>> The house has a brick exterior, and one end of the antenna is only a few
>> feet from the shack.
>>
>> When I operate high power on 40 meters, a GFCI equipped circuit breaker,
>> which is located in the house circuit breaker panel, moves to the open
>> position. None of my station equipment is attached to this breaker; this
>> particular breaker powers four outlets in the garage and two outlets on
>> the
>> house exterior. None of these outlets are normally in use. Is it possible
>> (or even desirable) to install one or more bypass capacitors inside the
>> breaker panel, and immediately adjacent to, the ground-fault circuit
>> interrupter? If so, what type of capacitor is recommended?
>>
>> John, N9JG
>>

3150. Re: MFJ - Mighty Fine Junk or good stuff

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 19:32:51 UTC
From: "mike-c@bulldoghome.com" <mike-c@bulldoghome.com>
Message-ID: <1175023971.312965.217740@e65g2000hsc.googlegroups.com>
Source record: 44167

On Mar 27, 8:17 pm, Buck <usene...@lumpuckeroo.com> wrote:
> On Tue, 27 Mar 2007 05:54:21 -1000, Stanislav_Luniev
>
> <Stanislav_Luniev@Spy_4_Motherland.gov.ru> wrote:
> >I havent purchased any MFJ stuff for years now.
> >Last time I purchased something I was not really happy with the quality.
> >Can anyone tell me if they have upgraded or is the stuff still Mighty Fine
> >Junk!
>
> They have their products that include good, medium and cheep! Just
> figure out which it is before you buy.
>
> Buck
> N4pgw
>
> --
> 73 for now
> Buck, N4PGWwww.lumpuckeroo.com

I use their antenna analyser found it very good.

3151. Re: Spacing and Element order for 6 element 10 meter yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 19:34:41 UTC
From: The Shadow <repose@zilch.com>
Message-ID: <lleOh.85493$115.21014@newsfe10.phx>
Source record: 44168

,
> Thanks for the lead. I placed an order with them but got a odd web
> page response after I placed the order. When I tried to call the
> voice phone number on their web site I got a "phone company
> recording". Do you know that this is a legitimate business? I did a
> Google search and found a number of references to the company so I am
> assuming it is but the responses I got make me a little nervous. I
> did a reverse look up on the address and got a name and phone number.
> Looking at the address on Google Earth, I see what looks to be like a
> UHF yagi on the roof, so I did a reverse lookup for a call sign at the
> ARRL sight and found the call for the name.
>
> I am probably just being paranoid, but I have been burnt before.
> Thanks again for the lead.
> Dennis
>
Golly Dennis I have ordered several manuals from ManualMall in the past but
not recently. And have not heard any negative comments about them.

Maybe e-mail them
bse@nts-online.net;

Hope all is well
Lamont

3152. Re: GFCI problem when running high power

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 19:36:31 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <2aF2K4d$IXCGFA10@ifwtech.co.uk>
Source record: 44170

John, N9JG wrote:
>I am using an Orion to drive my Drake L-4B, and I operate mostly on 40
>meters. My antenna is a 110 feet long dipole, center-fed with open-wire feed
>line, and elevated about 30 feet with the support for one end attached to
>the house chimney. My shack is in a 2nd floor bedroom, and the circuit
>breaker panel is located in the basement at the opposite end of the house.
>The house has a brick exterior, and one end of the antenna is only a few
>feet from the shack.
>
>When I operate high power on 40 meters, a GFCI equipped circuit breaker,
>which is located in the house circuit breaker panel, moves to the open
>position. None of my station equipment is attached to this breaker; this
>particular breaker powers four outlets in the garage and two outlets on the
>house exterior. None of these outlets are normally in use.

The most likely explanation is that you have large RF currents in the power wiring of the house, due to some combination of common-mode currents on the feedline, and/or direct coupling from the hot end of the doublet into the house wiring in the roof.

Those RF currents will then flow to ground through the power wiring. At the same time they will couple into the live and neutral wires, and then flow through your GFCI in common-mode (roughly equal currents, in phase on both wires). Since most GFCIs have poor common-mode rejection at frequencies much higher than 60Hz, a substantial RF voltage can be coupled through to the inputs of the IC amplifier inside the GFCI - so it trips.

That is my best guess. To find out what's really happening, you need a clamp-on RF current meter such as the MFJ-854 (not the MFJ-853 - it's rubbish) or build your own from the information here:
http://www.ifwtech.co.uk/g3sek/clip-on/clip-on.htm
http://www.w8ji.com/building_a_current_meter.htm

IMO this meter is the ONLY way to see and understand where the RF currents are flowing. Then you can take steps to minimize them.

(By the way, you can almost certainly forget about an "RF ground". From a 2nd-floor shack it's almost impossible to provide a ground path that has a low enough impedance to shunt significant fraction of the RF current away from the mains wiring.)

> Is it possible
>(or even desirable) to install one or more bypass capacitors inside the
>breaker panel, and immediately adjacent to, the ground-fault circuit
>interrupter? If so, what type of capacitor is recommended?

Capacitors on the power wiring are the wrong answer anyway. Almost certainly, you need series chokes. K9YC's article about ferrite chokes and RFI is essential reading, and an article by W1HIS (although way over-the-top for most people) is full of practical ideas:

http://audiosystemsgroup.com/RFI-Ham.pdf

http://www.yccc.org/Articles/W1HIS/CommonModeChokesW1HIS2006Apr06.pdf
(or http://tinyurl.com/qnzs3)

Use the RF current meter to track down the power conductors that are carrying the largest RF currents, and then see what some ferrite chokes will do. Obviously the first place to try the meter will be on the various wires coming into the breaker panel, and that should give you a good clues about where the RF is getting in.

But almost certainly you should start applying chokes in the 2nd-floor wiring, and especially in the shack. Keep repeating the current measurements at the breaker panel to monitor your progress, but try to avoid making modifications there.

As W1HIS found, another reward for cleaning up RF currents on the house wiring is likely to be greatly reduced noise on receive.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

3153. Re: GFCI problem when running high power

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 19:56:39 UTC
From: "John, N9JG" <john@Xremove.MeYgotwals.com>
Message-ID: <XFeOh.18253$G23.5127@newsreading01.news.tds.net>
Source record: 44172

Thanks for your comments and the link. A thought has just occurred to me
that perhaps I could damp out the rf energy in the unloaded wiring by
plugging a low wattage bulb (perhaps 5 watts) into one of the GFCI protected
sockets and see if that eliminates the problem.

Initially I had a small freezer in the garage plugged into one of the
sockets and some days later wondered why the freezer was no longer working.
At that time I discovered that the garage wall was also equipped with a
special non-GFCI protected socket which was installed by the house builder
specifically for a garage located freezer. After throwing out the spoiled
food and cleaning the freezer interior, I moved the freezer and plugged it
into the proper socket.

John, N9JG

"chuck" <nospam@nospam.at.all> wrote in message
news:1175024002_5199@sp6iad.superfeed.net...
> John, N9JG wrote:
>> I am using an Orion to drive my Drake L-4B, and I operate mostly on 40
>> meters. My antenna is a 110 feet long dipole, center-fed with open-wire
>> feed
>> line, and elevated about 30 feet with the support for one end attached to
>> the house chimney. My shack is in a 2nd floor bedroom, and the circuit
>> breaker panel is located in the basement at the opposite end of the
>> house.
>> The house has a brick exterior, and one end of the antenna is only a few
>> feet from the shack.
>>
>> When I operate high power on 40 meters, a GFCI equipped circuit breaker,
>> which is located in the house circuit breaker panel, moves to the open
>> position. None of my station equipment is attached to this breaker; this
>> particular breaker powers four outlets in the garage and two outlets on
>> the
>> house exterior. None of these outlets are normally in use. Is it possible
>> (or even desirable) to install one or more bypass capacitors inside the
>> breaker panel, and immediately adjacent to, the ground-fault circuit
>> interrupter? If so, what type of capacitor is recommended?
>>
>> John, N9JG
>>
>>
>
> Hi John,
>
> The quick answer is that anything that will reduce common-mode currents on

> the branch wiring will be a move in the right direction. At 60 Hz, the
> GFCI is supposed to trip at 5 mA. At 7 MHz, who knows?
>
> Some experimentation may be in order: why not try ferrite beads on the
> wires near the GFCI. Remember that common-mode currents may enter the GFCI
> from either direction. High-quality capacitors rated for the voltages
> involved would work too but seem like a less elegant solution.
>
> If you do go with the caps, you can do a test by plugging them into the
> outlets not normally in use: a quick and dirty approach that makes no
> permanent change to the wiring. Be safe, of course.
>
> Here's a link that talks a little about this:
>
> http://www.ce-mag.com/archive/06/ARG/webb.htm
> Common-Mode Signals and Radiated Emissions
>
> 73,
>
> Chuck
>
> ----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet
> News==----
> http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+
> Newsgroups
> ----= East and West-Coast Server Farms - Total Privacy via Encryption
> =----

3154. Re: GFCI problem when running high power

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 20:17:49 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <NZeOh.201256$5j1.182768@bgtnsc04-news.ops.worldnet.att.net>
Source record: 44173

John, N9JG wrote:
> Thank you very much for your suggestion. Your solution is much easier than
> my bypass method and can not possibly violate any wiring codes.
> John, N9JG
>
> "Roy Lewallen" <w7el@eznec.com> wrote in message
> news:130iqltrel6nvec@corp.supernews.com...
>> A GFCI measures the common mode current flowing on the "hot" and "neutral"
>> conductor combination, and is designed to trip quickly when this exceeds a
>> small, set value (indicating that the individual currents on the two
>> conductors are unequal). And common mode current is just what your signal
>> is inducing on those wires. What you need to do is block the common mode RF
>> without upsetting the detection of common mode 60 Hz AC. What I'd try is to
>> clamp a ferrite core over the combination of black and white wires on each
>> side of the GFCI. A single pass through most of the common ferrite cores
>> should have a very low impedance at 60 Hz, so shouldn't inhibit normal GFCI
>> operation, but would add significant impedance to the common mode RF. I've
>> never had to do this, though, so it would be interesting to hear from
>> people who have had to deal with this problem.
>>
>> Roy Lewallen, W7EL
>>
>> John, N9JG wrote:
>>> I am using an Orion to drive my Drake L-4B, and I operate mostly on 40
>>> meters. My antenna is a 110 feet long dipole, center-fed with open-wire
>>> feed
>>> line, and elevated about 30 feet with the support for one end attached to
>>> the house chimney. My shack is in a 2nd floor bedroom, and the circuit
>>> breaker panel is located in the basement at the opposite end of the
>>> house.
>>> The house has a brick exterior, and one end of the antenna is only a few
>>> feet from the shack.
>>>
>>> When I operate high power on 40 meters, a GFCI equipped circuit breaker,
>>> which is located in the house circuit breaker panel, moves to the open
>>> position. None of my station equipment is attached to this breaker; this
>>> particular breaker powers four outlets in the garage and two outlets on
>>> the
>>> house exterior. None of these outlets are normally in use. Is it possible
>>> (or even desirable) to install one or more bypass capacitors inside the
>>> breaker panel, and immediately adjacent to, the ground-fault circuit
>>> interrupter? If so, what type of capacitor is recommended?
>>>
>>> John, N9JG

>>>
>

John,

If the GFCI is indeed a breaker, as you said, then you will not be able to access the line side of the hot wire. That connection will be from the back of the breaker to a bus bar in the panel. You should still be able to apply a ferrite core to the load side. Most breaker-type GFCI units will have connections for the black and white load wires close together on the end of the breaker.

73,
Gene
W4SZ

3155. Re: GFCI problem when running high power

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 20:31:47 UTC
From: chuck <nospam@nospam.at.all>
Message-ID: <1175024002_5199@sp6iad.superfeed.net>
Source record: 44166

John, N9JG wrote:
> I am using an Orion to drive my Drake L-4B, and I operate mostly on 40
> meters. My antenna is a 110 feet long dipole, center-fed with open-wire feed
> line, and elevated about 30 feet with the support for one end attached to
> the house chimney. My shack is in a 2nd floor bedroom, and the circuit
> breaker panel is located in the basement at the opposite end of the house.
> The house has a brick exterior, and one end of the antenna is only a few
> feet from the shack.
>
> When I operate high power on 40 meters, a GFCI equipped circuit breaker,
> which is located in the house circuit breaker panel, moves to the open
> position. None of my station equipment is attached to this breaker; this
> particular breaker powers four outlets in the garage and two outlets on the
> house exterior. None of these outlets are normally in use. Is it possible
> (or even desirable) to install one or more bypass capacitors inside the
> breaker panel, and immediately adjacent to, the ground-fault circuit
> interrupter? If so, what type of capacitor is recommended?
>
> John, N9JG
>
>

Hi John,

The quick answer is that anything that
will reduce common-mode currents on the
branch wiring will be a move in the
right direction. At 60 Hz, the GFCI is
supposed to trip at 5 mA. At 7 MHz, who
knows?

Some experimentation may be in order:
why not try ferrite beads on the wires
near the GFCI. Remember that common-mode
currents may enter the GFCI from either
direction. High-quality capacitors rated
for the voltages involved would work too
but seem like a less elegant solution.

If you do go with the caps, you can do a
test by plugging them into the outlets
not normally in use: a quick and dirty
approach that makes no permanent change
to the wiring. Be safe, of course.

Here's a link that talks a little about
this:

http://www.ce-mag.com/archive/06/ARG/webb.htm
Common-Mode Signals and Radiated Emissions

73,

Chuck

-----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

3156. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 20:41:44 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <lovi03lhnlg0233h6pa128v6vvc3n4isr0@4ax.com>
Source record: 44169

On Tue, 27 Mar 2007 02:47:04 -0500, richardharrison@webtv.net (Richard Harrison) wrote:

>Richard Clark, KB7QHC wrote:
>"There is a continuum of phase relationships expressed in degrees
>between 0 and 360."
>
>We are discussing transmission lines and assuming near perfection.
>Indeed the phase of the wave depends on that of the generator when it
>was launched and the phase of the generator continues to advance with
>time, but a good line enforces its Zo, a resistance.

Hi Richard,

This is, of course, contingent only when the line is terminated in its characteristic Z. Otherwise, given the premise of this thread, that is not true. However, you do amend by:

>The transmission line treats the wave reflected from a discontinuity
>exactly the same as it does the incident wave.
>
>The reflected wave is identical with the incident wave except that it is
>traveling toward the generator.

However, this presumes one of those one or two degree (0 & 180) solutions originating from either a short or an open that you explicitly introduce.

>There are two phasing conditions between the voltage and current on an
>ideal transmission line, 0 degrees and 180 degrees.

Actually, there are 360 degrees to consider, of which 0 & 180 make up slightly more than 0.5% of the complete picture. The length of the line presents this continuum to the unmatched source, and the source suffers by degree of phase relationships.

The solution to this perceived suffering, of course, is to introduce a match. This serves two functions against a mismatched load:
1. Delivery of optimal power;
2. Reduce the risk of added heat burden to the source.

73's
Richard Clark, KB7QHC

3157. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 20:48:13 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <8m0j03toi7nmmpui5b798jv63tr760m7m5@4ax.com>
Source record: 44171

On 27 Mar 2007 10:51:27 -0700, "art" <aunwin@insightbb.com> wrote:

>I presume it does give
>direct relationships between electrical and magnetic vectors relative
>to the conductor and ground !

Hi Art,

As this is all very elementary stuff, of course Terman does.

73's
Richard Clark, KB7QHC

3158. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 20:52:04 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175028724.787278.84540@e65g2000hsc.googlegroups.com>
Source record: 44174

On Mar 25, 8:23 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> You are not allowed to deny the existence of the 450 ohm
> real world load while asserting that it still exists.
> If it exists, it dissipates the reflected energy. If it
> doesn't exist, it reflects the reflected energy. Please
> choose one or the other - obviously, you cannot have both
> at the same time.
[snip]
> If reflected energy is not dissipated, it undergoes destructive
> interference and is redirected back toward the load as constructive
> interference instead of being incident upon the source.

I like these two paragraphs. They describe exactly what
I would expect the relationships to be were "reflected
energy" to represent real energy.

More importantly, they describe an expectation that
is sufficiently precise to be falsifiable.

But just to be sure I understand the meaning, let me restate
them algebraically:
Energy.reflected = Energy.dissipated + Energy.re-reflected

If this is not what you meant, then please read no further
until you correct my misinterpretataion.

Oh good. The interpretation is accepted. So let us call
this "Cecil's Hypothesis":
"If reflected energy is not dissipated, it is redirected
back toward the load."
Expressed as an equality:
Energy.reflected = Energy.dissipated + Energy.re-reflected
And for convenience, its power form:
Preflected = Pdissipated + Pre-reflected

Now all we need is a single example for which the equality
does not hold and "Cecil's Hypothesis" will be disproved.

Let us start with the example previously offerred:
- Generator with 450 Ohm output impedance
- connected directly to a 1000 foot line with 450 Ohm
characteristic impedance
- connected to a load with 75 Ohm input impedance.

And to simplify computation and produce a numerical result, we add a few more details:
- The generator is 2 Amp current source in parallel with a 450 Ohm resistor
- The line is 31 wavelengths long

Let the experiment begin:
- The generator is off.
- All currents, voltages, energies and powers are zero.
- Turn on the current source.
- The current source pushes 2 Amps.
- This is divided equally between the 450 Ohm generator resistor and the 450 Ohm line.
- The generator output voltage is 450 Volts.
- The generator output current is 1 Amp.
- 450 Watts is being put out by the generator
- 450 Watts is being dissipated in the generator resistor
- A real wattmeter (one that measures voltage and current) shows 450 Joules/s flowing down the line. (Is it okay to say that "450 Watts are flowing"?)
- A directional wattmeter indicates that the "forward power" is 450 Watts and the "reflected power" is 0 Watts.
- Vfwd is 450 Volts
- Ifwd is 1 Amp
- The load is happily oblivious to the oncoming onslaught.
- 31 cycles later, the voltage, current and energy reach the load.
- But there is an impedance discontinuity which creates a voltage reflection coefficient of -0.714 so the load refuses to accept all the incoming energy.
- The voltage across the load is 128.6 Volts
- The current into the load is 1.714 Amps
- The power dissipated in the load is 220.4 Watts
- Vref is -321.5 Volts
- Iref is 0.714 Amps
- Vfwd is still 450 Volts (the line is lossless for this example)
- Ifwd is still 1 Amp
- "Forward power" is 450 Watts
- "Reflected power" is 229.6 Watts
- 220.4 = 450 - 229.6 which is as expected and demonstrates the usefullness of a directional wattmeter for computing actual power transferred (or is it energy?).
- Encountering the reflection has caused a change in the voltage and current and this change is now propagating back towards the generator.
- 31 cycles later, this change in line conditions reaches the generator.
- The conditions at the generator terminals are now the same as the load since it is an integral number

of wavelengths from the load.
- The voltage at the generator terminals is 128.6 Volts
- The current out of the generator is 1.714 Amps
- The "forward power" is still 450 Watts.
- The "reflected power" has changed from 0 to 229.6 Watts.
- There is 128.6 volts across the 450 Ohm generator resistor.
- There is 0.286 Amps flowing in the 450 Ohm generator resistor
- Because the 0.286 Amps in the 450 Ohm generator resistor plus the 1.714 Amps flowing into the line is 2 Amps, exactly the output of the current source, the system has now settled after one round trip. There is no re-reflection at the generator terminals (and no ghosts).
- The power into the line is 220.4 Watts
- The power into the 450 Ohm generator resistor is 38.6 Watts
- 229.6 Watts of "reflected power" has reduced the dissipation in the generator resistor by 413.4 Watts.
- Substituting into the hypothetical equality
Preflected = Pdissipated + Pre-reflected
229.6 = -413.4 + 0
- The equality does not hold, thus disproving "Cecil's Hypothesis".

It is instructive to also consider the case with a generator constructed as a 900 Volt voltage source connected to a 450 Ohm output resistor.

In this case the 450 Watts dissipated for the first 62 cycles increases by 872 Watts to 1322 Watts when the reflection arrives. Similar to above there is no re-reflection or ghosts.

Once again the hypothetical equality
Preflected = Pdissipated + Pre-reflected
229.6 = 872 + 0
does not hold.

But the principle of "conservation of energy" should hold whenever real energies are involved.
Since it does not hold in this case, we can only conclude that the numbers computed for "forward and reverse power" do not represent any real energy flows but are merely conveniences to facilitate other computations.

...Keith

3159. Re: Best Yagi impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 20:54:01 UTC
From: dk7zb@web.de
Message-ID: <1175028841.108660.213150@b75g2000hsg.googlegroups.com>
Source record: 44175

Some comments on the 25-35Ohm range for the impedance of Yagis, which has VE2PID from my website. Without further details this makes indeed no sense to say this would be the best for Yagis.

1. You must differ between short Yagis and Longyagis.
2. You must know for what bandwidth the Yagis should be designed.
3. A given result you can reach with a nearly infinite number of changed parameters.

For short Yagis and the bands 14-1,35MHz, 21-21,45MHz, reduced 10m-Band from 28-28,8MHz, and for 144-146MHz a low impedance (10-15Ohm) does not cover the entire band, but gives high gain. A high impedance with 50Ohm gives away to much gain for a to high bandwidth. For example a 3-Element-Yagi with 50Ohm direct feed cannot reach more than 5,5dBd. The reasons therefore are pointed out by Roy, W7EL in his comments about element coupling and element currents.

For the enumerated bands the impedance of 25-35Ohms is indeed the best for a good balance of gain, pattern and bandwidth. By adding a close spaced D1 for 50 Ohms you can reach similiar results, but why doing that? For more weight and additional mechanical problems?
It is better to match the impedance to 50Ohm than to add more elements for rising the impedance!

For Longyagis the problems are more difficult. You must see the radiator, D1 and D2 as a unit (radiation center) in a Yagi system. The very close spaced D1 in a 50Ohm-feeding system acts like an "open-sleeve-element" and has higher currents than the radiator. The interaction between these elements can reduce the bandwidth dramatically, because -j and +j of the impedance increase very fast if you leave the center frequency.
It is interesting but a fact: You can replace the 50-Ohm-radiator and a close spaced D1 in several Longyagi systems by one radiating element with lower impedance and greater bandwidth.
Evolutionary algorithms for optimizing Longyagis find more lower impedances than 50Ohm for a given gain, pattern and bandwidth. The matching "by hand" with the close spaced D1 (as Ian, G3SEK writes) in the finishing construction process is possible but no must.

73 de Martin, DK7ZB

3160. Re: GFCI problem when running high power

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 21:03:41 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990147D5C8AE7nonenowhere@61.9.191.5>
Source record: 44176

"John, N9JG" <john@Xremove.MeYgotwals.com> wrote in
news:kmdOh.18250$G23.8609@newsreading01.news.tds.net:

> I am using an Orion to drive my Drake L-4B, and I operate mostly on 40
> meters. My antenna is a 110 feet long dipole, center-fed with
> open-wire feed line, and elevated about 30 feet with the support for
> one end attached to the house chimney. My shack is in a 2nd floor
> bedroom, and the circuit breaker panel is located in the basement at
> the opposite end of the house. The house has a brick exterior, and one
> end of the antenna is only a few feet from the shack.
>
> When I operate high power on 40 meters, a GFCI equipped circuit
> breaker, which is located in the house circuit breaker panel, moves to
> the open position. None of my station equipment is attached to this
> breaker; this particular breaker powers four outlets in the garage and
> two outlets on the house exterior. None of these outlets are normally
> in use. Is it possible (or even desirable) to install one or more
> bypass capacitors inside the breaker panel, and immediately adjacent
> to, the ground-fault circuit interrupter? If so, what type of
> capacitor is recommended?
>
> John, N9JG
>
>

I think GFCI refers to a breaker that operates on a small imbalance of current on the active and neutral wires (or whatever you call them) of the AC distribution. Typically, such things operate on quite small current differential (30mA for standard devices in our part of the world) and with fast operate times (~20mS). To perform this function they use electronics to amplify the current difference from a current transformer, and operate the breaker trip magnet. The electronics is usually powered from the AC line. Do not overlook the potential for RF interference with the electronics, although they should be designed for electromagnetic compatibility, your switch may be susceptible to the levels that occur on its AC line terminals.

Others have addressed whether the switch is responding to differential RF currents. My guess is that it is less likely that the above, but that is only a guess.

If that is the problem, remedial measures include replacing the switch preferably with a different brand (though that might not fix the problem), changing your station arrangements to reduce the RF on the AC distribution (which could be coming from supply or load side of your

breaker), filtering on the power lines (again this may be effective if located on the supply or load side, but you might be limited in what measures you can employ easily on the supply side).

Owen

3161. Re: Spacing and Element order for 6 element 10 meter yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 21:07:19 UTC
From: tclay@qmc.ph.msstate.edu
Message-ID: <87abxyjszc.fsf@qmc.ph.msstate.edu>
Source record: 44077

You might ask W4ZV for his optimized dimensions for the KLM 10m:

http://users.vnet.net/btippett/yagi_optimizer_7_0.htm

Tor
N4OGW

3162. Re: MFJ - Mighty Fine Junk or good stuff

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 21:25:41 UTC
From: "R. Scott" <lintardspamtrap@scotts-home.net>
Message-ID: <JFKzIt.8K@news.boeing.com>
Source record: 44080

"Stanislav_Luniev" <Stanislav_Luniev@Spy_4_Motherland.gov.ru> wrote in
message news:Yr6dnd0r9NjEoJTbnZ2dnUVZ_obinZ2d@hawaiiantel.net...
>I havent purchased any MFJ stuff for years now.
> Last time I purchased something I was not really happy with the quality.
> Can anyone tell me if they have upgraded or is the stuff still Mighty Fine
> Junk!

2 years MFJ 969 Tuner, no problems so far.
Only thing I've really got from them.

3163. Re: MFJ - Mighty Fine Junk or good stuff

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 21:27:50 UTC
From: Rick <Nospam@reply.in.gp>
Message-ID: <pan.2007.03.27.21.27.49.880868@reply.in.gp>
Source record: 44078

On Tue, 27 Mar 2007 05:54:21 -1000, Stanislav_Luniev wrote:

> I havent purchased any MFJ stuff for years now.
> Last time I purchased something I was not really happy with the quality.
> Can anyone tell me if they have upgraded or is the stuff still Mighty Fine
> Junk!

All in all their quality is OK I guess. I have the MFJ-401D keyer,
MFJ-564 paddles, MFJ-1026 noise canceler, and MFJ-921 VHF antenna tuner.
They all look like something that a really talented homebuilder could
build in his home workshop, and they all work more or less as advertised.

What really bugs me is their insufferably arrogant attitude about
providing support via email. On their support page they say "There is a
two to four WEEK (emphasis mine) response time for support emails and if
that's not good enough for you, call us on the phone". There is no excuse
for that kind of an attitude.

3164. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 21:36:27 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175031387.951000.243500@d57g2000hsg.googlegroups.com>
Source record: 44079

On 20 Mar, 08:37, Walter Maxwell <w...@w2du.com> wrote:
> One of the issues discussed in this thread that Owen originated concerned whether or not reflected power
> enters the power amp and dissipates as heat in the plates of the amp. Some of the posters apparently are
> unable to appreciate that the reflected power does not cause heating of the amp, unless the reflected power
> detunes the amp and the amp is left detuned from resonance, which of course is not the correct manner of
> operating the amp.
>
> In the last post of the original thread I presented the details of an experiment I performed (one of many
> using the same procedure) on a Kenwood TS-830S transceiver that proves how and why reflected power in no way
> causes heating of the amp when the amp is properly adjusted in the presence of the reflected power.
>
> Usually, such a presentation as in the last post in that thread evokes a great deal of response, as for
> example, Art Unwin's. So I'm somewhat surprised, and a little disappointed that my post has resulted in total
> silence. Have my efforts in helping to solve the problem gone for naught?
>
> Walt, W2DU

Walt you got your wish, over 100 posts and still coming. How many
postings is it going to take to not only read what you said and also
the hard part
understand what you are saying? Only you can answer whether your help
to solve the problem has gone for naught. Maybe at 200 postings you
will feel a bit better about things but I doubt it. But I must thank
you as you have greatly decreased the number ugly postings in my
direction so please keep it up.
Regards
Art
Art

3165. Re: MFJ - Mighty Fine Junk or good stuff

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 21:45:46 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99014EF865A1Enonenowhere@61.9.191.5>
Source record: 44081

Stanislav_Luniev <Stanislav_Luniev@Spy_4_Motherland.gov.ru> wrote in news:Yr6dnd0r9NjEoJTbnZ2dnUVZ_obinZ2d@hawaiiantel.net:

> I havent purchased any MFJ stuff for years now.
> Last time I purchased something I was not really happy with the
> quality. Can anyone tell me if they have upgraded or is the stuff
> still Mighty Fine Junk!
>

Do you mean:

Do they still use thermoplastics for coil supports and roller inductors so that the components are damaged if they get hot?

Do they still leave loose bits of solder, wire, nuts etc inside completed euipment?

Do all their instruments that claim to indicate PEP power actually work on SSB telephony?

Do the meters on MFJ antenna analysers still fall into the case if you make the mistake of gripping the analyser with thumb pressure on the meter?

Do they still use hard-to-get incandescent lamps to light meter movements?

Do they take a month to respond to spare part enquiries, and then make a partial response that is of no use?

Do they still use plated steel parts that don't withstand weather for more than a year or two on their antennas?

Do they still ship linear amplifiers with a circuit diagram that is so shabby, it defies unambiguous interpretation?

Are they still buying up other manufacturers to apply their "quality" to the whole market?

3166. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 22:12:47 UTC
From: richardharrison@webtv.net
Message-ID: <16236-460996DF-791@storefull-3251.bay.webtv.net>
Source record: 44083

Art wrote:
"I have his (Kraus`) second edition (Antennas) and I find no mention of radiation from the beginning where current is applied onward."

I think I have that edition too. If you review the chapter on "Point Sources" you`ll find: power patterns, a power theorem and its application to isotropic sources, rediation intensity, source with hemispheric power pattern, unidirectional cosine power pattern, etc., etc..

The new, now available 3rd ed. of "Antennas" by Kraus, Marhefka, and a host of others is greatly expanded and improved. It is worth the investment.

Being uncertain of what Art really wants, doesn`t stop me from advising him to start by having a look at the famous Sommerfeld formula on page 804 of Terman`s 1955 opus.
It predicts 1 kilowatt will produce 186 mv per m at a distance of 1 mile from a short vertical transmitting antenna given a certain ground conductivity and other conditions.

Best regards, Richard Harrison, KB5WZI

3167. Re: home made Mobile Ant

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 22:22:45 UTC
From: Lushy <david.lush@bigpond.com>
Message-ID: <VOgOh.2554$M.510@news-server.bigpond.net.au>
Source record: 44082

nm5k@wt.net wrote:
> On Mar 26, 5:24 pm, "Lushy" <david.l...@bigpond.com> wrote:
>> I have a old 2 piece hollow 11 ft surf rod in the shed and need a
>> mobile antenna and a sand flag on my Jeep Wrangler. I thought I
>> would be able to do both with the fishing rod. Question 1. How much
>> minimum wire would I need to load it up on all Hf Freqs (I have a
>> tuner).
>> Question 2. Could I bottom load it with a coil?
>> It would be connected to the tuner with RG 58 coax (about 10 ft).
>> Lushy
>> VK3HDL
>>
>> --
>> This life is not a rehearsal it is the real thing!
>
>
> How would you mount, insulate a surf rod? Seems it would be
> easier to just scrounge up an old glass whip antenna, and modify
> it. It will fit the usual threads for antenna mounts.
> I have a couple of those that I have built, and both work all
> bands. But mine are center loaded, not base loaded.
> I strip all the original winding from the glass whip, and then
> wind a new larger coil bugcatcher style.
> The one I usually use is a 6 ft glass whip, which was originally a
> 20 meter hamstick. The coil which is appx 3 inches diameter,
> and wound on a light plastic tube is just below the tip at the
> 5+ foot level. I then clamp a 5 ft stinger whip to the top of the
> glass whip. The antenna is 11 ft tall total, and exactly center
> fed. I also can use a 3 ft hustler mast at the base and the
> antenna is 14 ft, and the coil at 8 ft+. I only do that parked.
> I change bands the same way you would a bugcatcher by
> tapping the coil, and I can also go higher in freq by using a
> shorter stinger.
> My original all band antenna was basically the same, but it's
> total length is 10 ft, and was built on a 5 ft firestick CB antenna.
> It's coil is 2.5 feet above the base. I still use it if I want the
> coil
> lower for tree purposes, etc..
> Using a tuner to load a mobile whip is about the last way you
> want to go. On most lower bands, max current will be at the
> tuner coil. No bueno.. A base load would be better, but a
> center load gives much better current distribution and efficiency.
> Thats why my newer antenna has the coil higher, and also
> is why I often add the lower mast when parked. That extra

> 3 ft below the coil really gives the efficiency a good boost
> when on the lower bands. My coil is at the level some other
> antennas tips would be.. :) In most cases, my antenna will
> thrash those.. I've done it a few times on "park and compare"
> tests.. I once compared against a usual hustler setup on 75m.
> I almost felt sorry for the owner, who is a friend of mine. :/
> That hustler was a dummy load on a stick...
> MK

Thanks mk, I was going to turn a base for the rod and mount the coax connector on the outside of the area where the reel is fastened as it is hollow and then fix the base two small muffler clamps to the bullbar.
As you state centre loading is the go and can be done with this rod as it is a two hollow glass rod.
Lushy

3168. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 22:56:26 UTC
From: richardharrison@webtv.net
Message-ID: <2576-4609A11A-1068@storefull-3252.bay.webtv.net>
Source record: 44084

Richard Clatk, WB7QHC wrote:
"This is, of course, contingent only when the line is terminated in its characteristic Z."

Lines terminated in Zo don`t produce a reflection at the load. I did not make up the fact that the line forces the current to be exactlly in-phase or exactly out-of-phase with the voltage across the transmission line. I got it from Terman. On page 86 of his 1955 opus: "---This differs from Eqn (4-8) (Zo seen by the incident wave) only by the negative sign, which arises from the fact that the current in the reflected wave travels toward the generator whereas the current in the incident wave travels toward the load.

Zo is a RESISTANCE. In a resistance, current is in-phase with its associated voltage. Waves traveling in either direction on a line see the same Zo.

Best regards, Richard Harrison, KB5WZI

3169. Re: Spacing and Element order for 6 element 10 meter yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-27 23:22:02 UTC
From: Dennis Klipa <klipadk@gmail.com>
Message-ID: <1175037722.883123.159140@d57g2000hsg.googlegroups.com>
Source record: 44086

On Mar 27, 3:34 pm, "The Shadow" <rep...@zilch.com> wrote:
> ,> Thanks for the lead. I placed an order with them but got a odd web
> > page response after I placed the order. When I tried to call the
> > voice phone number on their web site I got a "phone company
> > recording". Do you know that this is a legitimate business? I did a
> > Google search and found a number of references to the company so I am
> > assuming it is but the responses I got make me a little nervous. I
> > did a reverse look up on the address and got a name and phone number.
> > Looking at the address on Google Earth, I see what looks to be like a
> > UHF yagi on the roof, so I did a reverse lookup for a call sign at the
> > ARRL sight and found the call for the name.
>
> > I am probably just being paranoid, but I have been burnt before.
> > Thanks again for the lead.
> > Dennis
>
> Golly Dennis I have ordered several manuals from ManualMall in the past but
> not recently. And have not heard any negative comments about them.
>
> Maybe e-mail them
> b...@nts-online.net;
>
> Hope all is well
> Lamont

Lamont,
That is very reassuring to hear.
I am sure it will all work out just fine.

Thanks,
Dennis

3170. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 00:10:41 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ogcj0397f2qedivgoe8lt4eu96c0jm05mb@4ax.com>
Source record: 44085

On Tue, 27 Mar 2007 17:12:47 -0500, richardharrison@webtv.net (Richard Harrison) wrote:

>It predicts 1 kilowatt will produce 186 mv per m at a distance of 1 mile
>from a short vertical transmitting antenna given a certain ground
>conductivity and other conditions.

Hi Richard,

You've missed the point of Art's pining "why?"

Explain how the conductivity of ground forces some polarization issues
- you know, the basic stuff of propagation.

73's
Richard Clark, KB7QHC

3171. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 00:22:27 UTC
From: richardharrison@webtv.net
Message-ID: <15620-4609B543-256@storefull-3257.bay.webtv.net>
Source record: 44087

Art wrote:
"Could you quote from the books that you are referring to the angle relative to the radiator, that`s it?"

O.K.. but the angle is relative to the horizontal in the statement. Termans 1955 opus on page 804 says the strength of radiation from a short vertical antenna is proportional to the cosine of the elevation angle. That`s right because at zero angle, radiation is maximumm as cosine of zero degrees is 1, and cosine of 90 degrees is zero.

Best regards, Richard Harrison, KB5WZI

3172. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 00:38:21 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eucdfhqpo1@news.service.uci.edu>
Source record: 44088

Cecil Moore wrote:

> So you need to go off and argue with Jim over the
> definition of "power". Instead of talking about power,
> Jim has convinced me to talk about watts or joules/sec
> which he says are not necessarily power. The confusion
> comes from the field of physics, not from me. While you
> are talking to Jim, get him to explain the definition
> of "transfer".

For a thorough understanding of the physical meaning that word, I
suggest working a few rigorous thermodynamics problems.

73, ac6xg

3173. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 00:42:04 UTC
From: richardharrison@webtv.net
Message-ID: <15621-4609B9DC-51@storefull-3257.bay.webtv.net>
Source record: 44091

Richard Clark, W7QHC wrote:
"-you know, the basic stuff of propagation."

I may be able to respond to a question, but I don`t write books.

On the question of ground conductivity and polarization: Soil loss makes vertically polarized waves tilt forward in the direction of their travel as if dragging their feet. It`s not all bad as this tilt makes a horizontal antenna, the Beverage, receive these vertically polarized waves well.

Best regards, Richard Harrison, KB5WZI

3174. Re: MFJ - Mighty Fine Junk or good stuff

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 00:49:33 UTC
From: Bob Miller <NOSPAM@neosoft.com>
Message-ID: <pmej031ns97hnfv9naq6rlghksiq5r2p37@4ax.com>
Source record: 44089

On Tue, 27 Mar 2007 05:54:21 -1000, Stanislav_Luniev
<Stanislav_Luniev@Spy_4_Motherland.gov.ru> wrote:

>I havent purchased any MFJ stuff for years now.
>Last time I purchased something I was not really happy with the quality.
>Can anyone tell me if they have upgraded or is the stuff still Mighty Fine
>Junk!

I have about ten of their products. Most are fine. My best advice is
to buy from a retailer that will take the product back in a few days
if you don't like it.

I'd stay away from their current tuners. An older one I have, a 989C,
is good stuff. A newer model, the 989D was junk and promptly returned
to Amateur Electronic Supply.

bob
k5qwg

3175. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 00:52:04 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175043124.600547.144350@y80g2000hsf.googlegroups.com>
Source record: 44090

On 27 Mar, 15:12, richardharri...@webtv.net (Richard Harrison) wrote:
> Art wrote:
>
> "I have his (Kraus`) second edition (Antennas) and I find no mention of
> radiation from the beginning where current is applied onward."
>
> I think I have that edition too. If you review the chapter on "Point
> Sources" you`ll find: power patterns, a power theorem and its
> application to isotropic sources, rediation intensity, source with
> hemispheric power pattern, unidirectional cosine power pattern, etc.,
> etc..
>
snip.
>
> Being uncertain of what Art really wants, doesn`t stop me from advising
snip
>
Bingo
Just as I thought, you are bullshitting like the rest of them. All you
have is the answer for the question you want me to ask so you can then
look good.
When you give that same answer to any question that I actually ask it
sure removes any possible credability.
If you all had been nice to the MIT guy he may have come back and give
you a tutorial again to set you straight, but I suspect he left for
the same reasons that other experts left. I accept that none on the
thread has a clue
so it is reasonable to close down this thread to allow you to get back
to badger Walt. I believe that each poster has provided an average of
ten posts
on Walt's article which suggest that Walt is having a bad time with
communicating his message like me. My bet is that half of the posts
aren't even relavent to the subject at hand! That's tough for
anybody.Richard you have posted four times with lots of words on this
thread but at the very end you admit that you have no idea what the
thread was all about. So what were your answers meant to apply to so I
can oblige you with supplying the question that you want... to the
answer you have already so you can spout off.
No ....forget it.
..........FINI.........
Art

> Best regards, Richard Harrison, KB5WZI

3176. Re: Ameritron RCS4

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 01:02:20 UTC
From: Dennis Klipa <klipadk@gmail.com>
Message-ID: <1175043740.409003.183080@p77g2000hsh.googlegroups.com>
Source record: 44092

On Mar 26, 12:50 pm, "Jim Leder" <k...@fuse.net> wrote:
> I am most likely going to buy a new Ameritron RCS4 antenna switch so I can
> not have so many coax cables coming into the house. Question: does anyone
> know if this switch shorts all the unused connectors to ground? How about
> when the switch is turned off?
>
> Thanks
> --
> Jim Bob Buckeye
> AKA
> **** Jim Leder****
> K8CXM since 1961
> IBM retiree since 1999http://home.fuse.net/k8cxm/

Jim,

I have the RSC-8V and the manual says that the unit comes with the
unselected leads isolated from ground. If you want them to be
grounded you have to install a jumper and it shows a diagram on how to
do it.

Dennis, N8ERF

3177. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 01:16:23 UTC
From: richardharrison@webtv.net
Message-ID: <15619-4609C1E7-1246@storefull-3257.bay.webtv.net>
Source record: 44093

I readily admit I have not discovered whhat Art asked for. My first guess was: Why are most antennas either horizontal or vertical. I tried to give a thoughtful and honest answer. Sorry it didn`t satisfy.

Best regards, Richard Harrison, KB5WZI

3178. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 02:25:39 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <4609d223$0$24756$4c368faf@roadrunner.com>
Source record: 44094

"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:15619-4609C1E7-1246@storefull-3257.bay.webtv.net...
>I readily admit I have not discovered whhat Art asked for. My first
> guess was: Why are most antennas either horizontal or vertical. I tried
> to give a thoughtful and honest answer. Sorry it didn`t satisfy.
>
> Best regards, Richard Harrison, KB5WZI
>

I looked up the references, seems good to me.

Jimmie.

3179. Re: GFCI problem when running high power

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 02:29:17 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <4609d2fa$0$17197$4c368faf@roadrunner.com>
Source record: 44095

"John, N9JG" <john@Xremove.MeYgotwals.com> wrote in message
news:kmdOh.18250$G23.8609@newsreading01.news.tds.net...
>I am using an Orion to drive my Drake L-4B, and I operate mostly on 40
> meters. My antenna is a 110 feet long dipole, center-fed with open-wire
> feed
> line, and elevated about 30 feet with the support for one end attached to
> the house chimney. My shack is in a 2nd floor bedroom, and the circuit
> breaker panel is located in the basement at the opposite end of the house.
> The house has a brick exterior, and one end of the antenna is only a few
> feet from the shack.
>
> When I operate high power on 40 meters, a GFCI equipped circuit breaker,
> which is located in the house circuit breaker panel, moves to the open
> position. None of my station equipment is attached to this breaker; this
> particular breaker powers four outlets in the garage and two outlets on
> the
> house exterior. None of these outlets are normally in use. Is it possible
> (or even desirable) to install one or more bypass capacitors inside the
> breaker panel, and immediately adjacent to, the ground-fault circuit
> interrupter? If so, what type of capacitor is recommended?
>
> John, N9JG
>
>

If you GFCI breakers are pretty old try some new ones they seem to be more
resistant to RF interference. Ive had a similar problem and new breakers did
it for me. Solve any RF-in-the-shack problems.

Jimmie

3180. Re: Nutty Antenna Idea -- Complete with Rhetorical Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 04:33:46 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <NemOh.82434$7g3.46377@newsfe14.phx>
Source record: 44096

"Owen Duffy" <none@no.where> wrote in message
news:Xns98FEBB1B34B6Fnonenowhere@61.9.191.5...
> "Sal M. Onella" <salmonella@food.poisoning.org> wrote in
> news:CO3Nh.78006$p17.47735@newsfe11.phx:
>
> > I have two multiband trap verticals They are not exactly the same,
> > but close. Obviously they're intended to be mounted vertically above
> > a ground.
> >
> > What happens if I mount them horizontally, base-to base? If I feed
> > one with coax as designed, would it see the other one as a
> > counterpoise? Could I remove any base matching components and feed
> > them both with a 1:1 balun, in effect duplicating the function of a
> > horizontal wire trap dipole?
>
> Will water drain from the traps in their new configuration?
>
> Owen

Probably not, unless I do something special, like custom drain holes. Being in Southern California, we have a six-month virtually rain-free summer coming up, so I suppose it cold be a fair-weather project. (What do you bet I forget to take it down in October?)

3181. Re: Nutty Antenna Idea -- Complete with Rhetorical Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 04:36:00 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <SgmOh.82435$7g3.58086@newsfe14.phx>
Source record: 44097

"Jimmie D" <GFENDER@carolina.rr.com> wrote in message news:46060d00$0$1379

>
> Make sure your antenna is OK before you try this a lot of those old
Hustlers
> are good for scrap.
>
>

Good idea.

3182. Re: Nutty Antenna Idea -- Complete with Rhetorical Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 04:56:02 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <FzmOh.85538$115.43941@newsfe10.phx>
Source record: 44098

"Buck" <usenet01@lumpuckeroo.com> wrote in message
news:ofkc031lcu0ccjruq2kvfskd50rac6vkpl@4ax.com...

>
> That part hadn't occurred to me. Come to think of it, I don't think
> they were designed to withstand horizontal positioning, but then I
> don't know the antennas. Anyway, good luck in the antenna.
>
> Maybe a vertical dipole?

<withstand horizontal positioning > If I do this, I will have the thing laying on the roof, at or near the peak, so support won't be a consideration. (The far end of each unit could stick out and be self-supporting.) Having it slide down the roof is a bigger worry.

< vertical dipole> Ahah! I started out with a 10m vertical dipole as my first-ever HF antenna, last month. (It has since morphed into an OCF horizontal dipole that I've stretched all the way to 40m with a homebrew pi-network tuner I acquired at the swap meet.). To the point, two opposing trap verticals as a single dipole would be a 70 foot vertical structure and is not within my capabilities. (I would love to try it, though.)

"Sal"
(KD6VKW)

3183. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 06:31:11 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <nt1k03dc29d0hq8qg3ao7gqv52u4oks58m@4ax.com>
Source record: 44099

On Tue, 27 Mar 2007 20:16:23 -0500, richardharrison@webtv.net (Richard Harrison) wrote:

>Sorry it didn`t satisfy.

Hi Richard,

You didn't express it in Art's scripted language that makes it his unified theory of magneto-dyno-electrostatics instead of the now pedestrian teachings of Terman (or Marconi, or Hertz, or Maxwell, or Heaviside, or Gauss).

Art has the habit of dis-enfranchising others as is obvious in the invention of his support coming from
>>the MIT guy
No name? No call? Pretty cold. Art's gratitude rises to spitting in someone's face as he shakes their hand for their aid in his cause.

At least your face full of saliva
>>you are bullshitting like the rest of them.
is warmer.

73's
Richard Clark, KB7QHC

3184. WTB: Book - The Vertical Antenna Handbook

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 14:03:28 UTC
From: ka9s3@comcast.net
Message-ID: <1175090608.882940.42850@r56g2000hsd.googlegroups.com>
Source record: 44100

I would like to get a copy of the book "The Vertical Antenna Handbook"
by Paul H. Lee. It used to be published by CQ. Does anyone have one
they would be willing to pass along? Please let me know.

- Jeff

3185. Re: WTB: Book - The Vertical Antenna Handbook

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 15:04:31 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <130l12qk69dtdff@corp.supernews.com>
Source record: 44101

ka9s3@comcast.net wrote:
> I would like to get a copy of the book "The Vertical Antenna Handbook"
> by Paul H. Lee. It used to be published by CQ. Does anyone have one
> they would be willing to pass along? Please let me know.
>
> - Jeff
>

Jeff;

Do a google search on the book title. I just did one and received over
350000 replies. The book you are looking for was the first one listed.

Dave WD9BDZ

3186. Re: GFCI problem when running high power

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 15:15:57 UTC
From: "John, N9JG" <john@Xremove.MeYgotwals.com>
Message-ID: <NEvOh.18435$G23.5587@newsreading01.news.tds.net>
Source record: 44102

The breaker is probably as old as the house, which is about 12 years.
Replacing the breaker is the first thing I will try.

"Jimmie D" <GFENDER@carolina.rr.com> wrote in message
news:4609d2fa$0$17197$4c368faf@roadrunner.com...
>
> "John, N9JG" <john@Xremove.MeYgotwals.com> wrote in message
> news:kmdOh.18250$G23.8609@newsreading01.news.tds.net...
>>I am using an Orion to drive my Drake L-4B, and I operate mostly on 40
>> meters. My antenna is a 110 feet long dipole, center-fed with open-wire
>> feed
>> line, and elevated about 30 feet with the support for one end attached to
>> the house chimney. My shack is in a 2nd floor bedroom, and the circuit
>> breaker panel is located in the basement at the opposite end of the
>> house.
>> The house has a brick exterior, and one end of the antenna is only a few
>> feet from the shack.
>>
>> When I operate high power on 40 meters, a GFCI equipped circuit breaker,
>> which is located in the house circuit breaker panel, moves to the open
>> position. None of my station equipment is attached to this breaker; this
>> particular breaker powers four outlets in the garage and two outlets on
>> the
>> house exterior. None of these outlets are normally in use. Is it possible
>> (or even desirable) to install one or more bypass capacitors inside the
>> breaker panel, and immediately adjacent to, the ground-fault circuit
>> interrupter? If so, what type of capacitor is recommended?
>>
>> John, N9JG
>>
>>
>
> If you GFCI breakers are pretty old try some new ones they seem to be more
> resistant to RF interference. Ive had a similar problem and new breakers
> did it for me. Solve any RF-in-the-shack problems.
>
> Jimmie
>

3187. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 16:09:25 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1175098165.095793.130380@o5g2000hsb.googlegroups.com>
Source record: 44103

On Mar 25, 4:23 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> If reflected energy is not dissipated, it undergoes destructive
> interference and is redirected back toward the load as constructive
> interference instead of being incident upon the source. Why
> are you having difficulty with that concept from page 388
> of "Optics", by Hecht, 4th edition?

Hi Cecil,

Dissipation and interference are not interdependent phenomena.
Moreover, destructive interference does not "redirect" or otherwise
cause anything to happen. Intereference is nothing more than a means
for describing the result of the superposition of waves.

73, ac6xg

3188. Re: MFJ - Mighty Fine Junk or good stuff

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 19:16:55 UTC
From: Rick <Nospam@reply.in.gp>
Message-ID: <pan.2007.03.28.19.16.54.563528@reply.in.gp>
Source record: 44104

On Wed, 28 Mar 2007 17:37:40 +0000, Jim Higgins wrote:

> You lie by error or distortion.

Ah. Or, perhaps I err by trying to summarize or do it from memory.

Call me careless if you like, but don't call me a liar.

> Given the usual failure to provide the most obviously needed facts
> when seeking tech support I don't blame them for all but refusing to
> go six rounds via email vs one via phone.

We can agree to disagree on that one. I consider email to be a great telephone-tag eliminator, leaves a convenient written record of what was said, AND allows people to respond on their schedules rather than having to drop what they're doing, or sit on "hold" for who knows how long.

I consider their attitude supremely arrogant and utterly unnecessary. You don't have to agree, but you also don't have to disagree by name calling.

This'll be my last post on this...

3189. Re: Spacing and Element order for 6 element 10 meter yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 19:48:10 UTC
From: Brian Howie <brian@nospam.demon.co.uk>
Message-ID: <lkIANCB6ZsCGFwUf@b-howie.demon.co.uk>
Source record: 44105

In message <87abxyjszc.fsf@qmc.ph.msstate.edu>, tclay@qmc.ph.msstate.edu
writes
>You might ask W4ZV for his optimized dimensions for the KLM 10m:
>
>http://users.vnet.net/btippett/yagi_optimizer_7_0.htm

I've got the file for that one yo can see the spacing and element
dimensions

KLM 10m 6el Yagi
KLM 230 200
28.000 28.500 29.000 MHz
6 elements, inches
0.5772 0.5919 0.6164 0.5998 0.5963 0.6031
0.0000 102.9879 0.0000 0.0000 0.0000 0.0000 0.0000
33.2500 0.0000 96.9463 0.0000 0.0000 0.0000 0.0000
73.2500 0.0000 0.0000 83.5867 0.0000 0.0000 0.0000
111.6250 0.0000 0.0000 0.0000 92.0769 0.0000 0.0000
236.7500 0.0000 0.0000 0.0000 0.0000 93.9230 0.0000
327.2500 0.0000 0.0000 0.0000 0.0000 0.0000 90.2354

The 0.5"-wide straps which join the element halves
are equivalent to 0.25"-diameter tubing.

HTH

73 Brian
--
Brian Howie

3190. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 20:01:07 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <euehru$7oe$1@news.service.uci.edu>
Source record: 44106

Richard Harrison wrote:
> Walter Maxwell, W2DU wrote:
> "When the matching is accomplished the phase relationship between the
> forward and reflected voltages can either be 0 degrees or 180 degrees,
> resulting in a total re-reflection of the voltage. If the resultant
> voltage is 0 degrees, then the resultant current is 180 degrees, thus
> voltage sees a virtual open circuit and the current sees a virtual sees
> a virtual short circuit. The result is that the reflected voltage and
> current are totally re-reflected IN PHASE with the source voltage and
> current. This is the reason the forward power in the line is greater
> than the source power when the line is mismatched at the load, but where
> the matching device has re-reflected the reflected waves."
>
> Eloquently stated and significant because there are many who would swear
> that a properly matched transmitter re-reflects the reflected waves, but
> don`t have a clue as to why.
>
> Best regards, Richard Harrison, KB5WZI

Walt doesn't actually indicate 'why' here, either. He is reciting a set of well known circumstances, and implying that one set of facts results in another. While the facts are obviously correct, any cause and effect relationship between them must be inferred. It is not demonstrated. The fact that every time a visitor stands at my front door the bell rings is not proof that standing at my front door *causes* the bell to ring.

The behavior of electromagnetic waves and their interaction with matter as described by JC Maxwell and others already provides satisfactory and sufficient explanation for the phenomenon of reflectivity. That should not be overlooked here.

73, ac6xg

3191. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 21:27:04 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <H4BOh.2219$Rg4.291@newssvr19.news.prodigy.net>
Source record: 44107

Gene Fuller wrote:
> Utter nonsense. Jim was pulling your chain, and I guess you fell for it.

Perhaps your argument is with Jim.
--
73, Cecil http://www.w5dxp.com

3192. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 21:34:49 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ZbBOh.19326$uo3.18213@newssvr14.news.prodigy.net>
Source record: 44108

Keith Dysart wrote:
> Now all we need is a single example for which the equality
> does not hold and "Cecil's Hypothesis" will be disproved.

Cecil's hypothesis is that the conservation of energy
principle is valid. All you need is a single example for
which the conservation of energy principle does not hold.

Remember, the magnitude of energy in a transmission line
is *EXACTLY* the amount of energy needed to support
the forward joules/sec and the reflected joules/sec.
--
73, Cecil http://www.w5dxp.com

3193. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 21:49:09 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ppBOh.19328$uo3.4674@newssvr14.news.prodigy.net>
Source record: 44109

Jim Kelley wrote:
> Moreover, destructive interference does not "redirect" or otherwise
> cause anything to happen.

May I direct you to page 388 of "Optics" by Hecht
where he asserts that total destructive interference
must be matched by an equal magnitude of total
constructive interference. Since there are only two
possible directions in a transmission line, total
destructive interference in one direction must be
matched by an equal magnitude of total constructive
interference in the opposite direction. From my
energy analysis article, a reference:

http://micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/waveinteractions/index
.html

"... when two waves of equal amplitude and wavelength that are
180-degrees ... out of phase with each other meet, they are not
actually annihilated, ... All of the photon energy present in
these waves must somehow be recovered or redistributed in a
new direction, according to the law of energy conservation ...
Instead, upon meeting, the photons are redistributed to regions
that permit constructive interference, ..."

This is a very tough question: In a transmission line with only
two directions reckon what "redistributed in a new direction"
would necessarily mean? :-)
--
73, Cecil http://www.w5dxp.com

3194. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 21:49:49 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <1qBOh.19329$uo3.12743@newssvr14.news.prodigy.net>
Source record: 44110

Jim Kelley wrote:
> For a thorough understanding of the physical meaning that word, I
> suggest working a few rigorous thermodynamics problems.

What is your response for Gene's assertion that you
are pulling my leg about all of this?
--
73, Cecil http://www.w5dxp.com

3195. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 22:08:30 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <yHBOh.19336$uo3.9637@newssvr14.news.prodigy.net>
Source record: 44111

Jim Kelley wrote:
> Walt doesn't actually indicate 'why' here, either. He is reciting a set
> of well known circumstances, and implying that one set of facts results
> in another. While the facts are obviously correct, any cause and effect
> relationship between them must be inferred.

From his writings in "Reflections" and his postings
here, Walt obviously understands destructive and
constructive interference and the fact that (from
the Florida State University site):

"... All of the photon energy present in
these (cancelled) waves must somehow be recovered or
redistributed in a new direction, according to the
law of energy conservation ..."

In a transmission line we have two directions.
1. Toward the load
2. Toward the source

When the "photon energy" is "redistributed in a new
direction" in a transmission line, I'll bet it
goes in exactly the direction that Walt says it
goes.
--
73, Cecil http://www.w5dxp.com

3196. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 22:14:32 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990253D8738E0nonenowhere@61.9.191.5>
Source record: 44112

Cecil Moore <nospam@w5dxp.com> wrote in news:ZbBOh.19326$uo3.18213
@newssvr14.news.prodigy.net:

> Remember, the magnitude of energy in a transmission line
> is *EXACTLY* the amount of energy needed to support
> the forward joules/sec and the reflected joules/sec.

Cecil,

If you go beyond your (unqualified) average view of the world and drilled down on the fields in the line as a function of time and position, and their relationship with steady state real and reactive energy flow at each end of the line in the general case, it may provide you with a more correct view of the tranmission line and its load and source in your favoured energy context.

Owen

3197. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 22:15:51 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99025411555A5nonenowhere@61.9.191.5>
Source record: 44113

Cecil Moore <nospam@w5dxp.com> wrote in news:1qBOh.19329$uo3.12743
@newssvr14.news.prodigy.net:

> What is your response for Gene's assertion that you
> are pulling my leg about all of this?

The games people play. Wasn't this one called something like 'lets you and
him have a fight'.

Owen

3198. Rotation of the polarization question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 22:25:53 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <RXBOh.111639$fo5.48339@trnddc07>
Source record: 44114

Hi

I want to find a place where I can learn about the effects the atmosphere
has on the polarization of signals from satellites. Does anyone know of
any web sites where that might be discussed?
Thanks
Jerry

3199. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 22:27:02 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <WYBOh.19339$uo3.1758@newssvr14.news.prodigy.net>
Source record: 44115

Owen Duffy wrote:
> Cecil Moore <nospam@w5dxp.com> wrote in news:ZbBOh.19326$uo3.18213
> @newssvr14.news.prodigy.net:
>
>> Remember, the magnitude of energy in a transmission line
>> is *EXACTLY* the amount of energy needed to support
>> the forward joules/sec and the reflected joules/sec.
>
> If you go beyond your (unqualified) average view of the world and drilled
> down on the fields in the line as a function of time and position, and
> their relationship with steady state real and reactive energy flow at each
> end of the line in the general case, it may provide you with a more correct
> view of the tranmission line and its load and source in your favoured
> energy context.

I have done that, Owen, and let's see if your experience is
different from mine. Please go to the following Florida State
University web page:

http://micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/waveinteractions/index.html

Leave the wavelength and amplitude the same. Change Wave A
to zero phase and change Wave B to a phase of 180 degrees.
The resultant superposed sum is zero obviously containing
zero energy.

What happened to the energy in Wave A and Wave B is
explained in the last paragraph. If Wave A and Wave B
occur in a transmission line, guess what happens to the
direction of the energy that cannot be destroyed?
--
73, Cecil http://www.w5dxp.com

3200. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 22:59:55 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <euesdndvf1@news.service.uci.edu>
Source record: 44116

Cecil Moore wrote:
> Gene Fuller wrote:
>
>> Utter nonsense. Jim was pulling your chain, and I guess you fell for it.
>
>
> Perhaps your argument is with Jim.

Disclaimer:
Ideas can tend to become severely distorted when projected through the convolutions of Cecilspeak - for whatever reason.

I'm happy to discuss any comments that I have made. Less so about comments that Cecil makes "on my behalf".

73 de ac6xg

3201. Re: MFJ - Mighty Fine Junk or good stuff

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 23:12:39 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns9901A4EAAD76spectrumhogstarbandn@198.186.192.196>
Source record: 44117

> I havent purchased any MFJ stuff for years now.
> Last time I purchased something I was not really happy with the
> quality. Can anyone tell me if they have upgraded or is the stuff
> still Mighty Fine Junk!

I've owned a variety of several products over the years.... I can't really fault any of them, considering the price for what you get. I'll still keep buying from them...

Ed K7AAT

3202. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 23:26:10 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <euetva$f08$1@news.service.uci.edu>
Source record: 44119

Hi Cecil -

We've been over this a hundred times already. The only way to get
past it is for you to try to understand that my comment and Eugene
Hecht's are both true. You need to find a way to understand that
there is no contradiction. You could start by noting that Hecht does
not contradict anything that I said. Nowhere does he claim that
interference redirects energy. That's your claim! And I haven't said
that energy isn't redirected. If redirection of energy takes place,
it takes place by reflection - not interference. It's just basic optics.

73, ac6xg

Cecil Moore wrote:

> Jim Kelley wrote:
>
>> Moreover, destructive interference does not "redirect" or otherwise
>> cause anything to happen.
>
>
> May I direct you to page 388 of "Optics" by Hecht
> where he asserts that total destructive interference
> must be matched by an equal magnitude of total
> constructive interference. Since there are only two
> possible directions in a transmission line, total
> destructive interference in one direction must be
> matched by an equal magnitude of total constructive
> interference in the opposite direction. From my
> energy analysis article, a reference:
>
> http://micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/waveinteractions/index.html
>
>
> "... when two waves of equal amplitude and wavelength that are
> 180-degrees ... out of phase with each other meet, they are not
> actually annihilated, ... All of the photon energy present in
> these waves must somehow be recovered or redistributed in a
> new direction, according to the law of energy conservation ...
> Instead, upon meeting, the photons are redistributed to regions
> that permit constructive interference, ..."
>
> This is a very tough question: In a transmission line with only
> two directions reckon what "redistributed in a new direction"

> would necessarily mean? :-)

3203. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 23:38:13 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <F%COh.12060$Um6.6754@newssvr12.news.prodigy.net>
Source record: 44118

Keith Dysart wrote:
> Once again the hypothetical equality
> Preflected = Pdissipated + Pre-reflected
> 229.6 = 872 + 0
> does not hold.

I have pointed out your errors and misconceptions
3-4 times and you have refused to correct them.
This is the last time I am going to waste my
time.

The source is a 2A Norton with a shunt 450 ohm
resistor. During steady-state, the source sees
75 ohms. Adding 1WL of 75 ohm lossless line doesn't
change anything but for the Nth time, points out
your errors and misconceptions.

source--1WL 75 ohm line--+--1000' 450 ohm line--75 ohm load
Pfor1--> Pfor2--> Pload
<--Pref1 <--Pref2

Taking your numbers, Pload = 220.4w, Pfor2 = 450w, and
Pref2 = 229.6w

Obviously Pfor1 = Pload = 220.4w and Pref1 = ZERO

The joules/sec into the impedance discontinuity must equal
the joules/sec out of the impedance discontinuity. Let's
see if they do.
Pfor1 + Pref2 = Pref1 + Pfor2
220.4 + 229.6 = ZERO + 450
450 joules/sec = 450 joules/sec

There you have it. You simply made a mistake. There is NO
violation of the conservation of energy principle. The
same conditions that exist at the impedance discontinuity
also exist at the source. Total destructive interference
toward the source is accompanied by total constructive
interference toward the load. Every sliver of energy is
accounted for. You analysis is, once again, simply wrong.
--
73, Cecil http://www.w5dxp.com

3204. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-28 23:41:46 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <_2DOh.12063$Um6.68@newssvr12.news.prodigy.net>
Source record: 44120

Jim Kelley wrote:
> I'm happy to discuss any comments that I have made. Less so about
> comments that Cecil makes "on my behalf".

When I described how you had talked me into changing
my mind about energy and power, here was Gene's response.

>> Utter nonsense. Jim was pulling your chain, and I guess you fell for it.

Gene is a physicist. So which one of you physicists
is right?
--
73, Cecil http://www.w5dxp.com

3205. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 00:04:43 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <voDOh.12066$Um6.11231@newssvr12.news.prodigy.net>
Source record: 44121

Jim Kelley wrote:
> We've been over this a hundred times already. The only way to get past
> it is for you to try to understand that my comment and Eugene Hecht's
> are both true. You need to find a way to understand that there is no
> contradiction. You could start by noting that Hecht does not contradict
> anything that I said. Nowhere does he claim that interference redirects
> energy. That's your claim! And I haven't said that energy isn't
> redirected. If redirection of energy takes place, it takes place by
> reflection - not interference. It's just basic optics.

Please access the Florida State web page and set Wave A
to zero phase while setting Wave B to 180 degrees. Wave A
and Wave B continue to exist until they encounter each
other at which point their superposed amplitude goes to
zero indicating the the waves have been canceled. Since
energy cannot be canceled, where did the energy components
in the two waves go? Where it goes is explained at the
bottom of the web page. It is "redistributed", a synonym
for "redirected". In a transmission line, when the energy
is redistributed away from one direction, what other
direction can that redistribution take?

http://micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/waveinteractions/index
.html

There is clearly total destructive interference between
Wave A and Wave B when they are of equal magnitudes and
opposite phases and energy redistribution necessarily
takes place.

In the past, you have said that redistribution of energy
from canceled waves is absolutely NOT a reflection yet
above you seem to say the redirection is a reflection.
Are you changing your mind about wave cancellation
resulting in reflections?
--
73, Cecil http://www.w5dxp.com

3206. Re: Rotation of the polarization question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 00:19:35 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175127575.420967.300750@y66g2000hsf.googlegroups.com>
Source record: 44122

On 28 Mar, 15:25, "Jerry Martes" <j.jmar...@verizon.net> wrote:
> Hi
>
> I want to find a place where I can learn about the effects the atmosphere
> has on the polarization of signals from satellites. Does anyone know of
> any web sites where that might be discussed?
> Thanks
> Jerry

W4rnl talks about satellite antennas, might be worth a look

3207. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 00:40:13 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175128813.081406.109360@y80g2000hsf.googlegroups.com>
Source record: 44123

On Mar 28, 7:38 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Once again the hypothetical equality
> > Preflected = Pdissipated + Pre-reflected
> > 229.6 = 872 + 0
> > does not hold.
>
> I have pointed out your errors and misconceptions
> 3-4 times and you have refused to correct them.
> This is the last time I am going to waste my
> time.

Thank you for your patience. With just a bit more we
might actually get some where.

> The source is a 2A Norton with a shunt 450 ohm
> resistor. During steady-state, the source sees
> 75 ohms.

Both true.

> Adding 1WL of 75 ohm lossless line doesn't
> change anything

Unfortunately, far from true. Much changes. Of particular
interest here is that there are now ghosts in the
transmitted signal indicating the presence of re-reflected
reflected signals. These were not present in the original
experiment.

> There you have it. You simply made a mistake.

I will not deny the possibility of mistakes. While proof
reading my example I found too many trivial arithmetic
errors to have complete confidence that none remain.
Still, you need to find the errors in my example, not
make changes to the example and then state there are
errors because the new example yields different results.

On the whole, I think progress is being made, though
painfully slowly. We have learned that adding a
wavelength of line does change things and this goes
against often quickly given conventional wisdom.

While the resulting steady state may be the same, the
transient response can be quite different. And, of
course, it is the transient behaviour that produces

ghosts.

To fully understand transmission lines, a student in the field needs to spend some time thinking about and understanding them in the time domain. Only by doing this will a complete understanding of the behaviour be possible.

In any case, we are back to the previous experiment for which no one has yet found any errors in the analysis. Until someone does, "Cecil's Hypothesis" does not hold.

...Keith

3208. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 01:01:53 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <5eEOh.910$5e2.685@newssvr11.news.prodigy.net>
Source record: 44124

Keith Dysart wrote:
> Cecil Moore <nos...@w5dxp.com> wrote:
>> Adding 1WL of 75 ohm lossless line doesn't
>> change anything
>
> Unfortunately, far from true. Much changes. Of particular
> interest here is that there are now ghosts in the
> transmitted signal indicating the presence of re-reflected
> reflected signals. These were not present in the original
> experiment.

Yes, they were. That is your point of confusion. You
cannot just willy-nilly declare that the reflections
have disappeared in violation of the conservation
of energy principle. The two configurations are
identical except for the additional delays which
don't change anything during steady-state. The ghosts
are still there as they always were. Your alleged
absence of ghosts never existed and is a dream which
requires violation of the conservation of energy
principle. You are free to dream but please don't
present your dreams as scientific reality.

> We have learned that adding a
> wavelength of line does change things ...

No, we have NOT learned that. We have learned that
adding a wavelength of line does NOT change anything
during steady-state and shines the light your previous
errors and misconceptions. The conditions at the source
are exactly the same during steady-state with and without
the 1WL additional line. Anything else would violate
the principles of distributed network theory.

> While the resulting steady state may be the same, the
> transient response can be quite different.

Yes, the transient response is somewhat different
because of the extra 1WL delay, but the steady-
state conditions are identical.

> In any case, we are back to the previous experiment for
> which no one has yet found any errors in the analysis.

I have pointed out your errors 5 times now. You can
lead a horse to water ...

Ramo and Whinnery give strict warnings about assumptions
of conditions inside a Norton equivalent source. You
didn't heed their warnings and got caught by your
misconceptions.
--
73, Cecil http://www.w5dxp.com

3209. Re: Ameritron RCS4

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 01:13:05 UTC
From: Roger <GetValidAddress@my.com>
Message-ID: <n84m03pnm3vvk1nrmt7pigj3bh3r30onlj@4ax.com>
Source record: 44125

On 27 Mar 2007 18:02:20 -0700, "Dennis Klipa" <klipadk@gmail.com>
wrote:

>On Mar 26, 12:50 pm, "Jim Leder" <k...@fuse.net> wrote:
>> I am most likely going to buy a new Ameritron RCS4 antenna switch so I can
>> not have so many coax cables coming into the house. Question: does anyone
>> know if this switch shorts all the unused connectors to ground? How about
>> when the switch is turned off?
>>
>> Thanks
>> --
>> Jim Bob Buckeye
>> AKA
>> **** Jim Leder****
>> K8CXM since 1961
>> IBM retiree since 1999http://home.fuse.net/k8cxm/
>
>Jim,
>
>I have the RSC-8V and the manual says that the unit comes with the
>unselected leads isolated from ground. If you want them to be
>grounded you have to install a jumper and it shows a diagram on how to
>do it.
>
>Dennis, N8ERF

Hi Dennis,

I also have the RSC-8 (wire controlled version). I just put solder
bridges across the foil in the proper places. (They have a diagram?)
Of course by the time I got around to adding the "normally shorted" I
had long since lost the paperwork that came with it.

There has been so much corona around the top of that tower, I need to
replace the switch after about 4 years. The coax connectors are so
heavily etched they won't come apart. Inside the box is still nice and
shiny. No, I don't run that much power, but the tower has taken at
least 3 direct lightning strikes a year since it went up. Those are
just the ones the neighbors have seen, so it's likely more.
Roger Halstead (K8RI & ARRL life member)
(N833R, S# CD-2 Worlds oldest Debonair)
www.rogerhalstead.com

3210. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 01:21:10 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175131270.944521.317170@d57g2000hsg.googlegroups.com>
Source record: 44126

On Mar 28, 9:01 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Cecil Moore <nos...@w5dxp.com> wrote:
> >> Adding 1WL of 75 ohm lossless line doesn't
> >> change anything
>
> > Unfortunately, far from true. Much changes. Of particular
> > interest here is that there are now ghosts in the
> > transmitted signal indicating the presence of re-reflected
> > reflected signals. These were not present in the original
> > experiment.
>
> Yes, they were.

Can you demonstrate that without changing the configuration of
the experiment? Only then will your demonstration be convincing.

And just for greater certainty, I forgot to mention that the
reflection coefficient from the line to the generator is 0 in
my experiment (generator impedance is equal to the line
characteristic impedance) so using the reflection coefficient,
there are no reflections.

> > We have learned that adding a
> > wavelength of line does change things ...
>
> No, we have NOT learned that. We have learned that
> adding a wavelength of line does NOT change anything
> during steady-state

True. But ghosts are a transient phenomenom, not a steady
state one, so things have changed, as I said.

> and shines the light your previous
> errors and misconceptions. The conditions at the source
> are exactly the same during steady-state with and without
> the 1WL additional line. Anything else would violate
> the principles of distributed network theory.
>
> > While the resulting steady state may be the same, the
> > transient response can be quite different.
>
> Yes, the transient response is somewhat different
> because of the extra 1WL delay, but the steady-
> state conditions are identical.

So as I said, things are not the same. And ghosts are a transient phenomenom.

Please find errors without changing the experiment.

> > In any case, we are back to the previous experiment for
> > which no one has yet found any errors in the analysis.
>
> I have pointed out your errors 5 times now. You can
> lead a horse to water ...

May I suggest again that obtaining a different result with a different experiment is not a surprise. If there are errors in my example, you need to find them there, not in some alternative experiment.

> Ramo and Whinnery give strict warnings about assumptions
> of conditions inside a Norton equivalent source. You
> didn't heed their warnings and got caught by your
> misconceptions.

You have misunderstood my generator. It is not a Norton equivalent, so any warnings from Ramo and Whinnery do not apply. Rather, it IS a generator with a current source and a parallel resistor. That is the experiment. So the computations of dissipations are valid for the experiment.

...Keith

3211. Re: MFJ - Mighty Fine Junk or good stuff

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 02:15:29 UTC
From: Dale Parfitt <par@parelectronics.com>
Message-ID: <5jFOh.56235$un.55271@trnddc03>
Source record: 44027

"Owen Duffy" <none@no.where> wrote in message
news:Xns99014EF865A1Enonenowhere@61.9.191.5...
> Stanislav_Luniev <Stanislav_Luniev@Spy_4_Motherland.gov.ru> wrote in
> news:Yr6dnd0r9NjEoJTbnZ2dnUVZ_obinZ2d@hawaiiantel.net:
>
>> I havent purchased any MFJ stuff for years now.
>> Last time I purchased something I was not really happy with the
>> quality. Can anyone tell me if they have upgraded or is the stuff
>> still Mighty Fine Junk!
>>
>
> Do you mean:
>
> Do they still use thermoplastics for coil supports and roller inductors
> so that the components are damaged if they get hot?
>
> Do they still leave loose bits of solder, wire, nuts etc inside completed
> euipment?
>
> Do all their instruments that claim to indicate PEP power actually work
> on SSB telephony?
>
> Do the meters on MFJ antenna analysers still fall into the case if you
> make the mistake of gripping the analyser with thumb pressure on the
> meter?
>
> Do they still use hard-to-get incandescent lamps to light meter
> movements?
>
> Do they take a month to respond to spare part enquiries, and then make a
> partial response that is of no use?
>
> Do they still use plated steel parts that don't withstand weather for
> more than a year or two on their antennas?
>
> Do they still ship linear amplifiers with a circuit diagram that is so
> shabby, it defies unambiguous interpretation?
>
> Are they still buying up other manufacturers to apply their "quality" to
> the whole market?

The issue I see is that they seem to use small established companies to do
some of their engineering for them- and then copying the product.
RigRunner, Rigblaster and now the W2IHY (?) equalizer come to mind. I am

sure there are others.

Dale W4OP

3212. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 02:20:02 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <nnFOh.517$2M.387@newssvr22.news.prodigy.net>
Source record: 44028

Keith Dysart wrote:
> Can you demonstrate that without changing the configuration of
> the experiment? Only then will your demonstration be convincing.

Anyone can demonstrate that by setting it up on the bench.
Guaranteed, you would see ghosting where you deny they exist.

> And just for greater certainty, I forgot to mention that the
> reflection coefficient from the line to the generator is 0 in
> my experiment (generator impedance is equal to the line
> characteristic impedance) so using the reflection coefficient,
> there are no reflections.

Because it is an active source, not a passive resistor,
your reflection coefficient is wrong.

> So as I said, things are not the same. And ghosts are a
> transient phenomenom.

OTOH, because of noise, steady-state cannot exist
in reality so fixed ghosting is as close to steady-
state as we are going to get.

> Please find errors without changing the experiment.

I did. Your simple-minded reflection coefficient is bogus.

> May I suggest again that obtaining a different result with a
> different experiment is not a surprise.

The two experiments are only different in your mind, not
in reality. The results of both experiments are the same
and you can prove it to yourself on the bench.
--
73, Cecil http://www.w5dxp.com

3213. LPDA TV antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 02:21:43 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <460b22b4$0$1349$4c368faf@roadrunner.com>
Source record: 44029

a new neighbor moved in today and deposited his LPDA TV antenna in the trash. It is one of the big ones, about 12 ft long elements tilted toward the front with a preamp box, No UHF yagi or corner reflector on the front. I have heard these are good on the UHF/VHF ham bands, any info would be appreciated.

Jimmie

3214. Is Manual Mall Still Functional

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 02:59:02 UTC
From: Dennis Klipa <klipadk@gmail.com>
Message-ID: <1175137142.313281.27000@e65g2000hsc.googlegroups.com>
Source record: 44031

While searching for information on a 10 meter beam on this group, I got a reference to Manualmall at www.manualmall.com. I went to the site, found the manual and ordered it with my credit card. After submitting the data, I got a web page that said, "web page not found". When I tried to call the number on the web site, I got a phone company message that said, "If you want to make a call, hang up and dial the number." When I tracked down the person at the address listed at the web site, he told me that he had sold the business 2 years ago to some folks in Houston. I sent an email to the address listed on the site, but have not gotten a response.

Does anyone know if this business is still active or not? Has anyone ordered and received a manual from them in the last few months? Or do you know how to contact them? This is beginning to sounds real fishy to me.

Thanks,
Dennis

3215. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 03:40:45 UTC
From: Dan Bloomquist <public21@lakeweb.com>
Message-ID: <1zGOh.5619$B25.3749@news01.roc.ny>
Source record: 44032

Cecil Moore wrote:

> Keith Dysart wrote:
>
>> And just for greater certainty, I forgot to mention that the
>> reflection coefficient from the line to the generator is 0 in
>> my experiment (generator impedance is equal to the line
>> characteristic impedance) so using the reflection coefficient,
>> there are no reflections.
>
> Because it is an active source, not a passive resistor,
> your reflection coefficient is wrong.

He will completely ignore this and keep insisting on his truth. Me thinks he is trolling......

3216. Re: Rotation of the polarization question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 03:48:39 UTC
From: jimlux@earthlink.net
Message-ID: <1175140119.840380.3320@p15g2000hsd.googlegroups.com>
Source record: 44033

On Mar 28, 3:25 pm, "Jerry Martes" <j.jmar...@verizon.net> wrote:
> Hi
>
> I want to find a place where I can learn about the effects the atmosphere
> has on the polarization of signals from satellites. Does anyone know of
> any web sites where that might be discussed?
> Thanks
> Jerry

Referred to as Faraday Rotation.. ARRL handbook talks about it in the EME section. Rotation is less as frequency increases (so VHF is affected a lot more than UHF is affected more than microwaves)
Amount of rotation is determined by the total electron content in the path, which, of course, varies with everything you can imagine, but primarily the amount of sunlight.
It's related to the difference (dispersion) in propagation speed with frequency (or, index of refraction, if you want to work it that way)..

More than 360 degrees of rotation isn't unusual at VHF.

What's really interesting is that it rotates the same way no matter which direction you go, so if you had a planar reflector above the ionosphere, and you launched a wave that's say polarized North-South, and there's 45 degrees of rotation, when it came back down it would be rotated 90 and be polarized East West...

This is one reason why GPS radiates on more than one frequency (you measure the phase difference between the two, and that allows you to estimate the TEC, which in turn allows you to estimate the change in propagation velocity, which improves the accuracy of your fix.)

Most high accuracy orbiting radars that operate in P or L band do something similar, especially if they are making polarimetric measurements (handy if you want to do things like distinguish between trees and grass, for instance)

How much detail do you need? I can probably give you URLs to cover everything from simple estimates of magnitude to mind bendingly detailed theoretical discussions.

3217. Re: Book - The Vertical Antenna Handbook

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 03:52:57 UTC
From: Bryan <bryan.swadenerNOSPAM@comcast.net>
Message-ID: <LfCdnVQnwaGbt5bbnZ2dnUVZ_t-mnZ2d@giganews.com>
Source record: 44030

Jeff wrote:

> I would like to get a copy of the book "The Vertical Antenna Handbook"
> by Paul H. Lee. It used to be published by CQ. Does anyone have one
> they would be willing to pass along? Please let me know.
>
> - Jeff

I don't see it on the CQ website (http://www.cq-amateur-radio.com/). I see a few hits for that title on Amazon.com.
73,
Bryan WA7PRC

3218. Re: Book - The Vertical Antenna Handbook

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 04:04:05 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <eufdrllij1@theodyn.ncf.ca>
Source record: 44034

"Bryan" (bryan.swadenerNOSPAM@comcast.net) writes:
> Jeff wrote:
>
>> I would like to get a copy of the book "The Vertical Antenna Handbook"
>> by Paul H. Lee. It used to be published by CQ. Does anyone have one
>> they would be willing to pass along? Please let me know.
>>
>> - Jeff
>
> I don't see it on the CQ website (http://www.cq-amateur-radio.com/). I see
> a few hits for that title on Amazon.com.
> 73,
> Bryan WA7PRC
>
>
How much of it was new to the book?

Becasue he had a long series in CQ in the sixties on the topic, and I've
always assumed the book was merely a collection of the series, or at most
a collection of the series with some added material.

If that's the case, there's always the original series. IS CQ available
on CDROM these days, and at a reasonable cost? If so, that might be
an option.

Michael VE2BVW

3219. Re: LPDA TV antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 05:17:37 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <RZHOh.108762$g24.1627@newsfe12.phx>
Source record: 44035

"Jimmie D" <GFENDER@carolina.rr.com> wrote in message
news:460b22b4$0$1349$4c368faf@roadrunner.com...
> a new neighbor moved in today and deposited his LPDA TV antenna in the
> trash. It is one of the big ones, about 12 ft long elements tilted toward
> the front with a preamp box, No UHF yagi or corner reflector on the front.
I
> have heard these are good on the UHF/VHF ham bands, any info would be
> appreciated.

Generally these cover two frequency ranges, 54 - 88 MHz and
172 - 216 MHz, These are Channels 2 -6 and 7 - 13, respectively.
Alternatively, your "find" might cover 54 - 108 and 172 - 216,
thereby adding the FM band.

I would not count on getting a good match on any ham bands,
except perhaps 6m. These are 300 ohm nominal impedance,
so you'd need to feed it with 75 ohm cable and a 4:1 balun or
find/make a 6:1 balun to use 50- ohm cable.

All is not lost. Remember that the analog TV cutoff is only
22 months away and you might just want a good VHF antenna
for digital. I'm getting digital TV over the air now and it's wonderful.

RELATED: The elements off an old TV antenna often make
suitable elements for home-brew antennas for 2m & 440.
The quality of the result depends on the extent to which you
can remount them skillfully on a new boom after you cut them
to size. My usual technique -- masking tape -- has yet to win
me any major awards!

3220. Re: Is Manual Mall Still Functional

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 05:23:57 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <N3IOh.108763$g24.91544@newsfe12.phx>
Source record: 44036

"Dennis Klipa" <klipadk@gmail.com> wrote in message
news:1175137142.313281.27000@e65g2000hsc.googlegroups.com...
> While searching for information on a 10 meter beam on this group, I
> got a reference to Manualmall at www.manualmall.com. I went to the
> site, found the manual and ordered it with my credit card. After
> submitting the data, I got a web page that said, "web page not
> found". When I tried to call the number on the web site, I got a
> phone company message that said, "If you want to make a call, hang up
> and dial the number." When I tracked down the person at the address
> listed at the web site, he told me that he had sold the business 2
> years ago to some folks in Houston.

If this happened to me, I'd contact my credit card company immediately
and tell them everything you just told us. Maybe you didn't actually send
your credit card information anywhere but maybe you did -- to the bad guys.

73,
"Sal"
(KD6VKW)

3221. Re: Rotation of the polarization question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 07:04:46 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <iyJOh.23960$FD1.9394@trnddc05>
Source record: 44038

<jimlux@earthlink.net> wrote in message
news:1175140119.840380.3320@p15g2000hsd.googlegroups.com...
> On Mar 28, 3:25 pm, "Jerry Martes" <j.jmar...@verizon.net> wrote:
>> Hi
>>
>> I want to find a place where I can learn about the effects the
>> atmosphere
>> has on the polarization of signals from satellites. Does anyone know of
>> any web sites where that might be discussed?
>> Thanks
>> Jerry
>
>
> Referred to as Faraday Rotation.. ARRL handbook talks about it in the
> EME section. Rotation is less as frequency increases (so VHF is
> affected a lot more than UHF is affected more than microwaves)
> Amount of rotation is determined by the total electron content in the
> path, which, of course, varies with everything you can imagine, but
> primarily the amount of sunlight.
> It's related to the difference (dispersion) in propagation speed with
> frequency (or, index of refraction, if you want to work it that
> way)..
>
> More than 360 degrees of rotation isn't unusual at VHF.
>
> What's really interesting is that it rotates the same way no matter
> which direction you go, so if you had a planar reflector above the
> ionosphere, and you launched a wave that's say polarized North-South,
> and there's 45 degrees of rotation, when it came back down it would be
> rotated 90 and be polarized East West...
>
> This is one reason why GPS radiates on more than one frequency (you
> measure the phase difference between the two, and that allows you to
> estimate the TEC, which in turn allows you to estimate the change in
> propagation velocity, which improves the accuracy of your fix.)
>
> Most high accuracy orbiting radars that operate in P or L band do
> something similar, especially if they are making polarimetric
> measurements (handy if you want to do things like distinguish between
> trees and grass, for instance)
>
> How much detail do you need? I can probably give you URLs to cover
> everything from simple estimates of magnitude to mind bendingly
> detailed theoretical discussions.

Hi Jim

I am considering the design of a horn to illuminate an 8 foot diameter solid surface dish at 4 GHz, for reception of geosynchronous satellite signals that are linearly polarized.

One rraa reader has informed me that the rotation is refered to as Faraday rotation and gave some links to it. I see that the amount of rotation may be small enough to be negligable for my application.

I would like to know how rapid the rotation changes with time.

Thanks
Jerry

3222. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 07:15:15 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9902AF85543EDnonenowhere@61.9.191.5>
Source record: 44039

Cecil Moore <nospam@w5dxp.com> wrote in
news:WYBOh.19339$uo3.1758@newssvr14.news.prodigy.net:

> Owen Duffy wrote:
>> Cecil Moore <nospam@w5dxp.com> wrote in news:ZbBOh.19326$uo3.18213
>> @newssvr14.news.prodigy.net:
>>
>>> Remember, the magnitude of energy in a transmission line
>>> is *EXACTLY* the amount of energy needed to support
>>> the forward joules/sec and the reflected joules/sec.
>>
>> If you go beyond your (unqualified) average view of the world and
>> drilled down on the fields in the line as a function of time and
>> position, and their relationship with steady state real and reactive
>> energy flow at each end of the line in the general case, it may
>> provide you with a more correct view of the tranmission line and its
>> load and source in your favoured energy context.
>
> I have done that, Owen, and let's see if your experience is
> different from mine. Please go to the following Florida State
> University web page:
>
> http://micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/wav
> einteractions/index.html

Cecil, I am talking about the way in the steady state in which energy is stored in E and H fields within the transmission line when standing waves exist, and the way in which energy is exchanged between E and H fields within the line, and the load and the source at each end of the line, and the net energy flow averaged over time (power).

Your analysis of energy waves or power waves doesn't give you the information to see that level of detail.

Owen

3223. Re: Book - The Vertical Antenna Handbook

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 07:36:08 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <g2rm035bb5uqqb44c0t92q3mnbudi686qn@4ax.com>
Source record: 44037

On Wed, 28 Mar 2007 19:52:57 -0800, "Bryan"
<bryan.swadenerNOSPAM@comcast.net> wrote:
>> I would like to get a copy of the book "The Vertical Antenna Handbook"
>> by Paul H. Lee. It used to be published by CQ. Does anyone have one
>> they would be willing to pass along? Please let me know.
http://www.bookfinder.com/search/?author=Lee&title=The+Vertical+Antenna+Handbook&lang=en&submit=Begin+search&new_used=*&destination=us&currency=USD&mode=basic&st=sr&ac=qr

73's
Richard Clark, KB7QHC

3224. Re: Rotation of the polarization question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 07:46:06 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <Ohl0HUK+62CGFAgy@ifwtech.co.uk>
Source record: 44040

Jerry Martes wrote:
>
><jimlux@earthlink.net> wrote in message
>news:1175140119.840380.3320@p15g2000hsd.googlegroups.com...
>> On Mar 28, 3:25 pm, "Jerry Martes" <j.jmar...@verizon.net> wrote:
>>> Hi
>>>
>>> I want to find a place where I can learn about the effects the
>>> atmosphere
>>> has on the polarization of signals from satellites. Does anyone know of
>>> any web sites where that might be discussed?
>>> Thanks
>>> Jerry
>>
>>
>> Referred to as Faraday Rotation.. ARRL handbook talks about it in the
>> EME section. Rotation is less as frequency increases (so VHF is
>> affected a lot more than UHF is affected more than microwaves)
>> Amount of rotation is determined by the total electron content in the
>> path, which, of course, varies with everything you can imagine, but
>> primarily the amount of sunlight.
>> It's related to the difference (dispersion) in propagation speed with
>> frequency (or, index of refraction, if you want to work it that
>> way)..
>>
>> More than 360 degrees of rotation isn't unusual at VHF.
>>
>> What's really interesting is that it rotates the same way no matter
>> which direction you go, so if you had a planar reflector above the
>> ionosphere, and you launched a wave that's say polarized North-South,
>> and there's 45 degrees of rotation, when it came back down it would be
>> rotated 90 and be polarized East West...
>>
>> This is one reason why GPS radiates on more than one frequency (you
>> measure the phase difference between the two, and that allows you to
>> estimate the TEC, which in turn allows you to estimate the change in
>> propagation velocity, which improves the accuracy of your fix.)
>>
>> Most high accuracy orbiting radars that operate in P or L band do
>> something similar, especially if they are making polarimetric
>> measurements (handy if you want to do things like distinguish between
>> trees and grass, for instance)
>>
>> How much detail do you need? I can probably give you URLs to cover

>> everything from simple estimates of magnitude to mind bendingly
>> detailed theoretical discussions.
>
>
> Hi Jim
>
> I am considering the design of a horn to illuminate an 8 foot diameter
>solid surface dish at 4 GHz, for reception of geosynchronous satellite
>signals that are linearly polarized.
>
> One rraa reader has informed me that the rotation is refered to as Faraday
>rotation and gave some links to it. I see that the amount of rotation
>may be small enough to be negligable for my application.
>
> I would like to know how rapid the rotation changes with time.

That depends on geomagnetic activity, because Faraday rotation is also a function of the earth's magnetic field.

With a signal that started out linearly polarized, there are three sources of change:

1. Simple geometry - if a geostationary satellite orbiting above the 0deg meridian has an antenna that is horizontally polarized when viewed from a ground location on the same meridian, that same antenna will appear vertically polarized when viewed from a location 90deg west. This effect is easily calculated and compensated.

2. Faraday rotation, as above.

3. Dispersion ("smearing") of the linear polarization, at times of high geomagnetic activity. From experience with a 432MHz array that had fully rotatable polarization, polarization could range from accurately linear at geomagnetically quiet times (with a very deep null at 90deg offset), all the way to dispersion of the signal around the whole 360 degrees. A completely dispersed signal will have a 3dB loss compared with accurately aligned linear polarization, so you have to include that possibility in your path loss budget. (At lower frequencies, dispersion is also accompanied by ionospheric absorption, but at 4GHz you may not need to worry about that.)

Bottom line: if you have enough signal/noise ratio to handle a permanent 3dB loss, then it will be much more convenient to ignore the fact that the signal started out linearly polarized. Instead, use a circularly-polarized feedhorn which will be insensitive to the polarization of the arriving signal.

--

73 from Ian GM3SEK

3225. Re: Rotation of the polarization question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 08:06:37 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9902B83AE8D07nonenowhere@61.9.191.5>
Source record: 44041

"Jerry Martes" <j.jmartes@verizon.net> wrote in
news:iyJOh.23960$FD1.9394@trnddc05:

...
> Hi Jim
>
> I am considering the design of a horn to illuminate an 8 foot
> diameter
> solid surface dish at 4 GHz, for reception of geosynchronous satellite
> signals that are linearly polarized.
>
> One rraa reader has informed me that the rotation is refered to as
> Faraday
> rotation and gave some links to it. I see that the amount of
> rotation may be small enough to be negligable for my application.
>
> I would like to know how rapid the rotation changes with time.

Jerry, I am a little surprised that a geostationary satellite would use linear polarisation on a 4GHz feed, but that might just express a lack of experience.

A long time ago, I worked with the Intelsat series, and they were circular polarisation. Earth stations had no means of adjusting the orientation of feeds, they were RH or LH circular, the uplink was opposite to the downlink IIRC.

More recently, I worked on the design of a bird that used polarisation diversity. It used LH and RH circular, and reused the same frequency band on both polarisations.

If your bird is truly linear, you could use a circular antenna with a slight reduction in G/T, but with the flexibility of eliminating the orientation variable and the mechanical aspects of an antenna with adjustable orientation (remembering that the feed orientation will vary with position of the earth station).

Notwithstanding that transmission might be circular, the received signal might not be perfectly circular as a result of some of the effects you have described.

Owen

3226. Re: LPDA TV antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 10:52:14 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <460b9a5e$0$17148$4c368faf@roadrunner.com>
Source record: 44042

"Sal M. Onella" <salmonella@food.poisoning.org> wrote in message
news:RZHOh.108762$g24.1627@newsfe12.phx...
>
> "Jimmie D" <GFENDER@carolina.rr.com> wrote in message
> news:460b22b4$0$1349$4c368faf@roadrunner.com...
>> a new neighbor moved in today and deposited his LPDA TV antenna in the
>> trash. It is one of the big ones, about 12 ft long elements tilted toward
>> the front with a preamp box, No UHF yagi or corner reflector on the
>> front.
> I
>> have heard these are good on the UHF/VHF ham bands, any info would be
>> appreciated.
>
> Generally these cover two frequency ranges, 54 - 88 MHz and
> 172 - 216 MHz, These are Channels 2 -6 and 7 - 13, respectively.
> Alternatively, your "find" might cover 54 - 108 and 172 - 216,
> thereby adding the FM band.
>
> I would not count on getting a good match on any ham bands,
> except perhaps 6m. These are 300 ohm nominal impedance,
> so you'd need to feed it with 75 ohm cable and a 4:1 balun or
> find/make a 6:1 balun to use 50- ohm cable.
>
> All is not lost. Remember that the analog TV cutoff is only
> 22 months away and you might just want a good VHF antenna
> for digital. I'm getting digital TV over the air now and it's wonderful.
>
> RELATED: The elements off an old TV antenna often make
> suitable elements for home-brew antennas for 2m & 440.
> The quality of the result depends on the extent to which you
> can remount them skillfully on a new boom after you cut them
> to size. My usual technique -- masking tape -- has yet to win
> me any major awards!
>
>

the lpda antennas dont usually have a gap in there coverage and I have heard
of people using them but dont know how well they worked. I am going to try
it anyway but was hoping I could get some info before I started.

3227. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 10:54:27 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175165667.866768.153750@p15g2000hsd.googlegroups.com>
Source record: 44043

On Mar 28, 10:20 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Can you demonstrate that without changing the configuration of
> > the experiment? Only then will your demonstration be convincing.
>
> Anyone can demonstrate that by setting it up on the bench.
> Guaranteed, you would see ghosting where you deny they exist.

So you find no flaws in my analysis but insist that the results
are incorrect. Hhhmmmmm.

> > And just for greater certainty, I forgot to mention that the
> > reflection coefficient from the line to the generator is 0 in
> > my experiment (generator impedance is equal to the line
> > characteristic impedance) so using the reflection coefficient,
> > there are no reflections.
>
> Because it is an active source, not a passive resistor,
> your reflection coefficient is wrong.

May I suggest that you check any reference on the subject of
reflection coefficient. In none of them will you find the
definition to have anything other than two impedances.

> > So as I said, things are not the same. And ghosts are a
> > transient phenomenom.
>
> OTOH, because of noise, steady-state cannot exist
> in reality so fixed ghosting is as close to steady-
> state as we are going to get.

Sorry. No ghosts in my example.

For practical examples, you could consider any reference that
discusses driving digital signals down a transmission line.
One of the options for preventing reflections (which can
really mess up the reception of the signal), is matching
at the source. Others include matching at the load end.
The pros and cons of the various options will be discussed.

> > Please find errors without changing the experiment.
>
> I did. Your simple-minded reflection coefficient is bogus.

Reflection coefficient is actually quite simple.

RC = (Z2-Z1)/(Z2+Z1)

I challenge you to find any reference with a different definition.

But to explore your contention that RC is different when there is an active source, could you kindly provide the expression describing RC in such a situation.

It occurs to me that you may not be aware how to compute the impedance of circuit with active sources. Its quite simple. Replace the voltage sources with shorts and the current sources with opens. Then using the rules for parallel and series impedances, compute the result. Use this in the expression for RC.

> > May I suggest again that obtaining a different result with a
> > different experiment is not a surprise.
>
> The two experiments are only different in your mind, not
> in reality. The results of both experiments are the same
> and you can prove it to yourself on the bench.

Well, then just use my experiment so that we do not have to argue about whether they are the same.

When you compute the quantity of the re-reflection that my experiment generates, I will be convinced. But do not be surprised that I am not convinced when you compute the reflections for a different experiment.

...Keith

3228. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 11:00:00 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175166000.837182.46560@l77g2000hsb.googlegroups.com>
Source record: 44044

On Mar 28, 11:40 pm, Dan Bloomquist <publi...@lakeweb.com> wrote:
> Cecil Moore wrote:
> > Keith Dysart wrote:
>
> >> And just for greater certainty, I forgot to mention that the
> >> reflection coefficient from the line to the generator is 0 in
> >> my experiment (generator impedance is equal to the line
> >> characteristic impedance) so using the reflection coefficient,
> >> there are no reflections.
>
> > Because it is an active source, not a passive resistor,
> > your reflection coefficient is wrong.
>
> He will completely ignore this and keep insisting on his truth. Me
> thinks he is trolling......

Good day Dan,

I offer you the same challenge as Cecil, find the error in my
analysis and then compute the correct amount of re-reflection.

And provide the expression for computing RC in the presence of
sources if it is different than the conventional
RC=(Z2-Z1)/(Z2+Z1).

When you find nothing wrong with the analysis, ask yourself why
you don't believe the results?

...Keith

3229. Re: Rotation of the polarization question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 11:02:14 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <460b9cb6$0$24709$4c368faf@roadrunner.com>
Source record: 44045

"Jerry Martes" <j.jmartes@verizon.net> wrote in message
news:iyJOh.23960$FD1.9394@trnddc05...
>
> <jimlux@earthlink.net> wrote in message
> news:1175140119.840380.3320@p15g2000hsd.googlegroups.com...
>> On Mar 28, 3:25 pm, "Jerry Martes" <j.jmar...@verizon.net> wrote:
>>> Hi
>>>
>>> I want to find a place where I can learn about the effects the
>>> atmosphere
>>> has on the polarization of signals from satellites. Does anyone know
>>> of
>>> any web sites where that might be discussed?
>>> Thanks
>>> Jerry
>>
>>
>> Referred to as Faraday Rotation.. ARRL handbook talks about it in the
>> EME section. Rotation is less as frequency increases (so VHF is
>> affected a lot more than UHF is affected more than microwaves)
>> Amount of rotation is determined by the total electron content in the
>> path, which, of course, varies with everything you can imagine, but
>> primarily the amount of sunlight.
>> It's related to the difference (dispersion) in propagation speed with
>> frequency (or, index of refraction, if you want to work it that
>> way)..
>>
>> More than 360 degrees of rotation isn't unusual at VHF.
>>
>> What's really interesting is that it rotates the same way no matter
>> which direction you go, so if you had a planar reflector above the
>> ionosphere, and you launched a wave that's say polarized North-South,
>> and there's 45 degrees of rotation, when it came back down it would be
>> rotated 90 and be polarized East West...
>>
>> This is one reason why GPS radiates on more than one frequency (you
>> measure the phase difference between the two, and that allows you to
>> estimate the TEC, which in turn allows you to estimate the change in
>> propagation velocity, which improves the accuracy of your fix.)
>>
>> Most high accuracy orbiting radars that operate in P or L band do
>> something similar, especially if they are making polarimetric
>> measurements (handy if you want to do things like distinguish between
>> trees and grass, for instance)

>>
>> How much detail do you need? I can probably give you URLs to cover
>> everything from simple estimates of magnitude to mind bendingly
>> detailed theoretical discussions.
>
>
> Hi Jim
>
> I am considering the design of a horn to illuminate an 8 foot diameter
> solid surface dish at 4 GHz, for reception of geosynchronous satellite
> signals that are linearly polarized.
>
> One rraa reader has informed me that the rotation is refered to as
> Faraday rotation and gave some links to it. I see that the amount of
> rotation may be small enough to be negligable for my application.
>
> I would like to know how rapid the rotation changes with time.
>
> Thanks
> Jerry
>

Any particulat sat you are interested in. I you to have a downlink with GOES east and west and you wouldnt believe how simple of an antenna it took A pair of dipoles connected for circular polarity. LNA and downconverer were at he antenna..

Jimmie

3230. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 12:17:38 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <C7OOh.3819$u03.222@newssvr21.news.prodigy.net>
Source record: 44046

Dan Bloomquist wrote:
> He will completely ignore this and keep insisting on his truth. Me
> thinks he is trolling......

Please don't discourage innovation. He can patent his
ten cent method of eliminating reflections and obsolete
the circulator market. Maybe someone should warn
Tektronix.
--
73, Cecil http://www.w5dxp.com

3231. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 12:37:23 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <8qOOh.834$Q23.384@newssvr17.news.prodigy.net>
Source record: 44047

Owen Duffy wrote:
> Your analysis of energy waves or power waves doesn't give you the
> information to see that level of detail.

Whatever level of detail one chooses, the energy
in the forward waves plus the energy in the reflected
waves will equal the total energy in the transmission
line which will always be the energy sourced and not
delivered to the load (in a lossless system). This
will be true right down to the last photon.

Unless someone can prove that EM energy is
transformed into some other form of energy for
storage in the transmission line and then transformed
back to EM energy when the transmission line is
emptied, the nature of EM energy and the conservation
of energy principle dictate what happens. EM (photonic)
wave energy cannot move at less than the speed of
light (modified by VF).
--
73, Cecil http://www.w5dxp.com

3232. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 12:47:34 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175172454.905394.172270@n59g2000hsh.googlegroups.com>
Source record: 44048

On Mar 29, 7:00 am, "Keith Dysart" <k...@sympatico.ca> wrote:
> Good day Dan,
>
> I offer you the same challenge as Cecil, find the error in my
> analysis and then compute the correct amount of re-reflection.

Since it can be quite difficult to locate errors in analysises,
I'll offer a simpler challenge to you and Cecil.

For the example I proposed, using the approach of your choice,
compute the magnitude of the first re-reflected signal to reach
the load.

Recall the line is 31 wavelengths long so the signal reaches
the load 31 cycles after the generator is turned on. There is
a reflection which reaches the generator 31 cycles later and
any re-reflection will reach the load after a further 31 cycles.

So you need to compute the magnitude of the reflection which
reaches the load after 93 cycles. This would be the first ghost.

You need to show your work. Handwaving -25dB will not be considered
as answering the question.

...Keith

PS. If you prefer, you may use a slightly different example for
which computation may be easier:
- the line is 1 second long
- the generator creates a 450 V step function at time 0
What is the magnitude of the re-reflection that reaches the load
after 3 seconds?

PPS. The answer to the two problems will be the same.

3233. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 13:08:10 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <_SOOh.10167$JZ3.3899@newssvr13.news.prodigy.net>
Source record: 44049

Keith Dysart wrote:
> So you find no flaws in my analysis but insist that the results
> are incorrect. Hhhmmmmm.

The flaws have been pointed out and you have ignored them.
THE REFLECTED WAVE DOES NOT SEE Rs=450 OHMS IF THE SOURCE
IS TURNED ON. THE REFLECTED WAVE DOES NOT EXIST IF THE
SOURCE IS TURNED OFF. Take a look at:

http://www.w2du.com/r3ch19a.pdf

> Sorry. No ghosts in my example.

Correction: No ghosts in your wet dream. I suggest that you
patent your ten cent solution to eliminate reflections and
sell the patent to Tektronix since you have obviously rendered
all those expensive circulators in the world obsolete. And why
would anyone go to the trouble of installing a 20 dB pad when,
according to you, a single ten cent resistor will perform better?

> Reflection coefficient is actually quite simple.
> RC = (Z2-Z1)/(Z2+Z1)
> I challenge you to find any reference with a different definition.

Sorry, all my references are at my new QTH but here are
a few from memory:

rho = SQRT(Pref/Pfor) = Vref/Vfor = Iref/Ifor = (SWR-1)/(SWR+1)

> One of the options for preventing reflections (which can
> really mess up the reception of the signal), is matching
> at the source.

Yes of course, one can do that with a circulator or pad. One
cannot accomplish "matching at the source" with a ten cent
resistor. Such an assertion is sophomoric.
--
73, Cecil http://www.w5dxp.com

3234. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 13:29:27 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <YaPOh.841$Q23.560@newssvr17.news.prodigy.net>
Source record: 44050

Keith Dysart wrote:
> I offer you the same challenge as Cecil, find the error in my
> analysis and then compute the correct amount of re-reflection.

We will be glad to do that if you will provide the
impedance value encountered by the reflected wave
with the source turned on. You have not yet done that.
Hint: It doesn't matter what impedance the reflected
wave encounters with the source turned off since
reflected waves are non-existent during that
condition.
--
73, Cecil http://www.w5dxp.com

3235. Re: Rotation of the polarization question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 13:46:06 UTC
From: John Passaneau <w3jxp@arrl.net>
Message-ID: <Xns9902635F2A9D5jxp16psuedu@128.118.141.40>
Source record: 44051

Owen Duffy <none@no.where> wrote in
news:Xns9902B83AE8D07nonenowhere@61.9.191.5:

> "Jerry Martes" <j.jmartes@verizon.net> wrote in
> news:iyJOh.23960$FD1.9394@trnddc05:
>
> .
> A long time ago, I worked with the Intelsat series, and they were
> circular polarisation. Earth stations had no means of adjusting the
> orientation of feeds, they were RH or LH circular, the uplink was
> opposite to the downlink IIRC.
>
> More recently, I worked on the design of a bird that used polarisation
> diversity. It used LH and RH circular, and reused the same frequency
> band on both polarisations.
>
> If your bird is truly linear, you could use a circular antenna with a
> slight reduction in G/T, but with the flexibility of eliminating the
> orientation variable and the mechanical aspects of an antenna with
> adjustable orientation (remembering that the feed orientation will
> vary with position of the earth station).
>
> Notwithstanding that transmission might be circular, the received
> signal might not be perfectly circular as a result of some of the
> effects you have described.
>
> Owen

Hi:
We just had a member that works in the satellite uplink/downlink business
at Penn State University give a talk on the subject. The satellites use
polarization as part of the frequency sharing system in geostationary
satellites. When they buy time on a satellite they are given a frequency
and a polarization to use. As there is a limited band of frequencies they
use polarization to help share frequencies with some working horizontal
and some vertical. The feeds on the dishes they use for uplinks and
downlinks have motorized polarization feeds and they adjust them to the
requested polarization.

John Passaneau W3JXP

3236. Re: Book - The Vertical Antenna Handbook

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 13:53:25 UTC
From: Danny Richardson <n_group@k6mhe.com>
Message-ID: <g0hn031kr98fu6f04kavuc6rdd84aappbe@4ax.com>
Source record: 44052

Yipe, look at those prices six times the original price for a little
paperback!

Danny, K6MHE

On Wed, 28 Mar 2007 23:36:08 -0800, Richard Clark <kb7qhc@comcast.net>
wrote:

>On Wed, 28 Mar 2007 19:52:57 -0800, "Bryan"
><bryan.swadenerNOSPAM@comcast.net> wrote:
>>> I would like to get a copy of the book "The Vertical Antenna Handbook"
>>> by Paul H. Lee. It used to be published by CQ. Does anyone have one
>>> they would be willing to pass along? Please let me know.
>http://www.bookfinder.com/search/?author=Lee&title=The+Vertical+Antenna+Handbook&lang=en&
submit=Begin+search&new_used=*&destination=us&currency=USD&mode=basic&st=sr&ac=qr
>
>73's
>Richard Clark, KB7QHC

3237. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 13:59:52 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <sDPOh.12117$Um6.5004@newssvr12.news.prodigy.net>
Source record: 44053

Keith Dysart wrote:
> So you need to compute the magnitude of the reflection which
> reaches the load after 93 cycles. This would be the first ghost.

We cannot do that until you furnish more information about
the source. A math model would be nice.
--
73, Cecil, w5dxp.com

3238. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 15:58:37 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175183917.450909.110490@y80g2000hsf.googlegroups.com>
Source record: 44054

On Mar 29, 9:29 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > I offer you the same challenge as Cecil, find the error in my
> > analysis and then compute the correct amount of re-reflection.
>
> We will be glad to do that if you will provide the
> impedance value encountered by the reflected wave
> with the source turned on. You have not yet done that.
> Hint: It doesn't matter what impedance the reflected
> wave encounters with the source turned off since
> reflected waves are non-existent during that
> condition.

The problem is completely solvable with the information
provided.

For examples of the methodology, google
'"lattice diagram" reflection'.

If your alternate methodologies require more information
to solve the problem, then I suggest that such alternate
methodologies are inferior to the standard one.

And to answer your question: 450 Ohms.
And to be more precise, the reflected wave continues for 62
cycles after the current source is turned off.

But truly, do look up lattice diagrams and learn the technique.
The number of problems that you will be able to solve will go
up significantly.

...Keith

3239. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 16:05:44 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175184344.350549.29430@o5g2000hsb.googlegroups.com>
Source record: 44055

On Mar 29, 8:17 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Dan Bloomquist wrote:
> > He will completely ignore this and keep insisting on his truth. Me
> > thinks he is trolling......
>
> Please don't discourage innovation. He can patent his
> ten cent method of eliminating reflections and obsolete
> the circulator market. Maybe someone should warn
> Tektronix.

I would hope that the patent application would be rejected
due to prior art, but given the current state of the patent
office, I am not sure how much confidence I would have.

I expect that Tek is well aware and that were you to examine
the output circuits of their signal generators, there is a
very high probability that you will be able to locate the
voltage source and the 50 Ohm resistor. I know I just found
them on a randomly selected Agilent signal generator.

...Keith

3240. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 16:22:01 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175185321.591988.287540@y66g2000hsf.googlegroups.com>
Source record: 44056

On Mar 29, 9:08 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Reflection coefficient is actually quite simple.
> > RC = (Z2-Z1)/(Z2+Z1)
> > I challenge you to find any reference with a different definition.
>
> Sorry, all my references are at my new QTH but here are
> a few from memory:
>
> rho = SQRT(Pref/Pfor) = Vref/Vfor = Iref/Ifor = (SWR-1)/(SWR+1)

Yes, but these are less than useful aren't they. SQRT is
multi-valued so is never any use, and they all express
rho in terms of that which we want to derive rather than
in terms of that which we know. Means we need to know the
answer before we can compute the answer. Ooooopppps.

> > One of the options for preventing reflections (which can
> > really mess up the reception of the signal), is matching
> > at the source.
>
> Yes of course, one can do that with a circulator or pad.

Or a single 10 cent resistor following the voltage or current
source. But I digress. Do look up "lattice diagram".

...Keith

3241. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 16:26:22 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eugq5m$k2m$1@news.service.uci.edu>
Source record: 44060

Cecil Moore wrote:
>
> In the past, you have said that redistribution of energy
> from canceled waves is absolutely NOT a reflection yet
> above you seem to say the redirection is a reflection.
> Are you changing your mind about wave cancellation
> resulting in reflections?

Hi Cecil -

Please, I've asked you this many times, quote me directly when you want to refer to something I've said. I am able to explain those things. I concede that I am unable to explain the convoluted ideas that you often attribute to me - although I do think I know why you write them the way you do. For the sake of clarity and simplicity could we instead try to restrict our dialog to the present discussion, and include relevant text that is quoted from the post we wish to comment upon? I think that's how it's customarily done in the newsgroups.

Nothing from the University of Florida contradicts what I said, and I can find nothing there to object to. My comments were directed strictly toward some of the things that you wrote. (As a courtesy I included the text I was referring to). I would like to suggest that you take more careful note of those areas where your words differ from those contained in the papers that you cite; in particular, with regard to interference as a *cause* for the redirection of energy. Do not infer, as you then risk inferring incorrectly. If you're honest about it, you will find that interference is the manifestation of a redirection of energy. It is the form; the envelope of the distribution. It is a result; the result of the superposition of waves. Nowhere in the literature will you find anyone describing interference as a cause of reflection, as you have done. That is because it is not a factual accounting of the natural phenomena.

Thanks and 73,

Jim AC6XG

3242. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 16:35:28 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <kVROh.3135$YL5.777@newssvr29.news.prodigy.net>
Source record: 44057

Keith Dysart wrote:
> But truly, do look up lattice diagrams and learn the technique.
> The number of problems that you will be able to solve will go
> up significantly.

Since your use of it yielded erroneous results, I think
I will pass. However, it appears to be much like the
S-Parameter analysis which does yield correct results.

An S-Parameter analysis indicates that you have made an
error in the reflection coefficient, s11, looking into
the 450 ohm transmission line. From HP's Ap-Note 95-1,
s11 is defined as the "Input reflection coefficient
with the output port TERMINATED BY A MATCHED LOAD."

You calculated your reflection coefficient with the
output port terminated by a mismatched load. There's
your conceptual error! The reflection coefficient, s11,
at the source is *NOT* the same as the reflection
coefficient at the load.

Have you told anyone else that an emitter follower with
a 450 ohm resistor in the emitter circuit will eliminate
reflections on all 450 ohm transmission lines?
--
73, Cecil, w5dxp.com

3243. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 16:38:38 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <iYROh.3138$YL5.2354@newssvr29.news.prodigy.net>
Source record: 44058

Keith Dysart wrote:
> I expect that Tek is well aware and that were you to examine
> the output circuits of their signal generators, there is a
> very high probability that you will be able to locate the
> voltage source and the 50 Ohm resistor. I know I just found
> them on a randomly selected Agilent signal generator.

If they claim that the 50 ohm resistor eliminates reflections,
as you do, they could be sued for false advertising.
--
73, Cecil, w5dxp.com

3244. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 16:44:33 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <R1SOh.3141$YL5.448@newssvr29.news.prodigy.net>
Source record: 44059

Keith Dysart wrote:
> Or a single 10 cent resistor following the voltage or current
> source. But I digress. Do look up "lattice diagram".

If your "lattice diagram" really tells you to use a
physical reflection coefficient looking one way and
a virtual reflection coefficient looking the other
way within the same analysis as you have done, it
is worthless.
--
73, Cecil, w5dxp.com

3245. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 16:58:45 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eugs31$l49$1@news.service.uci.edu>
Source record: 44061

Cecil Moore wrote:

> Jim Kelley wrote:
>
>> Walt doesn't actually indicate 'why' here, either. He is reciting a
>> set of well known circumstances, and implying that one set of facts
>> results in another. While the facts are obviously correct, any cause
>> and effect relationship between them must be inferred.
>
>
> From his writings in "Reflections" and his postings
> here, Walt obviously understands destructive and
> constructive interference and the fact that (from
> the Florida State University site):
>
> "... All of the photon energy present in
> these (cancelled) waves must somehow be recovered or
> redistributed in a new direction, according to the
> law of energy conservation ..."
>
> In a transmission line we have two directions.
> 1. Toward the load
> 2. Toward the source
>
> When the "photon energy" is "redistributed in a new
> direction" in a transmission line, I'll bet it
> goes in exactly the direction that Walt says it
> goes.

If anyone in addition to Cecil thought that I was debating the facts that Walt presented in Reflections, I apologize. I thought that I had clearly stated that inferring a causal relationship between certain sets of those facts had not been demonstrated therein.

73, ac6xg

3246. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 17:38:34 UTC
From: John <groups5not@verizon.net>
Message-ID: <eugtiubmt1@aioe.org>
Source record: 44062

"Keith Dysart" <kd1@sympatico.ca> wrote in message
news:1175028724.787278.84540@e65g2000hsc.googlegroups.com...
> On Mar 25, 8:23 pm, Cecil Moore <nos...@w5dxp.com> wrote:

> - The power into the 450 Ohm generator resistor is
> 38.6 Watts

Just to pick your nit, I think you meant 36.8 Watts. That would be closer to
the 36.7 Watts I obtained using a simplified approach.

Cheers,
John

3247. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 17:49:28 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eugv3mmsp1@news.service.uci.edu>
Source record: 44064

Cecil Moore wrote:

> Here we are arguing semantics, not principles, again.

I was arguing principles, again. I don't bother with semantics (I lack your expertise there). But I admit that I don't know why you were arguing. ;-)

73, Jim AC6XG

3248. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 17:49:50 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <2%SOh.4112$Kd3.3014@newssvr27.news.prodigy.net>
Source record: 44063

Jim Kelley wrote:
> ... in particular, with regard to interference
> as a *cause* for the redirection of energy.

Here we are arguing semantics, not principles, again.
The total destructive interference that occurs during
wave cancellation leaves the associated energy with
no option except to be redistributed to an area of
constructive interference. Hecht says as much in
"Optics".
--
73, Cecil, w5dxp.com

3249. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 18:30:34 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <eBTOh.1085$5e2.500@newssvr11.news.prodigy.net>
Source record: 44065

Jim Kelley wrote:
> If anyone in addition to Cecil thought that I was debating the facts
> that Walt presented in Reflections, I apologize.

From "Reflections", by Walter Maxwell, 1st edition
Sec 4.3:

"The destructive interference causes mutual cancellation
of two complementary reflected waves ... Wave interference
between these two complementary waves ... causes a
cancellation of energy flow in the direction toward the
generator."

In the context that I am using the words, either
"superposition" or "interference" could be used. They
are two sides of the same coin.
--
73, Cecil, w5dxp.com

3250. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 18:40:44 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <euh252ojt1@news.service.uci.edu>
Source record: 44066

Cecil Moore wrote:

> From "Reflections", by Walter Maxwell, 1st edition
> Sec 4.3:
>
> "The destructive interference causes mutual cancellation
> of two complementary reflected waves ... Wave interference
> between these two complementary waves ... causes a
> cancellation of energy flow in the direction toward the
> generator."

I don't know exactly what the dots represent above; presumably deleted
words. But perhaps it's best if you allow Walt to speak for himself,
lest you begin another "semantics" argument.

73, AC6XG

"Let's you and him fight." I like that. :-)

3251. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 19:26:18 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <upUOh.1097$5e2.793@newssvr11.news.prodigy.net>
Source record: 44067

Jim Kelley wrote:
>
> Cecil Moore wrote:
>> Here we are arguing semantics, not principles, again.
>
> I was arguing principles, again.

You have caused me to question the definition of a few
words. You have not caused me to question a single
technical principle. That's 100% pure semantics.
--
73, Cecil, w5dxp.com

3252. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 19:51:48 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <oNUOh.1105$5e2.301@newssvr11.news.prodigy.net>
Source record: 44068

Jim Kelley wrote:
> I don't know exactly what the dots represent above; presumably deleted
> words.

Yes, it is common practice to delete words irrelevant
to the point being made.

> But perhaps it's best if you allow Walt to speak for himself,

He did - in "Reflections", which I quoted.
--
73, Cecil, w5dxp.com

3253. New MFJ-998 Auto Tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 19:58:24 UTC
From: Sonny Hood <wrhood@cox.net>
Message-ID: <fh6o03l3gbkdsejfcs76v1aqq3h95ueldb@4ax.com>
Source record: 44069

The MFJ-998 IntelliTunerï¿½ has been advertised on the cover of MFJ's 2007 Catalog since late 2006. Orders have been placed at several major equipment vendors/dealers for several months. Production was promised in March 2007! But that date has not been met. I am sure that there are many folks out there that would like to know the latest information of this new product. Many are waiting to hear how it works and when they can add it to their systems. Feedback is requested.

3254. VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 20:10:46 UTC
From: billcalley <billcalley@yahoo.com>
Message-ID: <1175199045.962572.290380@e65g2000hsc.googlegroups.com>
Source record: 44070
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

What I gleaned from the excellent answers for the original "VSWR Doesn't Matter?" thread is that high VSWR doesn't really matter in a lossless transmission line environment between a transmitter's antenna tuner and the antenna, since any reflected RF energy will simply continue to "bounce" back and forth between the tuner's output impedance and the antenna's input impedance until it is, finally, completely radiated from the antenna without loss.

But then why does the concept of "mismatch loss" exist in reference to antennas? I have quickly calculated that if a transmitter outputs 100 watts, and the TX antenna has an impedance that will cause a VSWR of 10:1 -- using lossless transmission line -- that the mismatch loss in this "lossless" system would be 4.81dB! (Reflected power 66.9 watts, RL -1.74).

Since mismatch loss is the "amount of power lost due to reflection", and is as if an "attenuator with a value of the mismatch loss where placed in series with the transmission line", then I would think that VSWR would *definitely* matter, and not just for highly lossy lines either. But here again, I'm probably not seeing the entire picture here. What am I missing??

Confused!

-Bill

3255. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 20:34:52 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <MpVOh.1113$5e2.222@newssvr11.news.prodigy.net>
Source record: 44071
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

billcalley wrote:
> Since mismatch loss is the "amount of power lost due to
> reflection", and is as if an "attenuator with a value of the mismatch
> loss where placed in series with the transmission line", then I would
> think that VSWR would *definitely* matter, and not just for highly
> lossy lines either. But here again, I'm probably not seeing the
> entire picture here. What am I missing??

If the system is Z0-matched, e.g. antenna tuner, there is
a mismatch gain at the tuner that offsets the mismatch
loss at the load so, in a lossless system, nothing is
lost. Wave cancellation toward the source is balanced
by constructive interference toward the load.
--
73, Cecil, w5dxp.com

3256. Re: Rotation of the polarization question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 20:47:59 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9903452BB9F84nonenowhere@61.9.191.5>
Source record: 44072

John Passaneau <w3jxp@arrl.net> wrote in
news:Xns9902635F2A9D5jxp16psuedu@128.118.141.40:

...
> Hi:
> We just had a member that works in the satellite uplink/downlink
> business at Penn State University give a talk on the subject. The
> satellites use polarization as part of the frequency sharing system in
> geostationary satellites. When they buy time on a satellite they are
> given a frequency and a polarization to use. As there is a limited
> band of frequencies they use polarization to help share frequencies
> with some working horizontal and some vertical. The feeds on the
> dishes they use for uplinks and downlinks have motorized polarization
> feeds and they adjust them to the requested polarization.

Yes John, I talked about that and I incorrectly used the term
"diversity", but it is frequency reuse as I noted using polarisation.

This can be done with circular (LH and RH) polarisation without a need to
rotate the feed unit, which for many installations will mean another
rotary waveguide joint which is to be avoided.

Launching circular polarisation in a feed horn is not difficult, and
developing autotrack error signals is relatively easy. An interesting
feed for amateur applications is the septum feed which gives access to
both circular polarisations from a fairly simple feed unit.

Owen

3257. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 20:57:23 UTC
From: billcalley <billcalley@yahoo.com>
Message-ID: <1175201843.737032.231090@l77g2000hsb.googlegroups.com>
Source record: 44073
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

On Mar 29, 1:34 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> billcalley wrote:
> > Since mismatch loss is the "amount of power lost due to
> > reflection", and is as if an "attenuator with a value of the mismatch
> > loss where placed in series with the transmission line", then I would
> > think that VSWR would *definitely* matter, and not just for highly
> > lossy lines either. But here again, I'm probably not seeing the
> > entire picture here. What am I missing??
>
> If the system is Z0-matched, e.g. antenna tuner, there is
> a mismatch gain at the tuner that offsets the mismatch
> loss at the load so, in a lossless system, nothing is
> lost. Wave cancellation toward the source is balanced
> by constructive interference toward the load.
> --
> 73, Cecil, w5dxp.com

Now my head *really* hurts! This is a VERY confusing subject, to
say the least. (And I also thought antenna tuners actually had a
loss due to their limited Q...I think I'm going to change careers
now and just become a pet groomer; or perhaps simply give up
completely and work at Radio Shack).

-Bill

3258. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 21:06:54 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <loco03d1dj1j9vh8caiucvk9o17uafdc0l@4ax.com>
Source record: 44074

On Wed, 28 Mar 2007 16:26:10 -0700, Jim Kelley <jwkelley@uci.edu> wrote:

>Hi Cecil -
>
>We've been over this a hundred times already. The only way to get
>past it is for you to try to understand that my comment and Eugene
>Hecht's are both true. You need to find a way to understand that
>there is no contradiction. You could start by noting that Hecht does
>not contradict anything that I said. Nowhere does he claim that
>interference redirects energy. That's your claim! And I haven't said
>that energy isn't redirected. If redirection of energy takes place,
>it takes place by reflection - not interference. It's just basic optics.
>
>73, ac6xg

Sorry Jim, but I take exception to your statement, "If redirection of energy takes place, it takes place by reflection - not interference."

It is the interference between the forward and reflected voltages and beween the forward and reflected
currents that yields the resultant voltage and current values of rho at the matching point which produces
either a virtual short or a virtual open circuit that causes the re-reflection. I have shown this to be true
in my QEX article of Mar/Apr 1998, entitled, "Examining the Mechanics of Wave Interference in Impedance
Matching. It is also Chapter 23 in Reflections 2.

Using the complex values of rho I have shown the magnitude and phase relationships of the aforementioned
voltages and currents at the stub point that result in a virtual open circuit at the stub point to waves
reflected from a 3:1 mismatched load. The result is no reflections on the line between the stub and the
source, but a 3:1 SWR on the line between the mismatched load and the stub. If you don't have a copy of this
article please let me know and I'll send you one via email.

Walt, W2DU

3259. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 21:09:46 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <uWVOh.1119$5e2.754@newssvr11.news.prodigy.net>
Source record: 44075
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

billcalley wrote:
> Now my head *really* hurts! This is a VERY confusing subject, to
> say the least. (And I also thought antenna tuners actually had a
> *loss* due to their limited Q...I think I'm going to change careers
> now and just become a pet groomer; or perhaps simply give up
> completely and work at Radio Shack).

Real-world antenna tuners do have a loss but we previously
specified a lossless system. Of course, real world tuners
and transmission lines suffer losses but we all just live
with those losses while striving to minimize them. The point
is that an antenna tuner reflects most of the reflected
energy back toward the load thus accomplishing a mismatch
gain that offsets some, if not most, of the mismatch loss.
High SWR transmission lines are indeed lossier than flat
matched transmission lines of the same material.
--
73, Cecil, w5dxp.com

3260. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 21:10:23 UTC
From: Charles Schuler <charleschuler@comcast.net>
Message-ID: <EcCdnftVGZXZtpHbnZ2dnUVZ_oKnnZ2d@comcast.com>
Source record: 44076
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

"billcalley" <billcalley@yahoo.com> wrote in message
news:1175199045.962572.290380@e65g2000hsc.googlegroups.com...
> What I gleaned from the excellent answers for the original "VSWR
> Doesn't Matter?" thread is that high VSWR doesn't really matter in a
> lossless transmission line environment between a transmitter's antenna
> tuner and the antenna, since any reflected RF energy will simply
> continue to "bounce" back and forth between the tuner's output
> impedance and the antenna's input impedance until it is, finally,
> completely radiated from the antenna without loss.

That's basically true but ignores the stress that can be placed on the output circuit of the transmitter. Why do you think VSWR shut-down circuits are so popular? One can see rather high voltages or currents that are potentially damaging to the transistors and capacitors.

Now, since "lossless" is an abstraction and all materials have voltage and current limits, just make this easy on yourself and always strive for a VSWR of 2:1 or less. It simply works better and is more reliable.

3261. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 21:10:55 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1175202655.297380.256620@y80g2000hsf.googlegroups.com>
Source record: 43927

Cecil Moore wrote:
> Jim Kelley wrote:
> > I don't know exactly what the dots represent above; presumably deleted
> > words.
>
> Yes, it is common practice to delete words irrelevant
> to the point being made.
>
> > But perhaps it's best if you allow Walt to speak for himself,
>
> He did - in "Reflections", which I quoted.
> --
> 73, Cecil, w5dxp.com

Does Walt have a point that he is trying to make here, Cecil?

73, ac6xg

3262. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 21:14:37 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <1%VOh.1121$5e2.932@newssvr11.news.prodigy.net>
Source record: 43928

Jim Kelley wrote:
> Does Walt have a point that he is trying to make here, Cecil?

Yes, but why don't you reply to his posting rather than mine?
--
73, Cecil, w5dxp.com

3263. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 21:26:39 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <jaWOh.1122$5e2.628@newssvr11.news.prodigy.net>
Source record: 43929
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Charles Schuler wrote:
> Now, since "lossless" is an abstraction and all materials have voltage and
> current limits, just make this easy on yourself and always strive for a VSWR
> of 2:1 or less. It simply works better and is more reliable.

But renders many all-HF-band dipoles useless. :-) I regularly
run up to an 18:1 SWR on my 450 ohm ladder-line. Owen's
transmission line calculator says I'm losing about 0.8 dB
in 100' of line under those conditions on 40m. IMO, it's
a small price to pay for all-HF-band operation.
--
73, Cecil, w5dxp.com

3264. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 21:32:14 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175203932.010980.158340@e65g2000hsc.googlegroups.com>
Source record: 43930

On Mar 29, 1:38 pm, "John" <groups5...@verizon.net> wrote:
> "Keith Dysart" <k...@sympatico.ca> wrote in message
>
> news:1175028724.787278.84540@e65g2000hsc.googlegroups.com...
>
> > On Mar 25, 8:23 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> > - The power into the 450 Ohm generator resistor is
> > 38.6 Watts
>
> Just to pick your nit, I think you meant 36.8 Watts. That would be closer to
> the 36.7 Watts I obtained using a simplified approach.
>
> Cheers,
> John

Yes, indeed.

Thanks for checking.

...Keith

3265. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 21:44:38 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175204678.611737.131380@d57g2000hsg.googlegroups.com>
Source record: 43931

On Mar 29, 12:35 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > But truly, do look up lattice diagrams and learn the technique.
> > The number of problems that you will be able to solve will go
> > up significantly.
>
> Since your use of it yielded erroneous results,

I am at a bit of a loss. You don't seem to have a methodology
to produce any results and yet you are sure mine are wrong.

> I think
> I will pass. However, it appears to be much like the
> S-Parameter analysis which does yield correct results.

Feel free to apply any methodology of your choice to
predict the magnitude of the re-reflection. All information
about generator internals has been previously provided.

> An S-Parameter analysis indicates that you have made an
> error in the reflection coefficient, s11, looking into
> the 450 ohm transmission line.

Have you computed the correct result then?

> From HP's Ap-Note 95-1,
> s11 is defined as the "Input reflection coefficient
> with the output port TERMINATED BY A MATCHED LOAD."
>
> You calculated your reflection coefficient with the
> output port terminated by a mismatched load. There's
> your conceptual error! The reflection coefficient, s11,
> at the source is *NOT* the same as the reflection
> coefficient at the load.

I am not sure where you are going with this. As you map
the system for s parameter evaluation, which is the two
port network that you are evaluating? The generator?
The load? The line?

> Have you told anyone else that an emitter follower with
> a 450 ohm resistor in the emitter circuit will eliminate
> reflections on all 450 ohm transmission lines?

That is a leap that I wouldn't make. An ideal source, as
used in this example, must be able to both source and sink
current. You will need to specify more for us to determine

whether the circuit you propose will achieve that to a
sufficient degree.

...Keith

3266. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 22:00:24 UTC
From: Charles Schuler <charleschuler@comcast.net>
Message-ID: <MMOdnfWISfVjq5HbnZ2dnUVZ_vumnZ2d@comcast.com>
Source record: 43932
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:jaWOh.1122$5e2.628@newssvr11.news.prodigy.net...
> Charles Schuler wrote:
>> Now, since "lossless" is an abstraction and all materials have voltage
>> and current limits, just make this easy on yourself and always strive for
>> a VSWR of 2:1 or less. It simply works better and is more reliable.
>
> But renders many all-HF-band dipoles useless. :-) I regularly
> run up to an 18:1 SWR on my 450 ohm ladder-line. Owen's
> transmission line calculator says I'm losing about 0.8 dB
> in 100' of line under those conditions on 40m. IMO, it's
> a small price to pay for all-HF-band operation.

How many Ham transmitters have a balanced output?

How are you feeding a balanced line?

If you are using an antenna tuner with unbalanced in (50 ohms) and balanced
out (variable impedance), you should be OK in most situations.

3267. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 22:20:48 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990354E808F9nonenowhere@61.9.191.5>
Source record: 43933

Walter Maxwell <walt@w2du.com> wrote in
news:loco03d1dj1j9vh8caiucvk9o17uafdc0l@4ax.com:

...
> voltage and current values of rho at the matching point which produces
> either a virtual short or a virtual open circuit that causes the
> re-reflection. I have shown this to be true in my QEX article of
...

Walt,

I am talking about the steady state.

I see discussion about this need for total re-reflection at the source, and some even describing the function of an ATU as a "total re-reflector", and it makes me wonder why we are grappling with re-reflection at the source end of the line in the steady state.

My understanding is that:
1. The ratio of elecric field to magnetic field per unit length (or V/I) in an infinite transmission line is constrained by the geometry of the line and the permeability and permittivity of the components carrying the two fields. That ratio is expressed as Zo.
2. If a wave with V/I=Zo reaches the end of the line, and the load does not permit V/I to be Zo (ie a mismatch), a reflected wave is launched, and it is of magnitude and phase such that (Vf+Vr)/If-Ir)=Zl (all complex values).

In the steady state, after all has settled (ie converged), the transmission line reaches an equilibrium where the source V/I characteristic is consistent with (Vf+Vr)/If-Ir) at the input end of the line.

Why is it necessary to complicate the analysis with tracking multiple re-reflections, potentially an infinite number of reflections of diminishing significance, an analysis that converges in the limit on the answer given by the solution of the source V/I characteristic and (Vf+Vr)/If-Ir) at the input end of the line (which is the equivalent input impedance). Note that (Vf+Vr)/If-Ir) at the input end of the line is determined solely by the tranmission line propagation constant, length, Zo and the far end load impedance, for avoidance of doubt, source impedance is not relevant.

Such an approach does not require invention of virtual re-reflectors or virtual s/c or o/c, or ATUs or pi couplers with virtual properties.

Owen

PS: Before someone brings up TV ghosts, they are not steady state phenomena. If significant distortion of modulation is caused by reflections, then clearly the scenario is not sufficiently steady state to allow steady state analysis.

3268. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 22:21:17 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <460c3bdd$0$18893$4c368faf@roadrunner.com>
Source record: 43934
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

"Charles Schuler" <charleschuler@comcast.net> wrote in message
news:EcCdnftVGZXZtpHbnZ2dnUVZ_oKnnZ2d@comcast.com...
>
> "billcalley" <billcalley@yahoo.com> wrote in message
> news:1175199045.962572.290380@e65g2000hsc.googlegroups.com...
>> What I gleaned from the excellent answers for the original "VSWR
>> Doesn't Matter?" thread is that high VSWR doesn't really matter in a
>> lossless transmission line environment between a transmitter's antenna
>> tuner and the antenna, since any reflected RF energy will simply
>> continue to "bounce" back and forth between the tuner's output
>> impedance and the antenna's input impedance until it is, finally,
>> completely radiated from the antenna without loss.
>
> That's basically true but ignores the stress that can be placed on the
> output circuit of the transmitter. Why do you think VSWR shut-down
> circuits are so popular? One can see rather high voltages or currents
> that are potentially damaging to the transistors and capacitors.
>
> Now, since "lossless" is an abstraction and all materials have voltage and
> current limits, just make this easy on yourself and always strive for a
> VSWR of 2:1 or less. It simply works better and is more reliable.
>
If a tuner is placed directly after the TX and properly adjusted the TX
will always see a 50 ohm load and the shutdown circuit will always be
happpy. Again as long as the TX sees a match there is no unusual stress
placed on it. Remember that before the invention of coax cable SWR was
rarely considered. Instead the tx was tuned for proper established
operational parametrs and all was right with the world.

1:1 SWR CAN MEAN YOUR COAX IS FULL OF WATER.

Jimmie

3269. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 22:41:34 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ygXOh.3919$u03.3526@newssvr21.news.prodigy.net>
Source record: 43935

Keith Dysart wrote:
> Have you computed the correct result then?

Yes, the results are identical with or without
the 1WL of 75 ohm lossless line, exactly as the
theory predicts it should be.

Have you read w2du's web page yet?

> I am not sure where you are going with this. As you map
> the system for s parameter evaluation, which is the two
> port network that you are evaluating?

The generator's connection to the 450 ohm ladder-line.

> An ideal source, as
> used in this example, must be able to both source and sink
> current. You will need to specify more for us to determine
> whether the circuit you propose will achieve that to a
> sufficient degree.

Actually, as the one asserting it is possible, the
onus of proof is upon you to come up with a real-
world design (besides the one in your dreams). I
predict you will need something like a circulator
to actually dissipate the reflected energy. Your
violation of the conservation of energy principle
just won't fly.
--
73, Cecil http://www.w5dxp.com

3270. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 22:44:24 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <cjXOh.3920$u03.1034@newssvr21.news.prodigy.net>
Source record: 43938
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Charles Schuler wrote:
> How are you feeding a balanced line?

http://www.w5dxp.com/notuner.htm

> If you are using an antenna tuner with unbalanced in (50 ohms) and balanced
> out (variable impedance), you should be OK in most situations.

No tuner! I don't like tuner losses. The feedpoint impedance
is always between 35 ohms and 85 ohms resistive. My choke
has an impedance in the thousands of ohms.
--
73, Cecil http://www.w5dxp.com

3271. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 22:46:36 UTC
From: Tim Wescott <tim@seemywebsite.com>
Message-ID: <dv-dnfyXVu7B3JHbnZ2dnUVZ_tqnnZ2d@web-ster.com>
Source record: 43937
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

billcalley wrote:
> What I gleaned from the excellent answers for the original "VSWR
> Doesn't Matter?" thread is that high VSWR doesn't really matter in a
> lossless transmission line environment between a transmitter's antenna
> tuner and the antenna, since any reflected RF energy will simply
> continue to "bounce" back and forth between the tuner's output
> impedance and the antenna's input impedance until it is, finally,
> completely radiated from the antenna without loss.
>
> But then why does the concept of "mismatch loss" exist in
> reference to antennas? I have quickly calculated that if a
> transmitter outputs 100 watts, and the TX antenna has an impedance
> that will cause a VSWR of 10:1 -- using lossless transmission line --
> that the mismatch loss in this "lossless" system would be 4.81dB!
> (Reflected power 66.9 watts, RL -1.74).
>
> Since mismatch loss is the "amount of power lost due to
> reflection", and is as if an "attenuator with a value of the mismatch
> loss where placed in series with the transmission line", then I would
> think that VSWR would *definitely* matter, and not just for highly
> lossy lines either. But here again, I'm probably not seeing the
> entire picture here. What am I missing??
>
Your "amount of power lost due to reflection" statement would be true if
the line were connected to something resistive at the line's
characteristic impedance. With a properly tuned tuner, that's not the
case -- instead, the impedance looking into the tuner will also reflect
power, and in a way that makes it all work out so that the power all
ends up being radiated, which is what you wanted in the first place.

--

Tim Wescott
Wescott Design Services
http://www.wescottdesign.com

Posting from Google? See http://cfaj.freeshell.org/google/

Do you need to implement control loops in software?
"Applied Control Theory for Embedded Systems" gives you just what it says.
See details at http://www.wescottdesign.com/actfes/actfes.html

3272. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 22:48:20 UTC
From: Tim Wescott <tim@seemywebsite.com>
Message-ID: <dv-dnf-XVu5e3JHbnZ2dnUVZ_trinZ2d@web-ster.com>
Source record: 43939
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

billcalley wrote:
> On Mar 29, 1:34 pm, Cecil Moore <nos...@w5dxp.com> wrote:
>> billcalley wrote:
>>> Since mismatch loss is the "amount of power lost due to
>>> reflection", and is as if an "attenuator with a value of the mismatch
>>> loss where placed in series with the transmission line", then I would
>>> think that VSWR would *definitely* matter, and not just for highly
>>> lossy lines either. But here again, I'm probably not seeing the
>>> entire picture here. What am I missing??
>> If the system is Z0-matched, e.g. antenna tuner, there is
>> a mismatch gain at the tuner that offsets the mismatch
>> loss at the load so, in a lossless system, nothing is
>> lost. Wave cancellation toward the source is balanced
>> by constructive interference toward the load.
>> --
>> 73, Cecil, w5dxp.com
>
> Now my head *really* hurts! This is a VERY confusing subject, to
> say the least. (And I also thought antenna tuners actually had a
> *loss* due to their limited Q...I think I'm going to change careers
> now and just become a pet groomer; or perhaps simply give up
> completely and work at Radio Shack).
>
If you start considering loss in the tuner and the line then yes, a
greater mismatch between the antenna and the line will result in more
lost power (and more component heating in the tuner). You really want
to leave that subject be until you understand the properties of a
lossless system.

--

Tim Wescott
Wescott Design Services
http://www.wescottdesign.com

Posting from Google? See http://cfaj.freeshell.org/google/

Do you need to implement control loops in software?
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See details at http://www.wescottdesign.com/actfes/actfes.html

3273. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 22:53:56 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns9902A1B995929doldridgsprintca@64.59.135.159>
Source record: 43940
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

"billcalley" <billcalley@yahoo.com> wrote in
news:1175199045.962572.290380@e65g2000hsc.googlegroups.com:

> What I gleaned from the excellent answers for the original "VSWR
> Doesn't Matter?" thread is that high VSWR doesn't really matter in a
> lossless transmission line environment between a transmitter's antenna
> tuner and the antenna, since any reflected RF energy will simply
> continue to "bounce" back and forth between the tuner's output
> impedance and the antenna's input impedance until it is, finally,
> completely radiated from the antenna without loss.

Well, there will be tuner losses, depending on how good the tuner's
components are.

> But then why does the concept of "mismatch loss" exist in
> reference to antennas? I have quickly calculated that if a
> transmitter outputs 100 watts, and the TX antenna has an impedance
> that will cause a VSWR of 10:1 -- using lossless transmission line --
> that the mismatch loss in this "lossless" system would be 4.81dB!
> (Reflected power 66.9 watts, RL -1.74).

> Since mismatch loss is the "amount of power lost due to
> reflection", and is as if an "attenuator with a value of the mismatch
> loss where placed in series with the transmission line", then I would
> think that VSWR would *definitely* matter, and not just for highly
> lossy lines either. But here again, I'm probably not seeing the
> entire picture here. What am I missing??
>
> Confused!

Yes, you're confused.

If the lossless transmission line (obviously no such animal exists) were
tuned with a lossless tuner, then VSWR would not matter at all.

The loss due to mismatch in any real system will depend upon frequency,
VSWR, type of feedline, length of feedline, and the quality of the tuning
circuits used to match the system to the transmitter.

Let's take your example. 100 watt transmitter into, let's say 100ft. of
feedline at 10:1 VSWR and assume tuner losses are negligble (they often
aren't). Here are the losses for some different kinds of 50 ohm coax at
10mhz:

Belden 8237 2.19db
Belden 9913 1.63db

Belden 9258 3.19db
Belden 8240 3.71db
Belden 9201 3.83db

So, what's obvious here is that different coaxes have different losses at high SWR. Why is that? Because as power is reflected back and forth in a transmission line, the losses accumulate. So line that is very low-loss to begin with will be less affected by high SWR than line that has moderate to high losses when flat.

If 10 percent of the power in a line is lost travelling from the transmitter to the antenna, and if the antenna only radiates half that power, sending the rest back down the line, then 45 percent of the transmitter power is radiated immediately, while 45 percent is reflected. But only 40.5 percent reaches the tuner or transmitter. If ALL of that is re-reflected, then only 36.45 percent of the power is available at the second reflection to the antenna. The antenna will radiate 18.225 percent of the transmitter's power at this point, making the total 63.225 percent of the transmitter's output. Another 18.225 percent will be reflected again and, of that 16.4025 percent of the transmit power will live to be re-reflected from the tuner and 14.76225 percent will arrive at the antenna on the next bounce. Of that we can expect 7.381125 percent of the transmitter's total power to end up radiated while an equal amount starts its way back to the tuner. Anyway, it becomes a pretty simple bit of limit math to predict exactly how much will be radiated and how much lost in the coax under these conditions.

--
Dave Oldridge+
ICQ 1800667

3274. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 23:17:38 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <mOXOh.12214$Um6.7661@newssvr12.news.prodigy.net>
Source record: 43941

Owen Duffy wrote:
> Why is it necessary to complicate the analysis with tracking multiple re-
> reflections, potentially an infinite number of reflections of diminishing
> significance, an analysis that converges in the limit on the answer given
> by the solution of the source V/I characteristic and (Vf+Vr)/If-Ir) at
> the input end of the line (which is the equivalent input impedance). Note
> that (Vf+Vr)/If-Ir) at the input end of the line is determined solely by
> the tranmission line propagation constant, length, Zo and the far end
> load impedance, for avoidance of doubt, source impedance is not
> relevant.

The answer is subtle. Consider the following lossless example.

XMTR--x--1WL 450 ohm line--y--1WL 450 ohm line--50 ohm load

The SWR is 9:1 everywhere on the 450 ohm line.
(Vf+Vr)/(If+Ir) = 50 ohms at points x and y. There are reflections
to the left of y but no reflections to the left of x. Why?

The answer is the interference
pattern set up by the 50 ohm environment left of x and the
450 ohm environment to the right of x. Total destructive
interference is occurring to the left of x and total constructive
interference is occurring to the right of x. That cannot be said
of point y yet the V/I ratio is identical to x. The physical rho
at point y is zero. The physical rho at point x is 0.8. That's
the difference. Reflections occur only at physical impedance
discontinuities.

In S-parameter terms at x: b1 = (s11)(a1) + (s12)(a2)

In RF terms at x: Vref1 = rho1(Vfor1) + tau2(Vref2)

The two terms to the right of the equals sign are the voltages
that engage in wave cancellation resulting in a Z0-match at x.

So to answer your question: The 50 ohm virtual impedance at point
y is incapable of causing reflections even though it has an identical
V/I ratio to point x. The physical impedance discontinuity at x is
fully capable of causing reflections along with the ensuing
interference.
--
73, Cecil http://www.w5dxp.com

3275. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 23:32:31 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <euhje2$70i$1@news.service.uci.edu>
Source record: 43943

Walter Maxwell wrote:

> Sorry Jim, but I take exception to your statement, "If redirection of energy takes place,
> it takes place by reflection - not interference."

Hi Walt -

I am preparing a more lengthy response, and in the interim let me say
that I'm sorry you take exception. But my statement is nevertheless
honest, truthful, and factual. What part of it do you feel is
contradicted by physical laws?

I am familiar with your chapter 23. You sent me a copy of it quite
some time ago. I had hoped that our work together might have changed
your point of view about this.

73, Jim AC6XG

> It is the interference between the forward and reflected voltages and beween the forward
and reflected
> currents that yields the resultant voltage and current values of rho at the matching
point which produces
> either a virtual short or a virtual open circuit that causes the re-reflection. I have
shown this to be true
> in my QEX article of Mar/Apr 1998, entitled, "Examining the Mechanics of Wave
Interference in Impedance
> Matching. It is also Chapter 23 in Reflections 2.
>
> Using the complex values of rho I have shown the magnitude and phase relationships of the
aforementioned
> voltages and currents at the stub point that result in a virtual open circuit at the stub
point to waves
> reflected from a 3:1 mismatched load. The result is no reflections on the line between
the stub and the
> source, but a 3:1 SWR on the line between the mismatched load and the stub. If you don't
have a copy of this
> article please let me know and I'll send you one via email.
>
> Walt, W2DU
>
>
>
>

3276. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-29 23:42:12 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <p4jo0392ofr4la34srstikpjtuk5057m9a@4ax.com>
Source record: 43936
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

On 29 Mar 2007 13:10:46 -0700, "billcalley" <billcalley@yahoo.com>
wrote:

> What I gleaned from the excellent answers for the original "VSWR
>Doesn't Matter?" thread is that high VSWR doesn't really matter in a
>lossless transmission line environment between a transmitter's antenna
>tuner and the antenna, since any reflected RF energy will simply
>continue to "bounce" back and forth between the tuner's output
>impedance and the antenna's input impedance until it is, finally,
>completely radiated from the antenna without loss.

Hi Bill,

As a short description, that is adequate.

> But then why does the concept of "mismatch loss" exist in
>reference to antennas?

"Mismatch loss" is a system description, not an antenna description.
So your reference is wrong.

>I have quickly calculated that if a
>transmitter outputs 100 watts, and the TX antenna has an impedance
>that will cause a VSWR of 10:1 -- using lossless transmission line --
>that the mismatch loss in this "lossless" system would be 4.81dB!
>(Reflected power 66.9 watts, RL -1.74).

Two things wrong here:
1. You say nothing of a tuner inline;
B. Your math is wrong either way.

> Since mismatch loss is the "amount of power lost due to
>reflection", and is as if an "attenuator with a value of the mismatch
>loss where placed in series with the transmission line", then I would
>think that VSWR would *definitely* matter, and not just for highly
>lossy lines either.

It does matter if you lack a tuner (in more ways that one). Most
discussion of "mismatch loss" omits such matters as tuners as it is a
separable issue. Combining these topics raises your chance of
confusion.

73's
Richard Clark, KB7QHC

3277. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 00:00:17 UTC
From: ehsjr <ehsjr@bellatlantic.net>
Message-ID: <lqYOh.1457$NO.1124@trndny05>
Source record: 43944
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

billcalley wrote:
> What I gleaned from the excellent answers for the original "VSWR
> Doesn't Matter?" thread is that high VSWR doesn't really matter in a
> lossless transmission line environment between a transmitter's antenna
> tuner and the antenna, since any reflected RF energy will simply
> continue to "bounce" back and forth between the tuner's output
> impedance and the antenna's input impedance until it is, finally,
> completely radiated from the antenna without loss.
>
> But then why does the concept of "mismatch loss" exist in
> reference to antennas? I have quickly calculated that if a
> transmitter outputs 100 watts, and the TX antenna has an impedance
> that will cause a VSWR of 10:1 -- using lossless transmission line --
> that the mismatch loss in this "lossless" system would be 4.81dB!
> (Reflected power 66.9 watts, RL -1.74).
>
> Since mismatch loss is the "amount of power lost due to
> reflection", and is as if an "attenuator with a value of the mismatch
> loss where placed in series with the transmission line", then I would
> think that VSWR would *definitely* matter, and not just for highly
> lossy lines either. But here again, I'm probably not seeing the
> entire picture here. What am I missing??
>
> Confused!
>
> -Bill
>

I think the confusion (which *always* seems to arise)
comes from the mix of the concept with the real world.
The concept claims that the system is lossless, so the
power bounces around until it eventually exits the "system"
via the antenna. Real world, the system is lossy, so
with all the bouncing around some of the power fails to
leave the system via RF radiation and instead leaves
the system via IR radiation. More heat, less RF.
Tastes great, less filling. :-)

Ed

3278. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 00:30:56 UTC
From: Joerg <notthisjoergsch@removethispacbell.net>
Message-ID: <nZXOh.1655$H_5.393@newssvr23.news.prodigy.net>
Source record: 43942
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Tim Wescott wrote:

> billcalley wrote:
>
>> What I gleaned from the excellent answers for the original "VSWR
>> Doesn't Matter?" thread is that high VSWR doesn't really matter in a
>> lossless transmission line environment between a transmitter's antenna
>> tuner and the antenna, since any reflected RF energy will simply
>> continue to "bounce" back and forth between the tuner's output
>> impedance and the antenna's input impedance until it is, finally,
>> completely radiated from the antenna without loss.
>>
>> But then why does the concept of "mismatch loss" exist in
>> reference to antennas? I have quickly calculated that if a
>> transmitter outputs 100 watts, and the TX antenna has an impedance
>> that will cause a VSWR of 10:1 -- using lossless transmission line --
>> that the mismatch loss in this "lossless" system would be 4.81dB!
>> (Reflected power 66.9 watts, RL -1.74).
>>
>> Since mismatch loss is the "amount of power lost due to
>> reflection", and is as if an "attenuator with a value of the mismatch
>> loss where placed in series with the transmission line", then I would
>> think that VSWR would *definitely* matter, and not just for highly
>> lossy lines either. But here again, I'm probably not seeing the
>> entire picture here. What am I missing??
>>
> Your "amount of power lost due to reflection" statement would be true if
> the line were connected to something resistive at the line's
> characteristic impedance. With a properly tuned tuner, that's not the
> case -- instead, the impedance looking into the tuner will also reflect
> power, and in a way that makes it all work out so that the power all
> ends up being radiated, which is what you wanted in the first place.
>

Unless your coax decides that it had enough of all this current. I had
that happen once. The SWR had gone up and I pressed on. Then a muffled
boom outside and it became 100% reflective. Now I had to get on a ladder
and painstakingly scrape all the molten gunk off the stucco.

--
Regards, Joerg

http://www.analogconsultants.com

3279. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 00:37:41 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <pZYOh.1164$5e2.946@newssvr11.news.prodigy.net>
Source record: 43946

Jim Kelley wrote:
> But my statement is nevertheless
> honest, truthful, and factual. What part of it do you feel is
> contradicted by physical laws?

I find it strange that Hecht's definition of "interference"
doesn't even mention your alleged cause of the interference,
i.e. superposition. From "Optics", by Hecht in his own
bold italics:

"Optical interference corresponds to the interaction of
two or more light waves yielding a resultant irradiance
that deviates from the sum of the component irradiances."

One might argue that "the interaction of two or more light
waves" is superposition but why didn't Hecht choose
"superposition" instead of "interaction"? And a
"correspondence" of interference to the interaction of
the waves certainly doesn't imply cause and effect. It
seems instead to imply an inseparability between the
interference and the interaction of the waves which
is of course obvious.

Hecht seems to treat the superposition principle as more
of a set of rules to be followed by the interfering waves
than an actual act. FYI, the definition of "superpose"
doesn't mention EM waves at all.
--
73, Cecil http://www.w5dxp.com

3280. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 01:15:50 UTC
From: Rich Grise <rich@example.net>
Message-ID: <pan.2007.03.30.01.16.20.888995@example.net>
Source record: 43947
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

On Thu, 29 Mar 2007 13:10:46 -0700, billcalley wrote:

> What I gleaned from the excellent answers for the original "VSWR
> Doesn't Matter?" thread is that high VSWR doesn't really matter in a
> lossless transmission line environment between a transmitter's antenna
> tuner and the antenna, since any reflected RF energy will simply
> continue to "bounce" back and forth between the tuner's output
> impedance and the antenna's input impedance until it is, finally,
> completely radiated from the antenna without loss.
>
> But then why does the concept of "mismatch loss" exist in
> reference to antennas? I have quickly calculated that if a
> transmitter outputs 100 watts, and the TX antenna has an impedance
> that will cause a VSWR of 10:1 -- using lossless transmission line --
> that the mismatch loss in this "lossless" system would be 4.81dB!
> (Reflected power 66.9 watts, RL -1.74).
>
> Since mismatch loss is the "amount of power lost due to
> reflection", and is as if an "attenuator with a value of the mismatch
> loss where placed in series with the transmission line", then I would
> think that VSWR would *definitely* matter, and not just for highly
> lossy lines either. But here again, I'm probably not seeing the
> entire picture here. What am I missing??
>
> Confused!
>

It truly wouldn't matter if there were no such thing as resistance
and so on. The whole circuit could be tuned, with the transmission line
a part of it, and all of the power would go out the antenna.

Unfortunately, that's not the way reality works, more's the pity.

Every time those "standing waves" bounce back and forth, they warm
up the transmission line, the connectors, the transmitter tank, the
transmitter itself, etc, etc, and Entropy is conserved. ;-)

Hope This Helps!
Rich

3281. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 01:31:21 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <fipo039t4d1ha229n9drmp4t0i8vo64bo8@4ax.com>
Source record: 43945
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

```
>On 29 Mar 2007 13:10:46 -0700, "billcalley" <billcalley@yahoo.com>
>wrote:
>>I have quickly calculated that if a
>>transmitter outputs 100 watts, and the TX antenna has an impedance
>>that will cause a VSWR of 10:1 -- using lossless transmission line --
>>that the mismatch loss in this "lossless" system would be 4.81dB!
>>(Reflected power 66.9 watts, RL -1.74).

Taking this at face value, yes, the "mismatch loss" is 4.8dB.

73's
Richard Clark, KB7QHC
```

3282. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 01:52:16 UTC
From: bw <bwegher@hotmail.com>
Message-ID: <1175219536.345895.44110@o5g2000hsb.googlegroups.com>
Source record: 43948
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

On Mar 29, 8:15 pm, Rich Grise <r...@example.net> wrote:
> Every time those "standing waves" bounce back and forth, they warm
> up the transmission line, the connectors, the transmitter tank, the
> transmitter itself, etc, etc, and Entropy is conserved. ;-)
>

Humor noted, but Entropy is not conserved.

Entropy increases

3283. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 01:57:44 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990379B07BB8Bnonenowhere@61.9.191.5>
Source record: 43949

Cecil Moore <nospam@w5dxp.com> wrote in
news:mOXOh.12214$Um6.7661@newssvr12.news.prodigy.net:

...
> So to answer your question: The 50 ohm virtual impedance at point
> y is incapable of causing reflections even though it has an identical
> V/I ratio to point x. The physical impedance discontinuity at x is
> fully capable of causing reflections along with the ensuing
> interference.

...

Cecil, I don't understand what you mean by 'virtual impedance', why and how it differs from equivalent impedance (being the complex ratio of V/I at a point), and why it has these magical relection properties. Perhaps it is just an invention to support your proposition.

Given that my statement was qualified to the steady state, your inisistence that point x is different in behaviour to point y says to me you are silently changing scope to transient conditions to confuse the reader.

Owen

3284. MFJ-1795 HF Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 02:12:22 UTC
From: notme <nono@no.org>
Message-ID: <L76dnUm0c96Y75HbnZ2dnUVZ_u6rnZ2d@comcast.com>
Source record: 43950

Does anyone have any experience using the MFJ-1795 vertical antenna?
Because of it's size, it's probably one of the few antennas that I will be
able to put in my back yard.

I'd like to hear any comments on using this antenna, performance, etc...

Thanks!

3285. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 02:33:11 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <HF_Oh.19753$uo3.4295@newssvr14.news.prodigy.net>
Source record: 43951

Owen Duffy wrote:
> Cecil, I don't understand what you mean by 'virtual impedance', why and how
> it differs from equivalent impedance (being the complex ratio of V/I at a
> point), and why it has these magical relection properties. Perhaps it is
> just an invention to support your proposition.

The IEEE Dictionary seemingly goes out of its way to
try to emphasize the difference between a virtual
impedance and a physical impedor. Obviously, there is
a difference between a physical resistor and the ratio
of voltage to current called resistance where no physical
resistor exists. One is the (A) definition and the other
is the (B) definition. A virtual resistance does not
dissipate power. What? A dissipationless resistance?

If no physical impedance discontinuity exists, there can
be no reflections. V/I ratios, by themselves, with no
associated physical impedances, are a result, and not the
cause of anything. (The exception to that statement is a
source.)

The impedance looking into a transmission line is a virtual
impedance caused by system parameters. It is a result -
incapable of causing anything. Unless it is located at a
physical impedance discontinuity, absolutely nothing happens
because of the V/I ratio.
--
73, Cecil http://www.w5dxp.com

3286. 18:1 all band dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 02:34:45 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <kmto03lpq1btrro1tlfhkr91k4s3bpv2rv@4ax.com>
Source record: 43952
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

On Thu, 29 Mar 2007 22:44:24 GMT, Cecil Moore <nospam@w5dxp.com>
wrote:

>No tuner! I don't like tuner losses. The feedpoint impedance
>is always between 35 ohms and 85 ohms resistive. My choke
>has an impedance in the thousands of ohms.

Cecil,

Please explain your antenna and radio. I am assuming you have a solid
state rig with an so-239 connector on it for the basic and then you do
what?

Thanks

--
73 for now
Buck, N4PGW
www.lumpuckeroo.com

3287. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 02:36:00 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <kl_Oh.19755$uo3.13296@newssvr14.news.prodigy.net>
Source record: 43953
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

bw wrote:
> Entropy increases

Seems to me that evolution violates that principle.
--
73, Cecil http://www.w5dxp.com

3288. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 02:38:11 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175222291.152088.282490@n76g2000hsh.googlegroups.com>
Source record: 43954

On Mar 29, 6:41 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Have you computed the correct result then?
>
> Yes, the results are identical with or without
> the 1WL of 75 ohm lossless line, exactly as the
> theory predicts it should be.

This is clearly not correct. Without the 75 Ohm line the first reflection does not arrive back at the generator for 62 cycles. With the 75 Ohm line, the first reflection arrives back at the generator after only two cycles. The response is not at all the same, though I agree, they do arrive at the same steady state condition.

The discontinuity between the 450 Ohm line and the 75 Ohm line produces a re-reflection back towards the load, which is one of the two sources of ghosts in your experiment, the other being the 75 Ohm line connection to the 450 Ohm generator. Remember that any impedance discontinuity produces a reflection. Without the 75 Ohm line, there are no reflections back towards the load and no ghosts (i.e. for the original experiment).

So the two experiments are clearly different. For the experiment without the 75 Ohm line (i.e. the original example), can you derive the magnitude of the re-reflected voltage that reaches the load and creates a ghost?

If so, please let us know the magnitude and how to derive it.

> Have you read w2du's web page yet?

Yes, but it is discussing, as its title clearly states, "Additional Experimental Evidence Proving Existence of Conjugate Match and Non-Dissipative Source Resistance In RF Power Amplifiers". I find it not applicable to the experiment at hand since we are neither discussing a reasonable implementation of an RF Power Amplifier nor is there a conjugate match.

Regardless, the real question is can you compute the magnitude of the re-reflection when it reaches the load and what is the methodology? (And please do not modify the experiment to do so.)

...Keith

3289. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 02:42:52 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175222572.074507.52620@n59g2000hsh.googlegroups.com>
Source record: 43955

On Mar 29, 7:17 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Owen Duffy wrote:
> > Why is it necessary to complicate the analysis with tracking multiple re-
> > reflections, potentially an infinite number of reflections of diminishing
> > significance, an analysis that converges in the limit on the answer given
> > by the solution of the source V/I characteristic and (Vf+Vr)/If-Ir) at
> > the input end of the line (which is the equivalent input impedance). Note
> > that (Vf+Vr)/If-Ir) at the input end of the line is determined solely by
> > the tranmission line propagation constant, length, Zo and the far end
> > load impedance, for avoidance of doubt, source impedance is not
> > relevant.
>
> The answer is subtle. Consider the following lossless example.
>
> XMTR--x--1WL 450 ohm line--y--1WL 450 ohm line--50 ohm load
>
> The SWR is 9:1 everywhere on the 450 ohm line.
> (Vf+Vr)/(If+Ir) = 50 ohms at points x and y. There are reflections
> to the left of y but no reflections to the left of x. Why?

Did you swap x and y in the second last sentence and really mean
"There are reflections to the left of x but no reflections to
the left of y"?

...Keith

3290. Re: 18:1 all band dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 02:43:38 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <uP_Oh.19756$uo3.7090@newssvr14.news.prodigy.net>
Source record: 43956
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Buck wrote:
> Cecil Moore <nospam@w5dxp.com> wrote:
> Please explain your antenna and radio. I am assuming you have a solid
> state rig with an so-239 connector on it for the basic and then you do
> what?

Hi Buck, Please check out my associated web page and then
ask me anything that you don't understand.

http://www.w5dxp.com/notuner.htm

Contrary to what you may have been told, you can change
the 50 ohm SWR seen by your transmitter by changing the
length of the 450 ohm ladder-line.
--
73, Cecil http://www.w5dxp.com

3291. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 02:55:13 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <I__Oh.19759$uo3.16018@newssvr14.news.prodigy.net>
Source record: 43957

Keith Dysart wrote:
> Cecil Moore <nos...@w5dxp.com> wrote:
>> Keith Dysart wrote:
>>> Have you computed the correct result then?
>> Yes, the results are identical with or without
>> the 1WL of 75 ohm lossless line, exactly as the
>> theory predicts it should be.
>
> This is clearly not correct. Without the 75 Ohm line the first
> reflection does not arrive back at the generator for 62 cycles.
> With the 75 Ohm line, the first reflection arrives back at the
> generator after only two cycles. The response is not at all
> the same, though I agree, they do arrive at the same steady
> state condition.

I am only talking about steady-state so the conditions are
indeed identical, as I stated.

> So the two experiments are clearly different.

No, technical theory says they have to be the same in the
steady-state condition. Saying they are different violates
the laws of physics.

> Yes, but it is discussing, as its title clearly states, "Additional
> Experimental Evidence Proving Existence of Conjugate Match and
> Non-Dissipative Source Resistance In RF Power Amplifiers".
> I find it not applicable to the experiment at hand since we
> are neither discussing a reasonable implementation of an
> RF Power Amplifier nor is there a conjugate match.

That you find it "not applicable" is part of your problem.
You ignore reality in favor of your wet dreams. That's your
choice but please don't try to convince the rest of the
world to join you. The impedance seen by the reflections is
NOT the 450 ohm resistor. The impedance seen by the reflections
is the V/I ratio of the source.

> Regardless, the real question is can you compute the magnitude
> of the re-reflection when it reaches the load and what is the
> methodology? (And please do not modify the experiment to do so.)

I have asked you before - please provide me a math model of the
source and I will be more than glad to do so. Hint: Handwaving
the existence of a source is not acceptable. Where's the beef?
--

73, Cecil http://www.w5dxp.com

3292. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 02:59:38 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <u2%Oh.19760$uo3.11465@newssvr14.news.prodigy.net>
Source record: 43958

Keith Dysart wrote:
> Did you swap x and y in the second last sentence and really mean
> "There are reflections to the left of x but no reflections to
> the left of y"?

No, a properly calibrated Bird wattmeter will measure
some reflected power to the left of y but zero
reflected power to the left of x. Hint: Point x achieves
a Z0-match which re-reflects all reflected energy back
toward the load. That is a result of total destructive
interference toward the source and total constructive
interference toward the load, a concept that presently
seems to be beyond your comprehension.
--
73, Cecil http://www.w5dxp.com

3293. Re: MFJ-1795 HF Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 03:01:19 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99038473B26C3nonenowhere@61.9.191.5>
Source record: 43959

"notme" <nono@no.org> wrote in
news:L76dnUm0c96Y75HbnZ2dnUVZ_u6rnZ2d@comcast.com:

> Does anyone have any experience using the MFJ-1795 vertical antenna?
> Because of it's size, it's probably one of the few antennas that I
> will be able to put in my back yard.
>
> I'd like to hear any comments on using this antenna, performance,
> etc...

Firstly, I don't have first hand experience with the MFJ1795, however some thoughts...

It appears from their description and manual to be a vertical of 7 to 10 feet in height, and with top loading. They describe options for mounting on the ground, or an elevated mount with radials.

The challenge with any short ground mounted vertical is to increase the radiation resistance of the vertical and decrease the equivalent loss resistance of the ground connection.

Top loading helps increase radiation resistance, but the radiation resistance of a 10' radiator on 7MHz will be low relative to practical ground system resistances, and typical system efficiency with a minimal ground system is unlikely to be greater than about 25%. However, that might be a quite acceptable compromise to many users.

MFJ claims: 'The MFJ-1795 has a low angle of radiation for DXing and is omni-directional. The MFJ-1795 handles 1500 Watts PEP. It has highly efficient end-loading. The entire length of the antenna radiates and it has low SWR.'

Sounds impressive, but a low angle of radiation will require a superb ground system, it is likely to be omni-directional if there are no nearby obstructions, radials will distort the pattern if there a few in number, end loading might have some loss advantages, but ground resistance may swamp loading loss and largely determine the antenna efficiency. Improving the ground system may increase VSWR and increased line loss might eat away some of the gains.

Vertical antennas are often quite noisy relative to a horizontal antennas in built up areas, something to consider.

Owen

3294. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 03:37:47 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <130p1gdc58do13d@corp.supernews.com>
Source record: 43960
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

An understanding of "mismatch loss" doesn't require SWR, reflections, power waves, "reflected power", "reflected energy", or other real or imagined complexities other than simple impedances. Here's what it means:

If you have a generator with a fixed output impedance such as a signal generator, and connect it to a conjugately matched load, the power dissipated in that load is the most you can get in any load connected to the generator. For example, if your generator produces 10 volts RMS open circuit and has a 50 ohm resistive output impedance, it can deliver 0.5 watt to a 50 ohm resistive load. If you connect any other load impedance to the generator, you'll get less power to the load. You can calculate exactly how much with simple circuit theory.

"Mismatch loss" is simply a way of expressing the reduction in power you get due to the load being mismatched, compared to how much you'd get with a matched load. For example, if you connect a 100 ohm resistor to the output of the generator, it would dissipate 0.44 watt instead of 0.5, so the mismatch loss is 10 log 0.5/0.44 = 0.51 dB(*). If you connect a 25 ohm resistor to the output, you also get 0.44 watt in the load resistor, again a "mismatch loss" of 0.51 dB. These numbers are calculated using nothing more complicated than simple lumped circuit principles.

Mismatch loss is a useful concept when connecting fixed-impedance circuits together, such as in a laboratory environment. But it doesn't apply to either antennas or to VSWR. All you have to do to reduce the "mismatch loss" to zero is to insert a tuner or other matching network between the generator and the load. Presto, the generator sees 50 ohms resistive, the load dissipates 0.5 watt, and the mismatch loss is zero.

(*) For the 100 ohm example: The circuit consists of a 10 volt generator, and a 50 ohm resistance (the generator impedance) and 100 ohm resistance (the load) in series. So the current is V / R = 10 / (50 + 100) = 66.67 mA. The power dissipated in the load is I^2 * R = 0.06667^2 * 100 ~ 0.44 watt. No reflections, VSWR, transmission lines, or bouncing power waves required.

Roy Lewallen, W7EL

billcalley wrote:
> What I gleaned from the excellent answers for the original "VSWR
> Doesn't Matter?" thread is that high VSWR doesn't really matter in a
> lossless transmission line environment between a transmitter's antenna
> tuner and the antenna, since any reflected RF energy will simply
> continue to "bounce" back and forth between the tuner's output

> impedance and the antenna's input impedance until it is, finally,
> completely radiated from the antenna without loss.
>
> But then why does the concept of "mismatch loss" exist in
> reference to antennas? I have quickly calculated that if a
> transmitter outputs 100 watts, and the TX antenna has an impedance
> that will cause a VSWR of 10:1 -- using lossless transmission line --
> that the mismatch loss in this "lossless" system would be 4.81dB!
> (Reflected power 66.9 watts, RL -1.74).
>
> Since mismatch loss is the "amount of power lost due to
> reflection", and is as if an "attenuator with a value of the mismatch
> loss where placed in series with the transmission line", then I would
> think that VSWR would *definitely* matter, and not just for highly
> lossy lines either. But here again, I'm probably not seeing the
> entire picture here. What am I missing??
>
> Confused!
>
> -Bill
>

3295. Re: LPDA TV antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 04:28:46 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <2m0Ph.92619$7g3.27310@newsfe14.phx>
Source record: 43961

"Jimmie D" <GFENDER@carolina.rr.com> wrote in message
news:460b9a5e$0$17148$4c368faf@roadrunner.com...

> >
>
> the lpda antennas dont usually have a gap in there coverage and I have
heard
> of people using them but dont know how well they worked. I am going to try
> it anyway but was hoping I could get some info before I started.
>
>

I understand and I may have misled you. I think I recall seeing what you
describe. Good luck with the experiment.

3296. Re: MFJ-1795 HF Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 04:49:03 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990396B6FD2ABnonenowhere@61.9.191.5>
Source record: 43962

Owen Duffy <none@no.where> wrote in
news:Xns99038473B26C3nonenowhere@61.9.191.5:

> Top loading helps increase radiation resistance, but the radiation
> resistance of a 10' radiator on 7MHz will be low relative to practical
> ground system resistances, and typical system efficiency with a
> minimal ground system is unlikely to be greater than about 25%.
> However, that might be a quite acceptable compromise to many users.

Deep in the manual, I find:
1. the expectation that VSWR on 40m is likely to be around 1.2, and
2. that the unloaded part of the radiator is adjustable from 5' to 8'.

Following from 2, modelling indicates that a top loaded 8' vertical
probably has a radiation resistance around 5 ohms on 7MHz.

From 1, assuming that VSWR 2 is at the feed point and is achieved with a
feed point resistance of 42 ohms, then efficiency at the feedpoint = 5/42
or 12%.

The VSWR is so good that line loss with 100' of RG8/X for example should
give an antenna system efficiency of around 10%.

Owen

3297. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 05:03:10 UTC
From: Dan Bloomquist <public21@lakeweb.com>
Message-ID: <iS0Ph.5893$ya1.1352@news02.roc.ny>
Source record: 43963
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Roy Lewallen wrote:

> An understanding of "mismatch loss" doesn't require SWR, reflections,
> power waves, "reflected power", "reflected energy", or other real or
> imagined complexities other than simple impedances. Here's what it means:
>
> If you have a generator with a fixed output impedance such as a signal
> generator, and connect it to a conjugately matched load, the power
> dissipated in that load is the most you can get in any load connected to
> the generator. For example, if your generator produces 10 volts RMS open
> circuit and has a 50 ohm resistive output impedance, it can deliver 0.5
> watt to a 50 ohm resistive load. If you connect any other load impedance
> to the generator, you'll get less power to the load. You can calculate
> exactly how much with simple circuit theory.
>
> "Mismatch loss" is simply a way of expressing the reduction in power you
> get due to the load being mismatched, compared to how much you'd get
> with a matched load. For example, if you connect a 100 ohm resistor to
> the output of the generator, it would dissipate 0.44 watt instead of
> 0.5, so the mismatch loss is 10 log 0.5/0.44 = 0.51 dB(*). If you
> connect a 25 ohm resistor to the output, you also get 0.44 watt in the
> load resistor, again a "mismatch loss" of 0.51 dB. These numbers are
> calculated using nothing more complicated than simple lumped circuit
> principles.
>
> Mismatch loss is a useful concept when connecting fixed-impedance
> circuits together, such as in a laboratory environment. But it doesn't
> apply to either antennas or to VSWR. All you have to do to reduce the
> "mismatch loss" to zero is to insert a tuner or other matching network
> between the generator and the load. Presto, the generator sees 50 ohms
> resistive, the load dissipates 0.5 watt, and the mismatch loss is zero.

Bravo. And a great deal simpler to understand than most handwaving on
these threads.

> Roy Lewallen, W7EL

Best, Dan.

3298. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 05:25:25 UTC
From: Robert <Robert@yahoo.com>
Message-ID: <9b1Ph.18048$tD2.7348@newsread1.news.pas.earthlink.net>
Source record: 43964
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:kI_Oh.19755$uo3.13296@newssvr14.news.prodigy.net...
> bw wrote:
>> Entropy increases
>
> Seems to me that evolution violates that principle.
> --
> 73, Cecil http://www.w5dxp.com

Not to mention the Noble Prize Ilya Prigogine won for "Dissipative
Structures" in 1977.

Spontaneous Ordered Structures arising out of disorder. But it takes an
Energy Flow to produce them.

Robert

3299. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 06:25:05 UTC
From: Robert <Robert@yahoo.com>
Message-ID: <532Ph.16479$PL.9790@newsread4.news.pas.earthlink.net>
Source record: 43966
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

```
"Robert" <Robert@yahoo.com> wrote in message
news:9b1Ph.18048$tD2.7348@newsread1.news.pas.earthlink.net...
>
> "Cecil Moore" <nospam@w5dxp.com> wrote in message
> news:kI_Oh.19755$uo3.13296@newssvr14.news.prodigy.net...
>> bw wrote:
>>> Entropy increases
>>
>> Seems to me that evolution violates that principle.
>> --
>> 73, Cecil http://www.w5dxp.com
>
> Not to mention the Noble Prize Ilya Prigogine won for "Dissipative
> Structures" in 1977.
>
> Spontaneous Ordered Structures arising out of disorder. But it takes an
> Energy Flow to produce them.
>
> Robert
```

Sorry. Forgot to include the link.

http://en.wikipedia.org/wiki/Ilya_Prigogine

Robert

3300. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 06:26:01 UTC
From: mg <mgkelson@yahoo.com>
Message-ID: <1175235961.893669.193560@n59g2000hsh.googlegroups.com>
Source record: 43967
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

On Mar 29, 2:10 pm, "billcalley" <billcal...@yahoo.com> wrote:
> What I gleaned from the excellent answers for the original "VSWR
> Doesn't Matter?" thread is that high VSWR doesn't really matter in a
> lossless transmission line environment between a transmitter's antenna
> tuner and the antenna, since any reflected RF energy will simply
> continue to "bounce" back and forth between the tuner's output
> impedance and the antenna's input impedance until it is, finally,
> completely radiated from the antenna without loss.

There's also the case where a perfect VSWR does no good. That happens
when you connect a transmitter to an extremely lossy line and the
signal dissipates before it gets to the load :>

> But then why does the concept of "mismatch loss" exist in
> reference to antennas? I have quickly calculated that if a
> transmitter outputs 100 watts, and the TX antenna has an impedance
> that will cause a VSWR of 10:1 -- using lossless transmission line --
> that the mismatch loss in this "lossless" system would be 4.81dB!
> (Reflected power 66.9 watts, RL -1.74).
>
> Since mismatch loss is the "amount of power lost due to
> reflection", and is as if an "attenuator with a value of the mismatch
> loss where placed in series with the transmission line", then I would
> think that VSWR would *definitely* matter, and not just for highly
> lossy lines either. But here again, I'm probably not seeing the
> entire picture here. What am I missing??
>
> Confused!
>
> -Bill

3301. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 06:28:15 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <vsap03pkgfvh7o61crc99l7tsrmceqhhn5@4ax.com>
Source record: 43965

On Fri, 30 Mar 2007 02:59:38 GMT, Cecil Moore <nospam@w5dxp.com>
wrote:

>>> XMTR--x--1WL 450 ohm line--y--1WL 450 ohm line--50 ohm load

>Keith Dysart wrote:
>> Did you swap x and y in the second last sentence and really mean
>> "There are reflections to the left of x but no reflections to
>> the left of y"?
>
>No, a properly calibrated Bird wattmeter will measure
>some reflected power to the left of y but zero
>reflected power to the left of x.

You clearly have never calibrated a Bird Wattmeter for a 450 Ohm Line
(or any line).

As for this "some" power. "Some" power can be "measured" by any of a
half dozen ways to improperly use instrumentation. It doesn't lift
the gravitas of a "hint" to proof.

>Hint: Point x achieves
... yadda yadda yadda ...
>a concept that presently
>seems to be beyond your comprehension.

This must be the 80% of correct that is moot.

73's
Richard Clark, KB7QHC

3302. Re: tnx al coax

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 10:50:30 UTC
From: ml <m@di.net>
Message-ID: <m-E5B4E8.06502530032007@news.verizon.net>
Source record: 43968

In article <1174913766.449749.67210@l75g2000hse.googlegroups.com>,
"art" <aunwin@insightbb.com> wrote:

> On 26 Mar, 00:40, Ian White GM3SEK <gm3...@ifwtech.co.uk> wrote:
> > Ed wrote:
> >
> > >
<<just wanted to say thanks to the many posters , i learned alot about
coax in general and thanks to a few posters i somehow 'got it'... and
started to see why a little al where the cu used to be like for like
didn't make as dramatic a diff as my untrained gut assumed it would,
dunno why i was so bothered by it bad assumption

thanks for all the facts , from what i learned unless i can see that
the outer jacket is soooo much better about keeping the elements out
i'd be concerned about using al but for inside runs it could save
alot of money and be just as good

usually the smallest coax i use is like lmr600/cinta600 and some
other variants some are all copper some are plated

i use it for both hf and naturally 2m/440 for higher i use lmr900
or heliax 1" it's very heavy 100ft to roof 100ft indoor runs stiff
and $$ so naturally i was attracted to the al coax but didn't want to
suffer losses or other al related problems

if corrosian is the the big killer i ponder even say for a indoor 2ft al
patch cable, how long that would last say compared to a coax copper
equivlant , i have really really old patch cables that still measure
good

i'll be interested to see some real world long term testing of this
stuff but seems to be sexy

thanks everybody

3303. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 11:06:20 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175252779.977392.268570@y80g2000hsf.googlegroups.com>
Source record: 43969

On Mar 29, 10:55 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Cecil Moore <nos...@w5dxp.com> wrote:
> >> Keith Dysart wrote:
> >>> Have you computed the correct result then?
> >> Yes, the results are identical with or without
> >> the 1WL of 75 ohm lossless line, exactly as the
> >> theory predicts it should be.
>
> > This is clearly not correct. Without the 75 Ohm line the first
> > reflection does not arrive back at the generator for 62 cycles.
> > With the 75 Ohm line, the first reflection arrives back at the
> > generator after only two cycles. The response is not at all
> > the same, though I agree, they do arrive at the same steady
> > state condition.
>
> I am only talking about steady-state so the conditions are
> indeed identical, as I stated.

That does cause some difficulties since we are discussing ghosts,
clearly a transient phenomenom. Remember the question: What is
the magnitude of the first re-reflection to reach the load?

> > So the two experiments are clearly different.
>
> No, technical theory says they have to be the same in the
> steady-state condition. Saying they are different violates
> the laws of physics.

Thank you for agreeing that they are different for the non-steady
state situation under discussion.

> > Yes, but it is discussing, as its title clearly states, "Additional
> > Experimental Evidence Proving Existence of Conjugate Match and
> > Non-Dissipative Source Resistance In RF Power Amplifiers".
> > I find it not applicable to the experiment at hand since we
> > are neither discussing a reasonable implementation of an
> > RF Power Amplifier nor is there a conjugate match.
>
> That you find it "not applicable" is part of your problem.
> You ignore reality in favor of your wet dreams. That's your
> choice but please don't try to convince the rest of the
> world to join you. The impedance seen by the reflections is
> NOT the 450 ohm resistor. The impedance seen by the reflections
> is the V/I ratio of the source.

But what a surprise, that is 450 Ohms. Try plotting it. Compute
the slope.

> > Regardless, the real question is can you compute the magnitude
> > of the re-reflection when it reaches the load and what is the
> > methodology? (And please do not modify the experiment to do so.)
>
> I have asked you before - please provide me a math model of the
> source and I will be more than glad to do so. Hint: Handwaving
> the existence of a source is not acceptable. Where's the beef?

Sure, why not? Just for fun let's do the Norton model for the
generator. A 2 Amp ideal current source in parallel with a
450 Ohm resistor. Recall that an ideal current source has an
infinite impedance and adjusts its voltage to whatever is necessary
to cause 2 Amps to flow. This is quite a simple model and
EXACTLY models the generator because it is the same as the
definition of the generator used in the experiment. It is
quite amenable to analysis.

Remember that the question to be answered is: What is the
magnitude of the first re-reflection to reach the load?

Use the methodology of your choice, but you can't make any
changes to the circuit since such changes might alter the
transient behaviour. Hints:
- steady state analysis is unlikely to work since the
question is about the transient behaviour.
- for a methodology that works try googling lattice diagrams.
These are specifically applicable to the transient behaviour
of a system.

And to get any marks at all, show your work along with the answer.

Good luck.

...Keith

3304. Re: MFJ-1795 HF Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 11:06:38 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <ulrp03hqom0bfidvtjb0m3lmulabh7nig7@4ax.com>
Source record: 43970

On Thu, 29 Mar 2007 21:12:22 -0500, "notme" <nono@no.org> wrote:

>Does anyone have any experience using the MFJ-1795 vertical antenna?
>Because of it's size, it's probably one of the few antennas that I will be
>able to put in my back yard.
>
>I'd like to hear any comments on using this antenna, performance, etc...
>
>Thanks!
>

I don't have the antenna, but I downloaded the manual for it. Is this
a multi-band antenna or one band at the time?

I see on page 7 what looks like a shorting strap across all coils
except the 40 meter coil...

thank you,

--
73 for now
Buck, N4PGW
www.lumpuckeroo.com

3305. Re: 18:1 all band dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 11:08:35 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <2rrp035krelp6fdo38kpls3p2s5r40hmb3@4ax.com>
Source record: 43971
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

On Fri, 30 Mar 2007 02:43:38 GMT, Cecil Moore <nospam@w5dxp.com>
wrote:

>Buck wrote:
>> Cecil Moore <nospam@w5dxp.com> wrote:
>> Please explain your antenna and radio. I am assuming you have a solid
>> state rig with an so-239 connector on it for the basic and then you do
>> what?
>
>Hi Buck, Please check out my associated web page and then
>ask me anything that you don't understand.
>
>http://www.w5dxp.com/notuner.htm
>
>Contrary to what you may have been told, you can change
>the 50 ohm SWR seen by your transmitter by changing the
>length of the 450 ohm ladder-line.

Ok, I have seen that. It isn't that the antenna isn't tuned, it is
tuned with the twin-lead instead of a conventional tuner.

I might have enough twin lead to build one of those. I'll have to
consider it. It has always tweaked my interest.

Thanks

--
73 for now
Buck, N4PGW
www.lumpuckeroo.com

3306. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 11:28:54 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175254134.930513.9460@b75g2000hsg.googlegroups.com>
Source record: 43972

On Mar 29, 7:17 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> The answer is subtle. Consider the following lossless example.
>
> XMTR--x--1WL 450 ohm line--y--1WL 450 ohm line--50 ohm load
>
> The SWR is 9:1 everywhere on the 450 ohm line.
> (Vf+Vr)/(If+Ir) = 50 ohms at points x and y. There are reflections
> to the left of y but no reflections to the left of x. Why?
>
> The physical rho
> at point y is zero. The physical rho at point x is 0.8. That's
> the difference. Reflections occur only at physical impedance
> discontinuities.

Certainly true. To be somewhat more complete there is another
rho at x. You have correctly computed rho from the generator
to the line, but there is also a rho from the line to the
generator: -0.8. This can handily be used to compute the
magnitude of the reflected signal that is re-reflected
towards the load. And when dealing with transients, will
permit you to compute the magnitude of the ghosts, of
which there are an infinite number for each change in
the signal, though of declining magnitude. In a sense,
the ghosts show how the system settles to its
'steady-state'.

...Keith

3307. Re: tnx al coax

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 12:10:23 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <460cfe2e$0$16693$4c368faf@roadrunner.com>
Source record: 43973

"ml" <m@di.net> wrote in message
news:m-E5B4E8.06502530032007@news.verizon.net...
> In article <1174913766.449749.67210@l75g2000hse.googlegroups.com>,
> "art" <aunwin@insightbb.com> wrote:
>
>> On 26 Mar, 00:40, Ian White GM3SEK <gm3...@ifwtech.co.uk> wrote:
>> > Ed wrote:
>> >
>> > >
> <<just wanted to say thanks to the many posters , i learned alot about
> coax in general and thanks to a few posters i somehow 'got it'... and
> started to see why a little al where the cu used to be like for like
> didn't make as dramatic a diff as my untrained gut assumed it would,
> dunno why i was so bothered by it bad assumption
>
> thanks for all the facts , from what i learned unless i can see that
> the outer jacket is soooo much better about keeping the elements out
> i'd be concerned about using al but for inside runs it could save
> alot of money and be just as good
>
> usually the smallest coax i use is like lmr600/cinta600 and some
> other variants some are all copper some are plated
>
>
> i use it for both hf and naturally 2m/440 for higher i use lmr900
> or heliax 1" it's very heavy 100ft to roof 100ft indoor runs stiff
> and $$ so naturally i was attracted to the al coax but didn't want to
> suffer losses or other al related problems
>
>
> if corrosian is the the big killer i ponder even say for a indoor 2ft al
> patch cable, how long that would last say compared to a coax copper
> equivlant , i have really really old patch cables that still measure
> good
>
> i'll be interested to see some real world long term testing of this
> stuff but seems to be sexy
>
>
>
>
>
> thanks everybody

I have some al that has been up since summer 1990 with no problems. It has actually held up better than the run of RG213 I put up the following year.

3308. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 12:35:29 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <lu7Ph.3982$u03.203@newssvr21.news.prodigy.net>
Source record: 43974

Keith Dysart wrote:

> w5dxp wrote:
>> The impedance seen by the reflections
>> is the V/I ratio of the source.
>
> But what a surprise, that is 450 Ohms. Try plotting it. Compute
> the slope.

It is 450 ohms under no load conditions. It drops when
one adds the load. Please read w2du's web page to find
out why the reflections do not see 450 ohms and so are
re-reflected.

http://www.w2du.com/r3ch19a.pdf

> Sure, why not? Just for fun let's do the Norton model for the
> generator.

Please choose a real world source.
--
73, Cecil http://www.w5dxp.com

3309. Re: 18:1 all band dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 12:37:53 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <Bw7Ph.3983$u03.1843@newssvr21.news.prodigy.net>
Source record: 43975
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Buck wrote:
> Ok, I have seen that. It isn't that the antenna isn't tuned, it is
> tuned with the twin-lead instead of a conventional tuner.

It has a tuned feeder instead of a conventional tuner.
--
73, Cecil http://www.w5dxp.com

3310. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 13:04:50 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <SV7Ph.3984$u03.1443@newssvr21.news.prodigy.net>
Source record: 43976

Keith Dysart wrote:
> Cecil Moore <nos...@w5dxp.com> wrote:
>> The physical rho
>> at point y is zero. The physical rho at point x is 0.8. That's
>> the difference. Reflections occur only at physical impedance
>> discontinuities.
>
> Certainly true. To be somewhat more complete there is another
> rho at x. You have correctly computed rho from the generator
> to the line, but there is also a rho from the line to the
> generator: -0.8.

Not exactly correct. Rho is calculated at a point
of discontinuity, not from-to along a line. The
reverse rho at point x is -0.8. There could
exist another point of discontinuity inside the
source but unless reflections are allowed to reach
the source, we have no clue what it might be. If
100 volts is supplied at point x in the example,
we have no way of knowing what the source impedance
might be.
--
73, Cecil http://www.w5dxp.com

3311. Re: 18:1 all band dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 13:59:04 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <sp5q035o5t27i7736i0ql1c5mg1is5ug4p@4ax.com>
Source record: 43978
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

On Fri, 30 Mar 2007 12:37:53 GMT, Cecil Moore <nospam@w5dxp.com>
wrote:

>Buck wrote:
>> Ok, I have seen that. It isn't that the antenna isn't tuned, it is
>> tuned with the twin-lead instead of a conventional tuner.
>
>It has a tuned feeder instead of a conventional tuner.

I am curious to know, have you measured the power both at the antenna
and the radio to see what loss there might be? I wouldn't expect very
much, personally.

On a G5RV, it is taught that the twin-feedline is also part of the
antenna itself, is that true in your model as well?

thanks
Buck
--
73 for now
Buck, N4PGW
www.lumpuckeroo.com

3312. Re: Balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 14:01:35 UTC
From: "Dr.Ace" <Ace@WH2T.com>
Message-ID: <830ab$460d0ec4$4fc6435$27860@DIALUPUSA.NET>
Source record: 43977

Mike ,
You might want to try my balun .
http://www.bloomington.in.us/~wh2t/balun.html
You can use light guage wire for lower power applications .
73, Ace - WH2T

3313. All HF Band Feeline Tuned antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 14:42:26 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <pv5q03haltad6s4kd5ncbq90a3o2ioffu1@4ax.com>
Source record: 43980
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

http://www.w5dxp.com/notuner.htm

Cecil,

Looking more at your antenna, I am making several observations. I posted the URL at the top for other readers to know what we are talking about.

I kind of wish you would change the name of the antenna and not call it 'no-tuner' because I feel let down every time I look at it and see the feed-line tuner. I realize it isn't a conventional tuner. Don't get me wrong, I think it is a GREAT idea and I like it very much and would like to try it myself. However, I feel it is a little deceptive in the name.

I have a few questions about the system. I may have asked some already in another thread, so please bear with me. This is a better place to discuss it rather than hijacking another thread.

I see you use 450 ohm ladder line (or window-line as some call it.) I am wondering if the concept will also work with other impedance feedline such as 600, 300 or 75 ohm twin-line or even possibly with coax. ****

**** I just looked over your program. I see that you have it setup to allow 300 or 450 ohm ladder line. I wonder if you have LLWL available for 600 and 75 ohm.... I will try to put this in XL. (I don't have a basic program.) OK, I just found the compiled program.

I am interested in making one, but I only have 300 ohm.

Does the feedline act as part of the antenna? I am sure it will, at least up to the 'no-tuner' if it acts like a G5RV, but do you know if the feedline radiates?

Have you measured the power at both sides of the 'no-tuner' to see what loss there might be? I doubt there would be much considering that you are using window-line.

I see a couple of the frequencies are above 1.5:1, which I am not comfortable going over with solid state rigs. Do you think that could be fine-tuned with the addition of a 1/2 foot section or maybe with that and a 1/4 foot section?

Would it be safe to assume that I can create a mono-band dipole, maybe even multi-band - if I am lucky, by fixing the length of the dipole and the feedline such that the increment gives me the imax at the

balun for the desired frequency(s)?

Finally, you have a 1:1 choke at the feeder. I see that the better quality coax, the more toroids are needed. Would there be a problem with using a foot of RG-58 with the fewer toroids and then connect that to the high-quality line? I suspect that by then the common-mode currents will be gone and there would be minimum loss in such a short strand of lower-grade coax for HF. I doubt there would be a noticeable signal loss.

Does the 'no-tuner' feedline need to be spread out. I see from the photo that your 16 foot section is one large loop, I figure it must be close to a four-foot diameter loop.

Is there a similar system that would work with a vertical?

Thank you,

I appreciate your taking time to answer this. I hope many of us can learn from it.

Buck
N4PGW

--
73 for now
Buck, N4PGW
www.lumpuckeroo.com

3314. Re: 18:1 all band dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 14:43:44 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <2g8q03lafp7qs2cupvunr0jmd84oo998s7@4ax.com>
Source record: 43981
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

On Fri, 30 Mar 2007 09:59:04 -0400, Buck <usenet01@lumpuckeroo.com>
wrote:

>On Fri, 30 Mar 2007 12:37:53 GMT, Cecil Moore <nospam@w5dxp.com>
>wrote:
>
>>Buck wrote:
>>> Ok, I have seen that. It isn't that the antenna isn't tuned, it is
>>> tuned with the twin-lead instead of a conventional tuner.
>>
>>It has a tuned feeder instead of a conventional tuner.
>
>I am curious to know, have you measured the power both at the antenna
>and the radio to see what loss there might be? I wouldn't expect very
>much, personally.
>
>On a G5RV, it is taught that the twin-feedline is also part of the
>antenna itself, is that true in your model as well?
>
>thanks
>Buck

Please refer to my new thread. Thanks

--
73 for now
Buck, N4PGW
www.lumpuckeroo.com

3315. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 14:45:56 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <4cbq03l324q105ao33uqcve683b7223658@4ax.com>
Source record: 43982

On Thu, 29 Mar 2007 16:32:31 -0700, Jim Kelley <jwkelley@uci.edu> wrote:

>
>
>Walter Maxwell wrote:
>
>> Sorry Jim, but I take exception to your statement, "If redirection of energy takes
place,
>> it takes place by reflection - not interference."
>
>Hi Walt -
>
>I am preparing a more lengthy response, and in the interim let me say
>that I'm sorry you take exception. But my statement is nevertheless
>honest, truthful, and factual. What part of it do you feel is
>contradicted by physical laws?

Hi Jim,

It's been a long time since we discussed this point, so I've forgotten how we ended up on
it. The part I feel
is contradicted is that when total re-reflection is caused without a total discontinuity
such as a physical
short or open circuit, it is caused by resultant of the interference between the forward
and reflected
voltages and the interference between the forward and reflected currents. When the phase
relationships between
the respective voltages and currents are correctly adjusted to achieve an impedance match,
the resultant is
either a virtual short circuit or a virtual open circuit, which causes total re-reflection
of the waves
reflected from the mismatched load terminating the line. Consequently, the interferences
cause the
re-reflection.

Are you saying that this explanation of the re-reflection concept is incorrect?

Walt

>I am familiar with your chapter 23. You sent me a copy of it quite
>some time ago. I had hoped that our work together might have changed
>your point of view about this.
>
>73, Jim AC6XG
>
>> It is the interference between the forward and reflected voltages and beween the forward

and reflected
>> currents that yields the resultant voltage and current values of rho at the matching point which produces
>> either a virtual short or a virtual open circuit that causes the re-reflection. I have shown this to be true
>> in my QEX article of Mar/Apr 1998, entitled, "Examining the Mechanics of Wave Interference in Impedance
>> Matching. It is also Chapter 23 in Reflections 2.
>>
>> Using the complex values of rho I have shown the magnitude and phase relationships of the aforementioned
>> voltages and currents at the stub point that result in a virtual open circuit at the stub point to waves
>> reflected from a 3:1 mismatched load. The result is no reflections on the line between the stub and the
>> source, but a 3:1 SWR on the line between the mismatched load and the stub. If you don't have a copy of this
>> article please let me know and I'll send you one via email.
>>
>> Walt, W2DU
>>
>>
>>
>>

3316. Re: All HF Band Feeline Tuned antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 14:54:22 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <7p8q039qobhuull8490pguo05mbe66mf5n@4ax.com>
Source record: 43983
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

After reading your webpage more closely......

On Fri, 30 Mar 2007 10:42:26 -0400, Buck <usenet01@lumpuckeroo.com>
wrote:

>
>http://www.w5dxp.com/notuner.htm

>I see you use 450 ohm ladder line (or window-line as some call it.) I
>am wondering if the concept will also work with other impedance
>feedline such as 600, 300 or 75 ohm twin-line or even possibly with
>coax. ****

>Does the feedline act as part of the antenna? I am sure it will, at
>least up to the 'no-tuner' if it acts like a G5RV, but do you know if
>the feedline radiates?

That answer would be 'no'. I see that the purpose of the feedline
length is to get the maximum current at the center point of the
dipole.

>
>I see a couple of the frequencies are above 1.5:1, which I am not
>comfortable going over with solid state rigs. Do you think that could
>be fine-tuned with the addition of a 1/2 foot section or maybe with
>that and a 1/4 foot section?

Based on the fact that the antenna is being fed maximum current at the
center, I would guess that this should work.

>Buck
>N4PGW

--
73 for now
Buck, N4PGW
www.lumpuckeroo.com

3317. Re: Rotation of the polarization question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 15:06:58 UTC
From: John Passaneau <w3jxp@arrl.net>
Message-ID: <Xns99037115D276Ajxp16psuedu@128.118.141.40>
Source record: 43984

Owen Duffy <none@no.where> wrote in
news:Xns9903452BB9F84nonenowhere@61.9.191.5:

> John Passaneau <w3jxp@arrl.net> wrote in
> news:Xns9902635F2A9D5jxp16psuedu@128.118.141.40:
>
> ...
>> Hi:
>> We just had a member that works in the satellite uplink/downlink
>> business at Penn State University give a talk on the subject. The
>> satellites use polarization as part of the frequency sharing system
>> in geostationary satellites. When they buy time on a satellite they
>> are given a frequency and a polarization to use. As there is a
>> limited band of frequencies they use polarization to help share
>> frequencies with some working horizontal and some vertical. The feeds
>> on the dishes they use for uplinks and downlinks have motorized
>> polarization feeds and they adjust them to the requested
>> polarization.
>
> Yes John, I talked about that and I incorrectly used the term
> "diversity", but it is frequency reuse as I noted using polarisation.
>
> This can be done with circular (LH and RH) polarisation without a need
> to rotate the feed unit, which for many installations will mean
> another rotary waveguide joint which is to be avoided.
>
> Launching circular polarisation in a feed horn is not difficult, and
> developing autotrack error signals is relatively easy. An interesting
> feed for amateur applications is the septum feed which gives access to
> both circular polarisations from a fairly simple feed unit.
>
> Owen

Hi Owen:

In this case the feed point has for lack of the right name a "pick up
loop" that is motorized and that is what turns for the differnt
polarisation. It is linear, not circular polarisation, at least on the
geostationary satellites they use. I would guess that linear is easier
for them to change. The way it works is they call a satatellite broker
and buy time, he gives them a satellite, a frequency and a polarisation
to use. Before the requested time the satellite transmits a test signal.
They tune to that frequency and tune their antenna for max signal, then
they transmit a test signal to the satellite, the satellite operator
verfies that their signal meets spec.'s and then the channel is theirs

for how every long they have paid for. It's more of a hands on operation than I would have though. Their main busness is sports as they up load all the sports events here on campus and for many of the non sports events like news events and some classes that are held via satellite.

John Passaneau W3JXP

3318. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 15:11:34 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <l9cq03lrj9mjk4h0g2nkkqgsa75nai01ds@4ax.com>
Source record: 43985

On Thu, 29 Mar 2007 22:20:48 GMT, Owen Duffy <none@no.where> wrote:

>Walter Maxwell <walt@w2du.com> wrote in
>news:loco03d1dj1j9vh8caiucvk9o17uafdc0l@4ax.com:
>
>...
>> voltage and current values of rho at the matching point which produces
>> either a virtual short or a virtual open circuit that causes the
>> re-reflection. I have shown this to be true in my QEX article of
>...
>
>Walt,
>
>I am talking about the steady state.

Hi Owen, so am I. The value of (Vf+Vr)/(If-Ir)= Zi is the result of the convergence of all reflected waves.

>I see discussion about this need for total re-reflection at the source,
>and some even describing the function of an ATU as a "total re-
>reflector", and it makes me wonder why we are grappling with re-
>reflection at the source end of the line in the steady state.

If we don't consider re-reflected waves at the source end of the line the source is never going to deliver all
of its available power.

>My understanding is that:
>1. The ratio of elecric field to magnetic field per unit length (or V/I)
>in an infinite transmission line is constrained by the geometry of the
>line and the permeability and permittivity of the components carrying the
>two fields. That ratio is expressed as Zo.
>2. If a wave with V/I=Zo reaches the end of the line, and the load does
>not permit V/I to be Zo (ie a mismatch), a reflected wave is launched,
>and it is of magnitude and phase such that (Vf+Vr)/If-Ir)=Zl (all complex
>values).

This is true.

>In the steady state, after all has settled (ie converged), the
>transmission line reaches an equilibrium where the source V/I
>characteristic is consistent with (Vf+Vr)/If-Ir) at the input end of the
>line.

Not yet. There is more to be done.

>Why is it necessary to complicate the analysis with tracking multiple re-
>reflections, potentially an infinite number of reflections of diminishing
>significance, an analysis that converges in the limit on the answer given
>by the solution of the source V/I characteristic and (Vf+Vr)/If-Ir) at
>the input end of the line (which is the equivalent input impedance). Note
>that (Vf+Vr)/If-Ir) at the input end of the line is determined solely by
>the tranmission line propagation constant, length, Zo and the far end
>load impedance, for avoidance of doubt, source impedance is not
>relevant.

Without inserting some sort of matching device between the source and the line input for causing re-reflection
of Vr and Ir, (Vf+Vr)/(If-Ir) will not equal source V/I, and consequently the source will not deliver all its
available power. When Vr and Ir are caused to be re-reflected in phase with Vf and If, respectively, the
source will deliver all its available power, because the line-input Z will now equal source Z = V/I.
Therefore, the source impedance is totally relevant.

The matching device that causes Vr and Ir to be re-reflected is either a virtual oc or a virtual sc, which is
produced by adjustment of the device that orients the appropriate relationship between the forward and
reflected voltages and between the forward and reflected currents.

>Such an approach does not require invention of virtual re-reflectors or
>virtual s/c or o/c, or ATUs or pi couplers with virtual properties.

Well Owen, then how do you explain re-reflection at the souce in the absence of z virtual sc or oc?

Walt

3319. DELL LAPTOP INSPIRON XPS M 170 GAMER (N12XP5A) 600$

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 15:17:04 UTC
From: laptopconnectionltd@yahoo.co.uk
Message-ID: <1175267824.527532.208690@l77g2000hsb.googlegroups.com>
Source record: 43986

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Registered No.05024690
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LS21 3NB UNITED KINGDOM.

DIRECTOR:
charles stewart
steval michael

CONTACT PERSON(MR LAMPARD KEN)
GENERAL SALES DIRECTOR
+44 70111 40321
+44 703 189 1466

Fax:448704712298

(PLEASE DIRECT YOUR REPLY TO SALE DIRECTOR)
(Mr LAMPARD KEN) (laptopconnectionltd@yahoo.co.uk)
(directorlaptopconnectionltd@yahoo.co.uk)

DEAR sir,
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NOKIA 6060 =$80
NOKIA 6600 =$80
NOKIA 6060 =$90
NOKIA 6101 =$120
NOKIA 6111 =$150
NOKIA 6170 =$125
NOKIA 6230 =$120

NOKIA 6230I=$150
NOKIA 6310I=$150
NOKIA 6670 =$140
NOKIA 7260 =$150
NOKIA 7270 =$130
NOKIA 7280 =$150
NOKIA 7610 =$190
NOKIA 7710 =$230
NOKIA 8800 =$260
NOKIA 8910I=$150
NOKIA 9500 =150
NOKIA 9500I =190
NOKIA 9300 =$100
NOKIA 9300I =$130
Nokia 2610=$95
Nokia 2310=$100
Nokia 3250=$190
Nokia 1112=$110
Nokia 6136=$135
Nokia 6131=$145
Nokia 6070=$160
Nokia 6125=$145
Nokia 6103=$135
Nokia 6233=$180
Nokia 6234=$175
Nokia 6282=$180
Nokia 9300i=$185
Nokia N92=$180
Nokia N80=$170
Nokia N71=$165
Nokia N70=$150
Nokia N83=$190
Nokia N95=$300
Nokia N75=$220
Nokia 5300=$240
Nokia 5200=$190
Nokia 6288=$200
Nokia 6085=$180
Nokia 8800 Sirocco=$280
Nokia 7390=$150
Nokia 7373=$140
Nokia 6151=$150
Nokia 6080=$190
Nokia 1110i=$120
Nokia E50=$170
Nokia 5500 Sport=$230
Nokia N93=$280
Nokia N73=$190
Nokia N72=$150
Nokia 2610=$50

Nokia 2310=$80
Nokia 1112=$90

Motorola phones
Motorola RAZR maxx=$260
Motorola RAZR V3xx=$200
Motorola RIZR=$280
Motorola KRZR K1=$250
Motorola W375=$270
Motorola W208=$190
Motorola W220=$200
Motorola V195=$190
Motorola V191=$200
Motorola ROKR E2=$180
Motorola RAZR V3i=$150
Motorola ROKR E1=$160
Motorola A910=$180
Motorola A1200=$200
Motorola A728=$220
Motorola A732=$220
Motorola Q=$190
Motorola E895=$200
Motorola V3x=$170
Motorola E1070=$260
Motorola E770=$175
Motorola SLVR L7=$185
Motorola SLVR L6=$155
Motorola PEBL U6=$145
Motorola A1010=$165
Motorola E1060=$105
Motorola E1120=$180
Motorola V1050=$150

Samsung phones
Samsung X830=$300
Samsung P310=$250
Samsung Z720=$200
Samsung Z620=$180
Samsung Z370=$200
Samsung P200=$160
Samsung S501i=$190
Samsung S401i=$180
Samsung X500=$200
Samsung D840=$250
Samsung C400=$260
Samsung C240=$180
Samsung D830=$190
Samsung D900=$220
Samsung X820=$190
Samsung C130=$130
Samsung E500=$150

Samsung E380=$170
Samsung D870=$240
Samsung D780=$200
samsung E900=$160
Samsung c100=$80
Samsung d600=$140
Samsung e330=$120
Samsung d500=$120
Samsung e530=$190
Samsung e720=$190
Samsung e770=$200
Samsung x800=$240
Samsung x600=$180

Sony Ericsson phones
Sony Ericsson W830=$260
Sony Ericsson K320=$230
Sony Ericsson Z558=$170
Sony Ericsson Z610=$140
Sony Ericsson K618=$120
Sony Ericsson W850=$260
Sony Ericsson W710=$230
Sony Ericsson Z710=$190
Sony Ericsson Z550=$160
Sony Ericsson W700=$240
Sony Ericsson Z525=$155
Sony Ericsson K800=$220
Sony Ericsson K790=$180
Sony Ericsson V630=$220
Sony Ericsson W300=$200
Sony Ericsson Z530=$150
Sony Ericsson P990=$220
Sony Ericsson K510=$180
Sony Ericsson K310=$190
Sony Ericsson W950=$210
Sony Ericsson P910=$190

Siemens phones
Siemens AL21=$120
Siemens A31=$130
Siemens AF51=$160
Siemens ME75=$110
Siemens AP75=$170
Siemens AX72=$150
Siemens SG75=$140
Siemens SFG75=$130
Siemens CC75=$100
Siemens CF110=$120
Siemens C72=$135
Siemens S75=$120
Siemens SL75=$90

Siemens C75=$80
Siemens SP65=$100
Siemens SXG75=$80
Siemens M75=$120
Siemens CX75=$130
Siemens CF75=$150
Siemens CL75=$100

Sagem phones
Sagem MY 600X=$140
Sagem VS4=$130
Sagem MY 900C=$150
Sagem MY 800X=$130
Sagem MY 405X=$120
Sagem myW-7=$100
Sagem my700X=$90
Sagem myMobileTV=$150
Sagem MY C2-3=$160
Sagem my500X=$140
Sagem MY 300X=$160
Sagem myZ-5=$160
Sagem my200x=$100
Sagem my100x=$120
Sagem MY 400X=$140
Sagem VS3=$150
Sagem MY V-85=$160
Sagem MY V-76=$140
Sagem MY V-56=$130
Sagem VS2=$120

Qtek phones
Qtek 9600=$180
Qtek 8600=$150
Qtek 8500=$160
Qtek S200=$180
Qtek 9000=$200
Qtek 8310=$120
Qtek 8300=$150
Qtek 9100=$180
Qtek 8100=$150
Qtek S110=$175
Qtek S100=$120
Qtek 9090=$170
Qtek 8020=$160
Qtek 8010=$150
Qtek 2020i=$200
Qtek 2020=$170
Qtek 8080=$180
Qtek 8060=$160
Qtek 1010=$140
Qtek 7070=$160

i-mate phones
i-mate SPL=$170
i-mate JAQ=$190
i-mate JASJAM=$180
i-mate SPJAS=$150
i-mate Smartflip=$170
i-mate JAMin=$190
i-mate JASJAR=$200
i-mate K-JAM=$160
i-mate SP5=$190
i-mate SP5m=$190
i-mate SP4m=$160
i-mate JAM Black=$150
i-mate JAM=$140
i-mate PDA2=$160
i-mate PDA2k=$170
i-mate SP3i=$180
i-mate SP3=$130
i-mate Pocket PC=$190
i-mate Smartphone2=$200
i-mate Smartphone=$160

Palm phones
Palm Treo 750v=$200
Palm Treo 650=$180
Palm Treo 600=$160
Palm Treo 270=$140
Palm Treo 180=$120

O2 phones=$150
O2 Orbit=$190
O2 Cosmo=$220
O2 XDA Stealth=$250
O2 Ice=$220
O2 XDA Atom Exec=$150
O2 XDA Trion=$170
O2 XDA Neo=$160
O2 XDA Atom=$160
O2 XDA Orion=$170
O2 XDA Exec=$190

O2 XDA II mini=$140
O2 XDA IIs=$180

BlackBerry phones
BlackBerry Pearl 8100=$220
BlackBerry 7130g=$200
BlackBerry 7130c=$180
BlackBerry 7130v=$160
BlackBerry 8707v=$150
BlackBerry 8700c=$170
BlackBerry 7100x=$150

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We await your response.

Best regards.
MR LAMPARD KEN.
(SALES MANAGER)
+44 70111 40321
+44 703 189 1466

3320. Re: Balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 15:27:50 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <g69Ph.937$Q23.762@newssvr17.news.prodigy.net>
Source record: 43979

Dr.Ace wrote:
> You might want to try my balun .

Are you sure 12 turns on a one inch air core
coil form is good enough for 160m? Wouldn't
the reactance need to be in the hundreds
of ohms?
--
73, Cecil, w5dxp.com

3321. Re: All HF Band Feeline Tuned antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 15:53:36 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <4oaPh.12380$Um6.6925@newssvr12.news.prodigy.net>
Source record: 43987
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Buck wrote:
> I see you use 450 ohm ladder line (or window-line as some call it.) I
> am wondering if the concept will also work with other impedance
> feedline such as 600, 300 or 75 ohm twin-line or even possibly with
> coax. ****

Might as well go into some detail here. The feedpoint impedances
encountered in a 130 foot dipole may range from ~50 ohms to
~5000 ohms. In order to limit the maximum SWR the feedline Z0
should be ~SQRT(50)(5000) = ~500 ohms. Thus the choice of 450
ohm line. Given that the feedpoint impedances may range from
~50 to ~5000 ohms, here are the maximum SWRs that may be
expected for the different Z0s. Since the antenna system
is fed at a current maximum point, I have included the
impedance at the current maximum point which needs to be
between 25 ohms and 100 ohms in order to avoid foldback.

Z0 SWRmax Imax Impedance
600 12:1 50 ohms
450 11:1 41 ohms
300 17:1 18 ohms
75 67:1 1 ohm
50 100:1 0.5 ohms

It should be readily apparent why coax is a no-no for this
antenna system. Even 300 ohm twinlead will result in a
50 ohm SWR of 50/18 = 2.8:1, high enough to cause foldback.

> I am interested in making one, but I only have 300 ohm.

Let's take 40m as an example. The dipole is one wavelength
and will have a 300 ohm SWR of 16:1 on 7.2 MHz according
to EZNEC. 300/16 = 18.75 ohms at the current maximum
point resulting in a 50 ohm SWR of 2.7:1 enough to cause
foldback without an antenna tuner. Such is life.

I do use 300 ohm line on my 20m rotatable dipole and it
does work 20m-10m but there are probably 10m frequencies
where the 50 SWR is too high.

> Does the feedline act as part of the antenna? I am sure it will, at
> least up to the 'no-tuner' if it acts like a G5RV, but do you know if
> the feedline radiates?

I monitor the current balance in my feedlines. They are
so well balanced that there is no hint of common-mode

current on the coax side of my current/choke/balun.
Balanced currents radiate a negligible amount.

> Have you measured the power at both sides of the 'no-tuner' to see
> what loss there might be? I doubt there would be much considering
> that you are using window-line.

No I haven't measured the losses. I have trusted Owen's
transmission line calculator for that data.

> I see a couple of the frequencies are above 1.5:1, which I am not
> comfortable going over with solid state rigs. Do you think that could
> be fine-tuned with the addition of a 1/2 foot section or maybe with
> that and a 1/4 foot section?

The disadvantage of this method is that it lacks one dimension
of tuning necessary to achieve 50 ohms. Unless you do one more
impedance transformation, no amount of fine-tuning the ladder-
line length will get any closer.

> Would it be safe to assume that I can create a mono-band dipole, maybe
> even multi-band - if I am lucky, by fixing the length of the dipole
> and the feedline such that the increment gives me the imax at the
> balun for the desired frequency(s)?

One such example is at: http://www.w5dxp.com/HEDZ.htm
This antenna works on 75m and 40m with a fixed length of ladder-
line.

> Finally, you have a 1:1 choke at the feeder. I see that the better
> quality coax, the more toroids are needed. Would there be a problem
> with using a foot of RG-58 with the fewer toroids and then connect
> that to the high-quality line?

Just use RG-58 entirely unless you are running high power.

> Does the 'no-tuner' feedline need to be spread out. I see from the
> photo that your 16 foot section is one large loop, I figure it must be
> close to a four-foot diameter loop.

I have my 16 foot loop coiled in a 4 turn spiral around a piece
of fiberglas fishing pole.

> Is there a similar system that would work with a vertical?

Verticals are not usually fed with ladder-line so probably
more trouble than it is worth.
--
73, Cecil, w5dxp.com

3322. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 16:05:13 UTC
From: Werty <werty@swissinfo.org>
Message-ID: <1175270713.054590.15930@b75g2000hsg.googlegroups.com>
Source record: 43988
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Yes, and it should hurt , because we are using
English and text to show something that
s/b shown in pictures .

Im E.E. , KC7CC, and more..

i can simply show you with pictures.
It will be instantly clear .

---BTW------
Im doin ARM computers , I will give a free
Op System . It will NOT use English nor
ASCII . No arbitrary definitions ...
No C++ , No Linux , No M$, no
more "Free Lunch" .....

We use Coax for its isolation from nearby
absorbers .. parallel line is much lower loss
but absorbs into other objects close .
We do not use caps , but stubs .
But they are tuned (freq dependent) .
The fast way to follow this , is to draw
a picture , then edit it as you go .
English will only get you a college degree
and a free lunch (Liberals) .

> Now my head *really* hurts! This is a VERY confusing subject, to
> say the least. (And I also thought antenna tuners actually had a
> *loss* due to their limited Q...I think I'm going to change careers
> now and just become a pet groomer; or perhaps simply give up
> completely and work at Radio Shack).
>
> -Bill

3323. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 16:33:30 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <uZaPh.12387$Um6.241@newssvr12.news.prodigy.net>
Source record: 43989

Walter Maxwell wrote:
> Well Owen, then how do you explain re-reflection at the souce in the absence of z virtual sc or oc?

I'm not Owen but in S-Parameter terms it is explained by:

b1 = (s11)(a1) + (s12)(a2) = 0

When (s11)(a1) equals -(s12)(a2), there is total destructive interference in the direction of b1 toward the source. That's the wave cancellation that is associated with your sc and oc. As the Florida State web page says:

http://micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/waveinteractions/index.html

"... when two waves of equal amplitude and wavelength that are 180-degrees ... out of phase with each other meet, they are not actually annihilated, ... All of the photon energy present in these waves must somehow be recovered or redistributed in a new direction, according to the law of energy conservation ... Instead, upon meeting, the photons are redistributed to regions that permit constructive interference, so the effect should be considered as a redistribution of light waves and photon energy rather than the spontaneous construction or destruction of light."

In a transmission line with only two directions, a "redistribution" certainly implies a reversal in direction of the wave energy involved in the wave cancellation, i.e. a re-reflection.

On the above Florida State web page, one can set the two waves to the same frequency, same magnitude, and opposite phase and observe the wave cancellation. Question is: What happens to the energy in the canceled waves in a transmission line?
Answer: re-reflection in the opposite direction.
--
73, Cecil, w5dxp.com

3324. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 16:51:36 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <sebPh.12392$Um6.7007@newssvr12.news.prodigy.net>
Source record: 43991

Richard Clark wrote:
> Unfortunately, to raise the prospects of interference requires that
> load, and requiring that load immediately violates the first condition
> above - no physical manifestation.

If the impedance discontinuity between two different Z0s
of transmission lines is not a "load/physical manifestation",
then we can toss out an S-Parameter analysis as invalid.
--
73, Cecil, w5dxp.com

3325. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 17:38:20 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <m0iq035nmo2u4490pkfanl1kgfaq6otin9@4ax.com>
Source record: 43990

On Fri, 30 Mar 2007 14:45:56 GMT, Walter Maxwell <walt@w2du.com>
wrote:

>The part I feel
>is contradicted is that when total re-reflection

Hi Walt,

Here I read the subject - reflection.

>is caused without a total discontinuity such as a physical
>short or open circuit,

Here I read a first condition - no physical manifestation.

>it is caused by resultant of the interference between the forward and reflected
>voltages and the interference between the forward and reflected currents.

Here I read the causal connection between the subject and the
condition.

However, waves do not mix in a linear space. The proof is the lack of
heterodyning of the RF soup we live in. Further, interference is the
mixing product of at least two sources (waves, what-have-you) in a
load. No load, then no interference.

Unfortunately, to raise the prospects of interference requires that
load, and requiring that load immediately violates the first condition
above - no physical manifestation.

>When the phase relationships between
>the respective voltages and currents are correctly adjusted to achieve an impedance match,
the resultant is
>either a virtual short circuit or a virtual open circuit, which causes total re-reflection
of the waves
>reflected from the mismatched load terminating the line. Consequently, the interferences
cause the
>re-reflection.

All of this is true in isolation, in fact it describes the actions of
a physical load called an ATR/TR Tube in a RADAR waveguide. When the
right wavelength conditions of a wave and environment meet in the
tube, formerly an open it now conducts to create:
1. A literal short;
2. A short that is found at even quarterwave intervals;
3. An open that is found at odd quarterwave intervals.
The physical and literal short was first necessary as the initiator.
Without the tube, the co-mixing of waves would not have done the job

in isolation.

>Are you saying that this explanation of the re-reflection concept is incorrect?

I'm afraid so.

73's
Richard Clark, KB7QHC

3326. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 17:45:00 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <w0cPh.3310$YL5.2119@newssvr29.news.prodigy.net>
Source record: 43993

Richard Clark wrote:
> Cecil Moore <nospam@w5dxp.com> wrote:
>> If the impedance discontinuity between two different Z0s
>> of transmission lines is not a "load/physical manifestation",
>> then we can toss out an S-Parameter analysis as invalid.
>
> If frogs had wings, they wouldn't bump their assess a-hoppin'

Well, does the impedance discontinuity between two different
Z0s of transmission line meet your requirement of a "load/
physical manifestation"? Is a characteristic impedance
physical enough for you?
--
73, Cecil http://www.w5dxp.com

3327. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 18:01:04 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <cdnq03d4439o4j0voa0aiom5f232itf53v@4ax.com>
Source record: 43994

On Fri, 30 Mar 2007 16:33:30 GMT, Cecil Moore <nospam@w5dxp.com> wrote:

>Walter Maxwell wrote:
>> Well Owen, then how do you explain re-reflection at the souce in the absence of z
virtual sc or oc?
>
>I'm not Owen but in S-Parameter terms it is explained by:
>
>b1 = (s11)(a1) + (s12)(a2) = 0
>
>When (s11)(a1) equals -(s12)(a2), there is total destructive
>interference in the direction of b1 toward the source. That's
>the wave cancellation that is associated with your sc and oc.

Cecil, I know you're not Owen, but my statement to him was a challenge for him to explain in HIS words why he
believes my explanation of the concept is wrong.

When you recite chaper and verse to me you're preaching to the choir, but you knew that.

Walt

3328. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 18:04:43 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <l7kq03578gom1ojnnq724cn3ptaft0j1dn@4ax.com>
Source record: 43992

On Fri, 30 Mar 2007 16:51:36 GMT, Cecil Moore <nospam@w5dxp.com>
wrote:

>Richard Clark wrote:
>> Unfortunately, to raise the prospects of interference requires that
>> load, and requiring that load immediately violates the first condition
>> above - no physical manifestation.
>
>If the impedance discontinuity between two different Z0s
>of transmission lines is not a "load/physical manifestation",
>then we can toss out an S-Parameter analysis as invalid.

If frogs had wings, they wouldn't bump their assess a-hoppin'

3329. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 18:15:31 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <7tcPh.3315$YL5.19@newssvr29.news.prodigy.net>
Source record: 43995

Walter Maxwell wrote:
> When you recite chaper and verse to me you're preaching to the choir, but you knew that.

Just wanted to provide some support from HP's Ap-Note 95-1
available on the web from:

http://www.sss-mag.com/pdf/hpan95-1.pdf
--
73, Cecil http://www.w5dxp.com

3330. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 18:19:20 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <knnq0355k4ftr3f8ip60hcthfea03geo31@4ax.com>
Source record: 43996

On Fri, 30 Mar 2007 09:38:20 -0800, Richard Clark <kb7qhc@comcast.net> wrote:

>On Fri, 30 Mar 2007 14:45:56 GMT, Walter Maxwell <walt@w2du.com>
>wrote:
>
>>The part I feel
>>is contradicted is that when total re-reflection
>
>Hi Walt,
>
>Here I read the subject - reflection.
>
>>is caused without a total discontinuity such as a physical
>>short or open circuit,
>
>Here I read a first condition - no physical manifestation.
>
>>it is caused by resultant of the interference between the forward and reflected
>>voltages and the interference between the forward and reflected currents.
>
>Here I read the causal connection between the subject and the
>condition.
>
>However, waves do not mix in a linear space. The proof is the lack of
>heterodyning of the RF soup we live in. Further, interference is the
>mixing product of at least two sources (waves, what-have-you) in a
>load. No load, then no interference.
>
>Unfortunately, to raise the prospects of interference requires that
>load, and requiring that load immediately violates the first condition
>above - no physical manifestation.
>
>>When the phase relationships between
>>the respective voltages and currents are correctly adjusted to achieve an impedance
match, the resultant is
>>either a virtual short circuit or a virtual open circuit, which causes total
re-reflection of the waves
>>reflected from the mismatched load terminating the line. Consequently, the interferences
cause the
>>re-reflection.
>
>All of this is true in isolation, in fact it describes the actions of
>a physical load called an ATR/TR Tube in a RADAR waveguide. When the
>right wavelength conditions of a wave and environment meet in the

>tube, formerly an open it now conducts to create:
>1. A literal short;
>2. A short that is found at even quarterwave intervals;
>3. An open that is found at odd quarterwave intervals.
>The physical and literal short was first necessary as the initiator.
>Without the tube, the co-mixing of waves would not have done the job
>in isolation.
>
>>Are you saying that this explanation of the re-reflection concept is incorrect?
>
>I'm afraid so.
>
>73's
>Richard Clark, KB7QHC

Oh, 'cmon Richard, are you saying that if a load reflected wave incident on the source wave doesn't result in
an interference between the two waves? If this is what you're really saying, then it is equal to saying that
the principal thrust of my book Reflections is wrong. Is this what you mean? And are you saying that the
report of the Fl State professors that Cecil referred to is also wrong?

In addition, when the radiation from two dipoles fed from the same source is of the same magnitude and
opposite phase at a point in space, resulting in a null in the radiation pattern at that point, are you saying
that the radiation from the two dipoles is not in interference at that point? If this is what you're saying,
then how is the null in the pattern created?

Walt

3331. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 18:24:53 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <VBcPh.216425$5j1.75529@bgtnsc04-news.ops.worldnet.att.net>
Source record: 43998

Cecil Moore wrote:
> Jim Kelley wrote:
>> But my statement is nevertheless honest, truthful, and factual. What
>> part of it do you feel is contradicted by physical laws?
>
> I find it strange that Hecht's definition of "interference"
> doesn't even mention your alleged cause of the interference,
> i.e. superposition. From "Optics", by Hecht in his own
> bold italics:
>
> "Optical interference corresponds to the interaction of
> two or more light waves yielding a resultant irradiance
> that deviates from the sum of the component irradiances."
>
> One might argue that "the interaction of two or more light
> waves" is superposition but why didn't Hecht choose
> "superposition" instead of "interaction"? And a
> "correspondence" of interference to the interaction of
> the waves certainly doesn't imply cause and effect. It
> seems instead to imply an inseparability between the
> interference and the interaction of the waves which
> is of course obvious.
>
> Hecht seems to treat the superposition principle as more
> of a set of rules to be followed by the interfering waves
> than an actual act. FYI, the definition of "superpose"
> doesn't mention EM waves at all.

Cecil,

You seem to misinterpret the significance of the "weasel words" used by your various author-gurus.

An expression such as, "Optical interference corresponds to the interaction . . .", without any accompanying equations is intended to give the reader a general feeling for what is going on. Such words do not imply cause and effect. Nor should those fuzzy expressions be taken to imply "inseparability" as a rigid requirement.

Interference is merely a convenient description of what happens when waves meet. There are no equations for "interference"; there are no units for "interference"; there are no standard symbols for "interference". Interference is an observation, not a physical law.

Stick to the standard field equations and you will not be misled. I am confident that somewhere Hecht goes though the standard treatment of

setting up field functions with boundary conditions and then solves the equations to show what happens at interfaces. Interference can be seen in the solutions to that problem. I'll bet he does not start with interference and then proceed to determine the E-fields and H-fields.

Superposition is a basic mathematical concept that applies to linear systems. It is not necessary to catalog every possible application for superposition. The fact that your definition of "superpose" does not mention EM waves is of zero importance in the world. Superposition still applies even if your dictionary does not know about it.

73,
Gene
W4SZ

3332. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 18:52:35 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <T%cPh.1804$H_5.927@newssvr23.news.prodigy.net>
Source record: 44001

Gene Fuller wrote:
> There are no equations for "interference";

On the contrary, quoting from "Optics", by Hecht,
page 283, 4th edition: "It follows from Eq.(7.9)
that the resultant flux density is not simply the
sum of the component flux densities; there is an
additional contribution, 2*E01*E02*cos(A1-A2), known
as the *interference term*. The emphasis is Hecht's,
not mine.

Later on page 388: "The interference term becomes

I12 = 2*SQRT(I1*I2)cos(Gamma)"

What does it take to make that look like an equation
to you? Have you ever taken time to read and understand
"Optics", by Hecht?
--
73, Cecil http://www.w5dxp.com

3333. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 18:54:52 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <02dPh.1806$H_5.821@newssvr23.news.prodigy.net>
Source record: 44002
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Bob Myers wrote:
> "Cecil Moore" <nospam@w5dxp.com> wrote in message
> ... while at the same time this overall trend results in
> a very localized DECREASE in entropy (increase in order;
> in this case, the evolution of complex systems on Earth).

How about considering the localized W5DXP system? :-)
--
73, Cecil http://www.w5dxp.com

3334. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 19:12:07 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <bidPh.10538$JZ3.1619@newssvr13.news.prodigy.net>
Source record: 44003

Richard Clark wrote:
> There is absolutely no example of interference that does not rely on a
> load to reveal it.

I suspect you would consider blowing smoke through
a region of interference or any other means of detection
to be a "load"? (It is left to the readers to conclude
what it is a load of.)

So the real question is metaphysical: Does undetected
interference exist and if so, how does one prove it?
Reminds me of some of the steady-state arguments.

The students of Aristotle would argue that the interference
exists whether it is detected or not. (A thing is what it
is.)

The students of Plato would argue that the interference
doesn't exist unless it is detected. (A thing is not
necessarily what it appears to be.)
--
73, Cecil http://www.w5dxp.com

3335. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 19:17:00 UTC
From: Bob Myers <nospamplease@address.invalid>
Message-ID: <MmdPh.1809$_M5.921@news.cpqcorp.net>
Source record: 43997
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

"Dave Oldridge" <doldridg@leavethisoutshaw.ca> wrote in message
news:Xns9902A1B995929doldridgsprintca@64.59.135.159...
> If the lossless transmission line (obviously no such animal exists) were
> tuned with a lossless tuner, then VSWR would not matter at all.

Dave, I'm pretty sure I know what you mean here, but it should
be noted that this isn't entirely true. The line would have to have a
couple
of other characteristics besides being simply "lossless" for VSWR
not to matter at all.

The problem, of course, is that a VSWR of other than 1:1 implies
(by definition!) that the voltages and currents along the length of
the line are not constant; there are cyclic variations in each, with
maxima and minima located at half-wavelength intervals (that's
the whole "standing wave" thing in the first place, right?).
Particularly in high-power situations, it is possible for the maxima
to exceed the ratings of the source or of the line itself.

Bob M. (KC0EW)

3336. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 19:21:30 UTC
From: Bob Myers <nospamplease@address.invalid>
Message-ID: <_qdPh.1810$hN5.26@news.cpqcorp.net>
Source record: 43999
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:kI_Oh.19755$uo3.13296@newssvr14.news.prodigy.net...
> bw wrote:
>> Entropy increases
>
> Seems to me that evolution violates that principle.

Not at all; "entropy increases" is with respect to the total
entropy of a closed system. But in the case of "evolution,"
the only closed system which makes any sense to consider
is the entire solar system, or at the very least the Sun-Earth
system. It is entirely pemissible for an overall increase in entropy
to occur (i.e., the Sun slowly loses energy to the rest of the
universe) while at the same time this overall trend results in
a very localized DECREASE in entropy (increase in order;
in this case, the evolution of complex systems on Earth).

Bob M.

> --
> 73, Cecil http://www.w5dxp.com

3337. Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 19:44:20 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <oMdPh.4051$u03.1743@newssvr21.news.prodigy.net>
Source record: 44004

The folks on this newsgroup who argue that the concept
of reflected energy is invalid and only standing waves
exist seem forced to abandon the principle of
superposition which states that a system can be
analyzed by considering the components separately
and adding them later.

So does the Superposition Principle give us permission
to analyze the forward wave and the reflected wave
separately, or not?

An S-Parameter analysis obviously considers the
forward wave and reflected wave separately. Is such
an analysis invalid or simply honoring the rules set
forth in the Principle of Superposition?
--
73, Cecil http://www.w5dxp.com

3338. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 19:46:15 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <qapq03ph00c62thlgp1mdfauf3nj1a03le@4ax.com>
Source record: 44000

On Fri, 30 Mar 2007 18:19:20 GMT, Walter Maxwell <walt@w2du.com>
wrote:

>Oh, 'cmon Richard, are you saying that if a load reflected wave

Is not the same statement as your earlier one:
>>On Fri, 30 Mar 2007 14:45:56 GMT, Walter Maxwell <walt@w2du.com> wrote:
>>
>>>The part I feel is contradicted is that when total re-reflection
>>>is caused without a total discontinuity such as a physical
>>>short or open circuit

What is in your "without a total discontinuity" that is now found in
your "load reflected wave?"

Are we to now parse "total discontinuity" as being wholly different
from "partial discontinuity" such that waves suddenly mix from that
difference?

My example of the classic AT/ATR tube evidences EVERY observation you
offer, except it is a necessary load without which those observations
would never appear. If I were to replace its "total discontinuity"
with a weak tube (it exhibits less than total short); it too would
exhibit EVERY observation you offer EXCEPT they would be imperfect or
"partial discontinuities" repeated every quarter wave. It is obvious
that the effect follows the physical load, not the waves (they haven't
changed when the tube went bad). The physical load is the principle
in the process of interference.

There is absolutely no example of interference that does not rely on a
load to reveal it.

73's
Richard Clark, KB7QHC

3339. How do I break it to the neighbors

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 20:15:17 UTC
From: garlicman <None>
Message-ID: <kO2dnbXw9qJB8pDbnZ2dnUVZ_tyinZ2d@comcast.com>
Source record: 44005

I moved here about seven months ago. There is not HOA, but some neighbors are rather sensitive to how others keep their property in our modest street of 34 homes on lots about 70 x 120. I just upgraded to General. So far, I've got a 40m dipole that is just strung across the back of the roof, but I plan to string it between a tree and the chimney when I get a chance.

I would appreciate your ideas on how to calm down neighbors that might be worried about RF interference, appearance, and property value.

GM

3340. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 20:39:23 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175287163.232100.325870@b75g2000hsg.googlegroups.com>
Source record: 44006

On Mar 30, 11:11 am, Walter Maxwell <w...@w2du.com> wrote:
> The matching device that causes Vr and Ir to be re-reflected is either a virtual oc or a virtual sc, which is
> produced by adjustment of the device that orients the appropriate relationship between the forward and
> reflected voltages and between the forward and reflected currents.
>
> >Such an approach does not require invention of virtual re-reflectors or
> >virtual s/c or o/c, or ATUs or pi couplers with virtual properties.
>
> Well Owen, then how do you explain re-reflection at the souce in
> the absence of z virtual sc or oc?

There is no need for complete re-reflection and therefore no need
to invent a virtual sc or oc.

It is easier to explain outside of a generator so let us consider
two transmission lines of different characteristic impedance
joined in the centre of our page. For convenience assume the
generator is on the left and the load is on the right.

Further, the forward voltage on the left line (Vlf) exists, while
the reverse voltage (Vlr) is zero.

On the right section of the line there is both a non-zero forward
voltage (Vrf) and reverse voltage (Vrr).

(The above could be physically achieved when the section of the line
on the right is being used as a quarter-wave matching transformer.)

Now how can it be that Vlr is 0 unless Vrr is completely
reflected?

Easy. Two things happen to the Vlf, part of it is reflected
and part of it goes through; the amounts controlled by RC.

Two things also happen to Vrr, part of it is reflected and
part of it goes through; the amounts controlled by -RC.

The conditions to satisfy that Vlr be 0 is simply that
the contribution to Vlr from the reflected Vlf is equal and
opposite in sign to the contribution from the part of Vrr
that goes through.

Doing a little algebra will reveal that when the above condition
is satisfied, Vrf is equal to Vlf minus Vrr, but this is purely
numerology and should not be take to mean that all of Vrr is

re-reflected. Once this is understood there is no need for complete re-reflection or virtual short or open circuits.

A little mental exercise will show that the conditions described above for the connection of two transmision lines is isomorphic to the conditions at the generator output terminals so the same explanation can be applied there.

...Keith

3341. Re: How do I break it to the neighbors

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 21:07:37 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns99038FBF76480spectrumhogstarbandn@198.186.192.196>
Source record: 44007

> I moved here about seven months ago. There is not HOA, but some
> neighbors are rather sensitive to how others keep their property in
> our modest street of 34 homes on lots about 70 x 120. I just upgraded
> to General. So far, I've got a 40m dipole that is just strung across
> the back of the roof, but I plan to string it between a tree and the
> chimney when I get a chance.
>
> I would appreciate your ideas on how to calm down neighbors that might
> be worried about RF interference, appearance, and property value.
>

Do they know you're a ham? If not, you could just say its an SWL
antenna. or you could use as small wire as possible to make it fairly
invisible. Not sure what you can do about the feedline, though, for
invisibility... or you could try to put the feedpoint somewhere near an
object that could hide or mask it. I situations like yours, some sort
of vertical might be better....

I wish you luck. I know there are many things I haven't thought of
that may work for you.

Ed K7AAT

3342. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 21:08:04 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175288884.333692.174130@p15g2000hsd.googlegroups.com>
Source record: 44008

On Mar 30, 8:35 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:

> > Sure, why not? Just for fun let's do the Norton model for the
> > generator.
>
> Please choose a real world source.

Well I guess that settles it. You clearly are not aware of the
methodologies. Even ones that work on the simplest of examples.

But this is positive. Once you know what you don't know, you
can move forward with education.

The question is answerable with the information provided. All
that is needed is to know the methodology.

I suggest again, google '"lattice diagrams" reflection'.

Alternatively, just ask and there are many here who would
be willing to assist you (or anyone else) with learning the
techniques.

...Keith

3343. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 21:12:01 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9904493AC9CE7nonenowhere@61.9.191.5>
Source record: 44009

Walter Maxwell <walt@w2du.com> wrote in
news:l9cq03lrj9mjk4h0g2nkkqgsa75nai01ds@4ax.com:

> On Thu, 29 Mar 2007 22:20:48 GMT, Owen Duffy <none@no.where> wrote:
...
>>I am talking about the steady state.
>
> Hi Owen, so am I. ...
...
>>Why is it necessary to complicate the analysis with tracking multiple
>>re- reflections, potentially an infinite number of reflections of
>>diminishing significance, an analysis that converges in the limit on
>>the answer given by the solution of the source V/I characteristic and
>>(Vf+Vr)/If-Ir) at the input end of the line (which is the equivalent
>>input impedance). Note that (Vf+Vr)/If-Ir) at the input end of the
>>line is determined solely by the tranmission line propagation
>>constant, length, Zo and the far end load impedance, for avoidance of
>>doubt, source impedance is not relevant.

Walt, it seems to me from your comments that fundamentally you disagree with the above statement.

Let me work a simple, but practical example. Apologies for the example being two cascaded transmission line sections to demonstrate that you do not need S parameters to solve the problem.

We have a G5RV with a feed point impedance (Z1) of say 90+j10 at 14.2MHz.

The feed point is connected to 9.85m of Wireman 554 ladder line. The propagation constant (gamma) for the line is 6.80e-4+j3.20e-1 and Zo is 360.00-j0.56. Using gamma, Zo and Z1, the input impedance to this section of line (Z2) is 92.37+j15.06. Due to line losses, only 97.2% of the input power passes into the load.

The ladder line is connected to 11m of Belden 8267 (RG213) to the transmitter. The propagation constant (gamma) for the line is 2.71e-3 +j4.51e-1 and Zo is 50.00-j0.27. Using gamma, Zo and Z2, the input impedance to this section of line (Z3) is 27.44+j4.18. This input impedance is not dependent on the transmitter, it does not matter whether the transmitter contains a pi coupler, an ATU, a broadband coupled output with or without low pass filters, or any kind of "total re-reflector" invention. Due to line losses, only 93.1% of the input power is passes into the second line section, and therefore only 93.1% of 97.2% or 90.5% of the input power passes into the load.

The amount of RF power from the transmitter will be the power that the transmitter delivers to a load of *any* kind of load of that same impedance (27.44+j4.18). If you adjust a valve transmitter's pi coupler to optimise power output into this load, you a merely adjusting the transformation of the external load to suit the valve's available voltage swing, current swing and conduction angle (within linearity, dissipation and drive constraints). The optimal values of the pi coupler components are readily calculated for the the valve's available voltage swing, current swing and conduction angle, and such is routinely done in engineering design of PAs.

There is no need to resort to the invention of a "total re-reflector" to describe how this works.

Owen

PS: the solution of the tranmission line segments using load impedance, characteristic impedance, and propagation constant uses the transmission line formula that can be found in any good transmission line text. The values given for gamma above are for length units of a metre.

I hope the maths was correct above, it is unchecked and I may have embedded some errors, but the method is correct, the line sections were solved using the calculator at http://www.vk1od.net/tl/tllc.php .

3344. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 21:12:45 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175289165.690670.130140@y80g2000hsf.googlegroups.com>
Source record: 44010

The only dispute about superposition that I have observed is
that it does not apply to the computation of power which can
easily be demonstrated by the most trivial of examples.

Superposition of voltages and currents seems to be quite
accepted and is an excellent tool for circuit and transmission
line analysis.

...Keith

3345. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 22:08:19 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <nTfPh.217305$5j1.17421@bgtnsc04-news.ops.worldnet.att.net>
Source record: 44011

Cecil Moore wrote:
> Gene Fuller wrote:
>> There are no equations for "interference";
>
> On the contrary, quoting from "Optics", by Hecht,
> page 283, 4th edition: "It follows from Eq.(7.9)
> that the resultant flux density is not simply the
> sum of the component flux densities; there is an
> additional contribution, 2*E01*E02*cos(A1-A2), known
> as the *interference term*. The emphasis is Hecht's,
> not mine.
>
> Later on page 388: "The interference term becomes
>
> I12 = 2*SQRT(I1*I2)cos(Gamma)"
>
> What does it take to make that look like an equation
> to you? Have you ever taken time to read and understand
> "Optics", by Hecht?

Cecil,

That quote agrees completely with what I said. Interference is a description of the equations. It is not a part of the equations per se. Do you see anything in the quoted equations that looks like a symbol for "interference"? I see E, A, I, and Gamma, but nothing that would seem to represent "interference". Is there a hidden variable in there somewhere?

You keep trying to make interference act as some sort of primary physical law rather than merely a convenient observation and description. No wonder these threads go on forever.

Nobody denies the existence of interference. However, interference is the result of all the equations and calculations, not the source.

73,
Gene
W4SZ

3346. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 22:23:48 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <U5gPh.3340$YL5.2011@newssvr29.news.prodigy.net>
Source record: 44012

Keith Dysart wrote:
> Doing a little algebra will reveal that when the above condition
> is satisfied, Vrf is equal to Vlf minus Vrr, but this is purely
> numerology and should not be take to mean that all of Vrr is
> re-reflected.

What happens to the energy in those voltage waves?
(1) EM Voltages exist without energy
(2) The conservation of energy principle is invalid
(3) Keith is prone to wet dreams
--
73, Cecil http://www.w5dxp.com

3347. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 22:27:42 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <y9gPh.3342$YL5.903@newssvr29.news.prodigy.net>
Source record: 44013

Keith Dysart wrote:
> Well I guess that settles it. You clearly are not aware of the
> methodologies. Even ones that work on the simplest of examples.

Perhaps you could educate me. Please provide an
S-Parameter analysis of the math model of the
source that you have refused to provide.
--
73, Cecil http://www.w5dxp.com

3348. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 22:30:03 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <LbgPh.3343$YL5.3037@newssvr29.news.prodigy.net>
Source record: 44014

Owen Duffy wrote:
> There is no need to resort to the invention of a "total re-reflector" to
> describe how this works.

Do you deny that the principle of superposition allows
Walt to evaluate the effects of the separate forward
and reflected waves and then superpose the results?
--
73, Cecil http://www.w5dxp.com

3349. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 22:34:53 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9904574798156nonenowhere@61.9.191.5>
Source record: 44016

Gene Fuller <W4SZzzzzzz@att.net> wrote in
news:nTfPh.217305$5j1.17421@bgtnsc04-news.ops.worldnet.att.net:

> That quote agrees completely with what I said. Interference is a
> description of the equations. It is not a part of the equations per

Gene, IMHO the terms "constructive interference" and "destructive interference" are poor terms. If "interference" describes essentially the phasor result of summation of two (or more) phasor (ie coherent) quantities, then there is no need for the constructive and destructive qualifiers if the phase relationship is given (and it must be to perform the summation).

The two terms are often used to mean total reinforcement (0 deg phase difference) or total cancellation (180 deg phase difference and equal amplitude). I note the Wikipeadia page at http://en.wikipedia.org/wiki/Destructive_interference infers that usage.

To my mind, there is so much loose usage of the terms to consider that a reader will reliably understand what the writer meant, and so in the interest of better communication, I don't use them.

The in-phase and out-of phase, equal amplitude cases are a very small subset of the real world cases that are of interest in solving transmission line problems, yet they dominate, possibly cause, the simplistic discussions in this place.

The usage here appears to derive from a certain person's need to use terminolgy and examples from other electromagnetic radiation applications to describe transmission lines. So far, it seems that when the alternative explanation disagrees with the direct explanation, the flaw has been in adaptation of the alternative explanation to the problem.

Owen

3350. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 22:35:58 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ihgPh.3344$YL5.335@newssvr29.news.prodigy.net>
Source record: 44015

Gene Fuller wrote:
> That quote agrees completely with what I said.

Gene, you remind me of an ex-friend of mine who when
asked what would happen if he were caught by his wife
in bed with his girlfriend, said, "I would just
deny it."

You said there is no equation for interference.

Hecht in "Optics" provided the equation that you
said didn't exist. I12 is the symbol for interference
between the I1 and I2 waves.
--
73, Cecil http://www.w5dxp.com

3351. Re: How do I break it to the neighbors

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 22:39:19 UTC
From: ricknj10@hotmail.com
Message-ID: <460d8e94.28883421@news.optonline.net>
Source record: 44017

>. So far, I've >got a 40m dipole that is just strung across the back of the roof, but I plan
>to string it between a tree and the chimney when I get a chance.
>
>I would appreciate your ideas on how to calm down neighbors that might be
>worried about RF interference, appearance, and property value.

A friggin' WIRE ??? Wow your neighbors are one step away from the funny farm, aren't they? Paranoia-ville, USA.
Ok, here's what you do, get a picure of a tower farm (check on the web, maybe W0AIH is a good place to start, or try any of the big dxers listings on QRZ.com). Then tell your neighbors (only if they ask, don't go looking for trouble!!) you are thinking of a nice 80 ft tower/beam, but if the dipole works ok you will probably just keep it. However, if there are any interference complaints you will put up the tower to "get the antenna up and away from their houses." And tell them if there are any complaints about a friggin' piece of WIRE then what have you got to lose by putting up the beam anyway?
Keep in mind - you only live once. Who do you want to be happy in your paranoid neighborhood, you or your lousy neighbors?

Rick K2XT

3352. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 22:40:58 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <_lgPh.3345$YL5.605@newssvr29.news.prodigy.net>
Source record: 44018

Keith Dysart wrote:
> Superposition of voltages and currents seems to be quite
> accepted and is an excellent tool for circuit and transmission
> line analysis.

Do you really expect us to believe that those voltages
and currents can exist without energy? Maybe an example
of EM voltage and EM current existing without ExB joules/sec
would help.
--
73, Cecil http://www.w5dxp.com

3353. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 23:06:55 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <kKgPh.1832$H_5.1290@newssvr23.news.prodigy.net>
Source record: 44019

Owen Duffy wrote:
> Gene, IMHO the terms "constructive interference" and "destructive
> interference" are poor terms.

They are accepted well-defined terms in the field of antenna
radiation. NEC antenna simulations calculate the amount of
constructive and destructive interference before presenting
the radiation patterns.

Quoting Hecht of "Optics" fame: "The principle of Conservation
of Energy makes it clear that if there is constructive interference
at one point, the 'extra' energy at that location must have come
from elsewhere. There must therefore be destructive interference
somewhere else."

You seem not to understand that the constructive interference that
results in the gain of a Yagi antenna, must obtain that energy from
an equal amount of destructive interference in another direction.
If constructive and destructive interference didn't exist, all
antennas would be isotropic. Think about that.

You already no doubt understand constructive and destructive
interference in the radiated fields of antennas. Just broaden
that understanding to transmission lines. The destructive
interference toward the source in a Z0-matched system is
identical to the destructive interference off the back of
a Yagi antenna. The constructive interference toward the load
in a Z0-matched system is identical to the constructive
interference off the front of a Yagi antenna.

> The in-phase and out-of phase, equal amplitude cases are a very small
> subset of the real world cases ...

Absolutely not true for amateur radio systems with antenna
tuners. The function of the antenna tuner is to bring the
forward and reflected waves into phase (or 180 degrees out
of phase). All matched amateur radio antenna systems fall
under the category of in-phase (or 180 degree out of phase).
In either case, the cosine of the angle between the two
voltages is zero, reactance is neutralized, and V*I*cos(0)
is 100% in watts, 0% in vars.

> The usage here appears to derive from a certain person's need to use
> terminolgy and examples from other electromagnetic radiation applications
> to describe transmission lines.

No matter what your opinion, Owen, EM waves *are* EM waves.
They all obey the laws of physics. I suspect you know a lot
more about constructive and destructive interference than
you realize at the moment. Antenna gain depends on it.
--
73, Cecil http://www.w5dxp.com

3354. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 23:10:05 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <hNgPh.217546$5j1.197209@bgtnsc04-news.ops.worldnet.att.net>
Source record: 44020

Cecil Moore wrote:
> Gene Fuller wrote:
>> That quote agrees completely with what I said.
>
> Gene, you remind me of an ex-friend of mine who when
> asked what would happen if he were caught by his wife
> in bed with his girlfriend, said, "I would just
> deny it."
>
> You said there is no equation for interference.
>
> Hecht in "Optics" provided the equation that you
> said didn't exist. I12 is the symbol for interference
> between the I1 and I2 waves.

Cecil,

This is getting good. Are you actually claiming that "I" is the symbol for "interference"? Betcha it ain't. How does Hecht define I1, I2, and I12?

I have plenty of optics books, but I don't have a copy of Hecht. I don't plan to buy one. I seriously doubt that he says anything very different from any other author of optics textbooks.

73,
Gene
W4SZ

3355. Re: How do I break it to the neighbors

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 23:14:09 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns9903A533EC25Cspectrumhogstarbandn@198.186.192.196>
Source record: 44021

> Keep in mind - you only live once. Who do you want to be happy in
> your paranoid neighborhood, you or your lousy neighbors?
>
> Rick K2XT
>

Rick, sometimes the two do not go hand in hand. If you want to be happy, sometimes you need keep your neighbors happy, too. Neighbors can make your life hell if you allow the relationship to deteriorate to that point. Whether or not you are right or wrong, one really doesn't need to make enemies of those who live close by.

Ed K7AAT

3356. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 23:39:12 UTC
From: "Dr. Honeydew" <dr_b_honeydew@msn.com>
Message-ID: <1175297952.219740.243070@n76g2000hsh.googlegroups.com>
Source record: 44022

On Mar 30, 12:44 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> The folks on this newsgroup who argue that the concept
> of reflected energy is invalid and only standing waves
> exist seem forced to abandon the principle of
> superposition which states that a system can be
> analyzed by considering the components separately
> and adding them later.
>
> So does the Superposition Principle give us permission
> to analyze the forward wave and the reflected wave
> separately, or not?
>
> An S-Parameter analysis obviously considers the
> forward wave and reflected wave separately. Is such
> an analysis invalid or simply honoring the rules set
> forth in the Principle of Superposition?
> --
> 73, Cecil http://www.w5dxp.com

We have done extensive research here at Muppet Labs, and we can assure
you, the Superstition Principle is alive and well, especially with
regard to radio amateurs' analyses of transmission lines.

>From the Labs,
Dr. Honeydew

3357. Re: How do I break it to the neighbors

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-30 23:58:51 UTC
From: ricknj10@hotmail.com
Message-ID: <460da3b4.34290843@news.optonline.net>
Source record: 44023

> Rick, sometimes the two do not go hand in hand. If you want to be
>happy, sometimes you need keep your neighbors happy, too.

Ed - So you sit there with happy neighbors, huh?
And with your ham rig with no antenna. Some friends those neighbors are.
So if they are really worth having as friends they won't give you trouble
about a silly wire running off your roof.

Rick

3358. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 00:04:07 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99046668A539Enonenowhere@61.9.191.5>
Source record: 44024

Cecil Moore <nospam@w5dxp.com> wrote in news:oMdPh.4051$u03.1743
@newssvr21.news.prodigy.net:

> So does the Superposition Principle give us permission

Cecil, would you state the superposition principle as you know it?

Owen

3359. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 00:12:41 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ZHhPh.3353$YL5.191@newssvr29.news.prodigy.net>
Source record: 44025

Gene Fuller wrote:
> This is getting good. Are you actually claiming that "I" is the symbol
> for "interference"? Betcha it ain't. How does Hecht define I1, I2, and I12?

I is the symbol for irradiance. I1 is the irradiance in
wave 1. I2 is the irradiance in wave 2. I12 is the symbol
for the interference between wave 1 and wave 2, you know
- the symbol that you said didn't exist.

> I have plenty of optics books, but I don't have a copy of Hecht.

So during all these months of denying what Hecht has written,
you have been completely ignorant of what Hecht has written?
Why am I not surprised?
--
73, Cecil http://www.w5dxp.com

3360. Re: How do I break it to the neighbors

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 00:21:03 UTC
From: Ed <Huckleberry_REMOVE_@bigvalley.net>
Message-ID: <Xns9903B08BFF0C7spectrumhogstarbandn@198.186.192.196>
Source record: 44026

ricknj10@hotmail.com (Rick) wrote in news:460da3b4.34290843
@news.optonline.net:

>
>> Rick, sometimes the two do not go hand in hand. If you want to be
>>happy, sometimes you need keep your neighbors happy, too.
>
> Ed - So you sit there with happy neighbors, huh?
> And with your ham rig with no antenna. Some friends those neighbors
are.
> So if they are really worth having as friends they won't give you
trouble
> about a silly wire running off your roof.
>
> Rick
>

Yeah, my neighbors and I get along... mainly because I dont "Tell"
them what not to do or complain about, nor do I threaten them with an
even bigger antenna if they complain about what I already have....

Ed

3361. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 00:21:40 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <oQhPh.217804$5j1.79962@bgtnsc04-news.ops.worldnet.att.net>
Source record: 43877

Cecil Moore wrote:
> Keith Dysart wrote:
>> Superposition of voltages and currents seems to be quite
>> accepted and is an excellent tool for circuit and transmission
>> line analysis.
>
> Do you really expect us to believe that those voltages
> and currents can exist without energy? Maybe an example
> of EM voltage and EM current existing without ExB joules/sec
> would help.

Cecil,

If you actually understood the way the Poynting Theorem works, you would not waste your time worrying about ExB. It provides no useful information in support of your wacky energy flow ideas.

Hint: Although the Poynting vector is defined as ExB, this is only a flux. If you are interested in information relating to conservation of energy it is necessary to integrate over a closed volume. The total integral of the flux over the surface of that volume is then equal to the rate of change of energy within the volume.

In your favorite example, where energy is coursing back and forth along the two directions of a lossless transmission line, this integral over any volume you choose will be exactly zero. Even if you could separate the forward and reverse waves the Poynting vector energy calculation would still come out to exactly zero for each component as well as the sum of the components. The same amount of energy exits the integration volume as enters it. Only in the case where there is a source or where there is loss will the Poynting energy calculation yield a non-zero value.

If you want further information you can check advanced textbooks such as "Classical Electrodynamics" by Jackson or "Principles of Optics" by Born and Wolf. I am sure there are many other references, but those are the two I check almost daily.

73,
Gene
W4SZ

3362. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 00:27:37 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <ZVhPh.217829$5j1.26694@bgtnsc04-news.ops.worldnet.att.net>
Source record: 43878

Cecil Moore wrote:
> Gene Fuller wrote:
>> This is getting good. Are you actually claiming that "I" is the symbol
>> for "interference"? Betcha it ain't. How does Hecht define I1, I2, and
>> I12?
>
> I is the symbol for irradiance. I1 is the irradiance in
> wave 1. I2 is the irradiance in wave 2. I12 is the symbol
> for the interference between wave 1 and wave 2, you know
> - the symbol that you said didn't exist.
>
>> I have plenty of optics books, but I don't have a copy of Hecht.
>
> So during all these months of denying what Hecht has written,
> you have been completely ignorant of what Hecht has written?
> Why am I not surprised?

Cecil,

OK, we are getting somewhere. According to the equation, we know that interference has the same units as irradiance. Interesting. Does that mean that interference doesn't work for fields? Are there multiple definitions for interference?

I am not at all ignorant of what Hecht has written, but I will admit to being ignorant of the exact choice of words he uses.

8-)

73,
Gene
W4SZ

3363. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 00:41:57 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <p7iPh.3356$YL5.856@newssvr29.news.prodigy.net>
Source record: 43879

Owen Duffy wrote:
> Cecil, would you state the superposition principle as you know it?

I'll just quote Hecht on that. He gives the three dimensional differential wave equation and follows it up with a linear combination of individual waves in an equation that cannot be reproduced here and says,

"Known as the *Principle of Superposition*, this property suggests that the resultant disturbance at any point in a medium is the algebraic sum of the separate constituent waves."

The unreproducible equation essentially says that the total wave function is equal to the algebraic sum of the individual wave functions.

Hecht goes on to treat the forward wave and reflected wave as the "separate constituent waves", something that we have been told by the "reflected waves don't exist" gurus on this newsgroup, is an invalid thing to do.

It seems to me that the superposition principle gives us permission to consider the forward and reflected waves separately and "algebraically sum" the results. That is exactly what the S-Paramater analysis is based upon. The S-Parameter analysis considers a1 to be the incident forward wave and a2 to be the incident reflected wave. They are treated separately and then "algebraically summed".
--
73, Cecil http://www.w5dxp.com

3364. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 00:54:57 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <BjiPh.3358$YL5.679@newssvr29.news.prodigy.net>
Source record: 43880

Gene Fuller wrote:
> Even if you could separate
> the forward and reverse waves the Poynting vector energy calculation
> would still come out to exactly zero for each component as well as the
> sum of the components.

Forward and reflected waves are easily separated by a
circulator so their existence is difficult to deny.

So net energy equals zero? So what! We are NOT discussing net
energy here. We are discussing the forward Poynting vector
and the reflected Poynting vector as described in "Fields and
Waves ...", by Ramo and Whinnery. The Superpositon Principle
gives us permission to do so and the final result is identical
to any other valid analysis. Why are you guys so irrationally
afraid of the wave reflection model? What is your ulterior
motive in denying the existence of reflected waves during
steady-state? It has seemingly turned into a steady-state
religion administered by the steady-state high priests.
--
73, Cecil http://www.w5dxp.com

3365. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 01:11:21 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990471CE38326nonenowhere@61.9.191.5>
Source record: 43881

Cecil Moore <nospam@w5dxp.com> wrote in news:p7iPh.3356$YL5.856
@newssvr29.news.prodigy.net:

> Owen Duffy wrote:
>> Cecil, would you state the superposition principle as you know it?
>
> I'll just quote Hecht on that. He gives the three
> dimensional differential wave equation and follows it
> up with a linear combination of individual waves in
> an equation that cannot be reproduced here and says,
>
> "Known as the *Principle of Superposition*, this property
> suggests that the resultant disturbance at any point in a
> medium is the algebraic sum of the separate constituent
> waves."
>
> The unreproducible equation essentially says that the
> total wave function is equal to the algebraic sum of
> the individual wave functions.
>
> Hecht goes on to treat the forward wave and reflected
> wave as the "separate constituent waves", something
> that we have been told by the "reflected waves don't
> exist" gurus on this newsgroup, is an invalid thing
> to do.
>
> It seems to me that the superposition principle gives us
> permission to consider the forward and reflected waves
> separately and "algebraically sum" the results. That is
> exactly what the S-Paramater analysis is based upon.
> The S-Parameter analysis considers a1 to be the incident
> forward wave and a2 to be the incident reflected wave.
> They are treated separately and then "algebraically
> summed"

Cecil, this is not a complete definition, and you have not related it to the subject under discussion, tranmission lines, and the quantities that are being discussed.

To my mind, there is nothing in YOUR definition above (it is not Hecht's, it is your partical quote and elaboration) that states that it is valid to sum energy waves or power waves (whatever those terms mean) as you seem to want to do, or to treat them independently if that is what 'separately' means as you use it, or the specifics of what quantities are summed.

Several people have been freely writing expressions that take the algebraic sum of phasor quantities Vf and Vr, and If and Ir. You are citing and partially quoting obscure sources not directly relevant to the subject to justify your summation of energy waves or power waves or whatever you are calling them today.

Sit down and write a complete definition of your knowledge of the "Superposition Principle" as you understand it using quantities encountered in a transmission line analysis, like voltage, current, power.

Owen

3366. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 01:20:35 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <DHiPh.3364$YL5.1126@newssvr29.news.prodigy.net>
Source record: 43882

Gene Fuller wrote:
> OK, we are getting somewhere. According to the equation, we know that
> interference has the same units as irradiance. Interesting. Does that
> mean that interference doesn't work for fields? Are there multiple
> definitions for interference?

My IEEE Dictionary is 130 miles away so I cannot look
up the technical definition for interference. The units
of irradiance are watts per unit area. In a transmission
line, we can consider the unit area to be constant and
simply drop the units of area. The resultant "irradiance"
equation for transmission line power is:

Ptotal = P1 + P2 + 2*SQRT(P1*P2)cos(A)

2*SQRT(P1*P2)cos(A) is the interference term in watts
where A is the angle between the two interfering fields.

This is all explained at: http://www.w5dxp.com/energy.htm
If the above equation is followed, adding powers is easier
than superposing voltages and then calculating power.
--
73, Cecil http://www.w5dxp.com

3367. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 01:33:54 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990475A157B4Dnonenowhere@61.9.191.5>
Source record: 43883

Cecil Moore <nospam@w5dxp.com> wrote in news:DHiPh.3364$YL5.1126
@newssvr29.news.prodigy.net:

...
> simply drop the units of area. The resultant "irradiance"
> equation for transmission line power is:
>
> Ptotal = P1 + P2 + 2*SQRT(P1*P2)cos(A)
>
> 2*SQRT(P1*P2)cos(A) is the interference term in watts
> where A is the angle between the two interfering fields.

Is this what you mean by 'algebraic sum' as in your words 'resultant
disturbance at any point in a medium is the algebraic sum of the separate
constituent waves'?

Owen

3368. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 01:34:45 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175304885.607426.280880@p77g2000hsh.googlegroups.com>
Source record: 43884

On Mar 30, 6:27 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Well I guess that settles it. You clearly are not aware of the
> > methodologies. Even ones that work on the simplest of examples.
>
> Perhaps you could educate me.

I am not convinced

> Please provide an
> S-Parameter analysis of the math model of the
> source that you have refused to provide.

especially when the student who does not know how to solve
the problem attempts to tell the teacher how to do so.

There will be opportunity for education when you are prepared
to act as a student, listen to what the teacher has to say,
think about the information being provided and integrate it
into your knowledge base.

Until then, you are not ready to be educated. Sorry.

Please feel free to come back when you are ready.

...Keith

3369. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 01:40:48 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <A_iPh.3366$YL5.3333@newssvr29.news.prodigy.net>
Source record: 43885

Owen Duffy wrote:
> To my mind, there is nothing in YOUR definition above (it is not
Hecht's,
> it is your partical quote and elaboration) that states that it is valid
> to sum energy waves or power waves (whatever those terms mean) as you
> seem to want to do, or to treat them independently if that is what
> 'separately' means as you use it, or the specifics of what quantities
are
> summed.

Here is the way one sums the power in two energy waves. This
is one of the things that Dr. Best, ve9srb, got right in
his Nov/Dec 2001 QEX article, "Wave Mechanics of Transmission
Lines, Part 3: Power Delivery and Impedance Matching". This
article is what got me to thinking along my present lines.

Ptotal = P1 + P2 + 2*SQRT(P1*P2)cos(A)

where A is the phase angle between the two energy waves.

This is the same as the irradiance equation from the field of
optics and applies perfectly to transmission lines. The first
time I saw the equation was in Dr. Best's QEX article so I
certainly cannot take credit for it.

All this information has been available on my web page for
years.
--
73, Cecil http://www.w5dxp.com

3370. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 01:45:03 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <z2jPh.3367$YL5.1973@newssvr29.news.prodigy.net>
Source record: 43886

Owen Duffy wrote:
> Cecil Moore <nospam@w5dxp.com> wrote:
>> simply drop the units of area. The resultant "irradiance"
>> equation for transmission line power is:
>>
>> Ptotal = P1 + P2 + 2*SQRT(P1*P2)cos(A)
>>
>> 2*SQRT(P1*P2)cos(A) is the interference term in watts
>> where A is the angle between the two interfering fields.
>
> Is this what you mean by 'algebraic sum' as in your words 'resultant
> disturbance at any point in a medium is the algebraic sum of the separate
> constituent waves'?

Of course not. That statement of Hecht's applies to vector
(and phasor) fields. Powers are scalars and must be treated
accordingly.
--
73, Cecil http://www.w5dxp.com

3371. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 01:46:50 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175305610.797578.24010@b75g2000hsg.googlegroups.com>
Source record: 43887

On Mar 30, 9:40 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Here is the way one sums the power in two energy waves. This
> is one of the things that Dr. Best, ve9srb, got right in
> his Nov/Dec 2001 QEX article, "Wave Mechanics of Transmission
> Lines, Part 3: Power Delivery and Impedance Matching". This
> article is what got me to thinking along my present lines.
>
> Ptotal = P1 + P2 + 2*SQRT(P1*P2)cos(A)

Curiosity question: Which of the two possible values for
the square root did you use? Elaborate on the reasons
for your choice?

...Keith

3372. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 01:47:12 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <A4jPh.3368$YL5.736@newssvr29.news.prodigy.net>
Source record: 43888

Keith Dysart wrote:
> There will be opportunity for education when you are prepared
> to act as a student, listen to what the teacher has to say,
> think about the information being provided and integrate it
> into your knowledge base.

:-) What are you, Keith, a sophomore in junior college?
--
73, Cecil http://www.w5dxp.com

3373. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 01:50:26 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175305826.752150.18830@y66g2000hsf.googlegroups.com>
Source record: 43889

On Mar 30, 8:54 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Gene Fuller wrote:
> > Even if you could separate
> > the forward and reverse waves the Poynting vector energy calculation
> > would still come out to exactly zero for each component as well as the
> > sum of the components.
>
> Forward and reflected waves are easily separated by a
> circulator so their existence is difficult to deny.

You always seem to like changing the experiment and then not
acting surprised when you get different results.

Odd is it not?

...Keith

3374. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 02:04:18 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <CkjPh.3373$YL5.1386@newssvr29.news.prodigy.net>
Source record: 43890

Keith Dysart wrote:
>> Ptotal = P1 + P2 + 2*SQRT(P1*P2)cos(A)
>
> Curiosity question: Which of the two possible values for
> the square root did you use? Elaborate on the reasons
> for your choice?

Probably should be written 2*|SQRT(P1*P2)|*cos(A) to
satisfy the purists. The sign of the interference
term must match the type of interference which is
determined by the sign of cos(A).

The third term in the equation is the interference term.
A positive value indicates constructive interference.
A negative value indicates destructive interference.
--
73, Cecil http://www.w5dxp.com

3375. analysis and hypothesis question?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 02:07:23 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <8YGdnajL1cPrX5DbnZ2dnUVZ_u-unZ2d@comcast.com>
Source record: 43891

All,

This is a real world "what is going on" question. The antenna is a 'screwdriver' on a 3 foot stand in the back yard. The earth ground is normal loam, the original soil was forest. The feed cable is about 130 feet 50 ohm coax that measures to be in good shape. The ground system is 8 wire radials between 30 and 60 feet in length.

The measurement tool is an HP 8407a network analyzer and an HP 8601a sweep generator. The frequencies of interest are from 3.5 to 4 MHz. As the antenna is moved from resonance at 3.5 MHz to 4 MHz the return shows a marked difference. It varies between -24 db and -50 db. The pattern is irregular, however it is repeatable.

The antenna design is a coil that moves up or down across copper fingers. As the coil moves those fingers contact more or less of the coil and change the impedance.

What could cause the variation in return across a relatively narrow band. A return of -24db is relatively small, an impedance very close to 50 Ohms and an SWR about 1.135. A return of -50 db is less then 1.01 SWR and represents a small change in Z, however a change non the less.

I can think of three potential causes for this change:

1. variations in the coil change Q

2. variations is the finger to coil connection change R

3. variations in the ground radials.

Are there others?

Thanks - Dan

3376. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 02:10:06 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <3qjPh.169$w41.87@newssvr19.news.prodigy.net>
Source record: 43892

Keith Dysart wrote:
> Cecil Moore <nos...@w5dxp.com> wrote:
>> Gene Fuller wrote:
>>> Even if you could separate
>>> the forward and reverse waves the Poynting vector energy calculation
>>> would still come out to exactly zero for each component as well as the
>>> sum of the components.

>> Forward and reflected waves are easily separated by a
>> circulator so their existence is difficult to deny.
>
> You always seem to like changing the experiment and then not
> acting surprised when you get different results.

I don't see an experiment described in Gene's posting
so you must be describing yet another dream of yours.
--
73, Cecil http://www.w5dxp.com

3377. Re: analysis and hypothesis question?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 02:14:33 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <dujPh.170$w41.27@newssvr19.news.prodigy.net>
Source record: 43893

dansawyeror wrote:
> Are there others?

What kind of base matching are you using?
--
73, Cecil http://www.w5dxp.com

3378. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 02:26:19 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175307979.699223.174760@r56g2000hsd.googlegroups.com>
Source record: 43894

On Mar 30, 10:04 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> >> Ptotal = P1 + P2 + 2*SQRT(P1*P2)cos(A)
>
> > Curiosity question: Which of the two possible values for
> > the square root did you use? Elaborate on the reasons
> > for your choice?
>
> Probably should be written 2*|SQRT(P1*P2)|*cos(A) to
> satisfy the purists. The sign of the interference
> term must match the type of interference which is
> determined by the sign of cos(A).

More curiousity: Can P1 and P2 have different signs, that is,
the power is going in different directions? If so, how does the
resulting complex SQRT work into the result?

...Keith

3379. Re: analysis and hypothesis question?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 03:10:44 UTC
From: Frank's <frank599@nojunkmailplease.telus.net>
Message-ID: <UikPh.29166$x9.21035@edtnps89>
Source record: 43895

> All,
>
> This is a real world "what is going on" question. The antenna is a
> 'screwdriver' on a 3 foot stand in the back yard. The earth ground is
> normal loam, the original soil was forest. The feed cable is about 130
> feet 50 ohm coax that measures to be in good shape. The ground system is 8
> wire radials between 30 and 60 feet in length.
>
> The measurement tool is an HP 8407a network analyzer and an HP 8601a sweep
> generator. The frequencies of interest are from 3.5 to 4 MHz. As the
> antenna is moved from resonance at 3.5 MHz to 4 MHz the return shows a
> marked difference. It varies between -24 db and -50 db. The pattern is
> irregular, however it is repeatable.
>
> The antenna design is a coil that moves up or down across copper fingers.
> As the coil moves those fingers contact more or less of the coil and
> change the impedance.
>
> What could cause the variation in return across a relatively narrow band.
> A return of -24db is relatively small, an impedance very close to 50 Ohms
> and an SWR about 1.135. A return of -50 db is less then 1.01 SWR and
> represents a small change in Z, however a change non the less.
>
> I can think of three potential causes for this change:
>
> 1. variations in the coil change Q
>
> 2. variations is the finger to coil connection change R
>
> 3. variations in the ground radials.
>
> Are there others?
>
> Thanks - Dan

Dan, 24 dB return loss is about as good as you can possibly get
for any type of design: matching network, filter, you name it.
Anything better is just pure luck. In any design you always
get some very deep return loss notches. They could just as well
be minor errors in network analyzer calibration, and how
accurately your standards are characterized.

73,

Frank

3380. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 03:35:47 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <nGkPh.10649$JZ3.7029@newssvr13.news.prodigy.net>
Source record: 43896

Keith Dysart wrote:
> More curiousity: Can P1 and P2 have different signs, that is,
> the power is going in different directions?

Please reference Chapter 9, Interference, in "Optics",
by Hecht, 4th edition. The two interfering waves are
traveling in the same direction. The associated
powers exist together at a point of interference.
--
73, Cecil http://www.w5dxp.com

3381. Re: analysis and hypothesis question?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 04:06:57 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <Wbqdna75jJznQ5DbnZ2dnUVZ_sHinZ2d@comcast.com>
Source record: 43897

None. I should be able to use the instrument to figure out the current input. I am not sure how to figure out values. Is that fine tuning?

Cecil Moore wrote:
> dansawyeror wrote:
>> Are there others?
>
> What kind of base matching are you using?

3382. Re: How do I break it to the neighbors

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 04:11:24 UTC
From: AndyS <andysharpe@juno.com>
Message-ID: <1175314284.397447.108030@n76g2000hsh.googlegroups.com>
Source record: 43898

> Use of thin wire or wire, maybe with suitably colored insulation or
> spray paint, should help hide it. If they don't see you install it it
> may take weeks for them to notice it. That failure to notice
> immediately would go a long way toward countering how big an eyesore
> it really is.

Andy adds:
Well, I don't have neighbors but I have a wife who does not see the
existence of outside antennae as an art form. We just moved into
a new house 2 years ago, and recently I decided to get all the ham
gear working again......
I put the dipoles, and a 2 meter gnd plane, in my attic near the
top
of the roofline on the inside.
They work just fine, low SWR, and receive and transmit well......
Being
under a half inch of plywood doesn't alter the characteristics
significantly.
If your roof line will accommodate this, it is a thought....

Also, rather than dipoles, a loaded flagpole or TV antenna mast
would
be another option.....

No way your neighbors could possibly be as picky as my wife.......

I realize that there may be a difference of opinion about mounting
an
antenna in the attic versus on top of the roof, but I've never been
able
to tell any difference in performance for dipoles and gnd planes....
The measure I use is : " When the H F antenna is connected to the
receiver
input, if the ambient noise level rises appreciably, the antenna is
working
just fine (noise level is due to the cosmos and not receiver
generated) "

Andy W4OAH

3383. Antenna Theory Question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 04:19:55 UTC
From: AndyS <andysharpe@juno.com>
Message-ID: <1175314795.342922.213610@o5g2000hsb.googlegroups.com>
Source record: 43899

Andy asks:
I have a quick question about the number of microwatts that an antenna will extract from the air and put into a known load.

Assume a 70 ohm perfect antenna used for receiving a signal....

Preceived = Pwr density (watts/sq mtr) X Capture Area (sq mtrs)

Is this the power that the 70 ohm antenna will put into a 70 ohm resistor connected to the antenna (as the load), OR is half this power dissipated in the antenna and the other half sent to the load (considering the antenna as a Thevenin generator)....?????

Thanks for any discussion on this. I know it is simple, but I would like to hear what others have to say about it....

Andy W4OAH

3384. Re: Ameritron RCS4

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 04:34:40 UTC
From: Roger <GetValidAddress@my.com>
Message-ID: <46pr0350eetbvhcerhfur3ghh7imes5qjv@4ax.com>
Source record: 43900

On 26 Mar 2007 14:34:30 -0700, "Brian Kelly" <kelly@dvol.com> wrote:

>On Mar 26, 11:50 am, "Jim Leder" <k...@fuse.net> wrote:
>> I am most likely going to buy a new Ameritron RCS4 antenna switch so I can
>> not have so many coax cables coming into the house. Question: does anyone
>> know if this switch shorts all the unused connectors to ground? How about
>> when the switch is turned off?
>
>You might consider a Top Ten Devices switch. Six positions, full
>grounding.
>
>http://www.qth.com/topten/sixway.htm
>
Although a bit pricy DX Engineering has several very nice remote
switches.

>Note that they also sell a weatherproof version of the switch
>
>> Thanks
>> --
>> Jim Bob Buckeye
>> AKA
>> **** Jim Leder****
>> K8CXM since 1961
>> IBM retiree since 1999http://home.fuse.net/k8cxm/
>
>w3rv
Roger Halstead (K8RI & ARRL life member)
(N833R, S# CD-2 Worlds oldest Debonair)
www.rogerhalstead.com

3385. Re: Antenna Theory Question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 05:11:42 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <130rrcfpc6q5730@corp.supernews.com>
Source record: 43901

AndyS wrote:
> Andy asks:
> I have a quick question about the number of microwatts that an
> antenna will extract from the air and put into a known load.
>
> Assume a 70 ohm perfect antenna used for receiving a signal....
>
> Preceived = Pwr density (watts/sq mtr) X Capture Area (sq
> mtrs)
>
> Is this the power that the 70 ohm antenna will put into a 70
> ohm resistor connected to the antenna (as the load), OR is half
> this power dissipated in the antenna and the other half sent to
> the load (considering the antenna as a Thevenin generator)....?????
>
> Thanks for any discussion on this. I know it is simple, but I
> would like to hear what others have to say about it....
>
> Andy W4OAH

The short answer is that the product of impinging wave power density and capture area equals the power dissipated by the load, assuming a lossless antenna and matched load.

A lossless antenna won't dissipate any power applied to it. So it certainly won't dissipate half, or any, of the power from the wave.

You won't find "capture area" in many texts, but when you do, it'll be another term for the much more common "aperture". Among variations of this are "aperture", "effective aperture", "maximum effective aperture", "scattering aperture", "loss aperture", "collecting aperture", and "physical aperture". The aperture is the ratio of power delivered to the load, to the power density of the impinging wave. If the antenna is lossless, terminated in the complex conjugate of its transmitting feedpoint impedance, and oriented for maximum response to the wave's polarization, the effective aperture, maximum effective aperture, and scattering aperture are all equal, and represent the cross section of the power in the impinging wave delivered to the load.

Kraus's _Antennas_ is a good source of information about this topic.

Roy Lewallen, W7EL

3386. Re: How do I break it to the neighbors

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 05:24:18 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <7gmPh.108706$7g3.78102@newsfe14.phx>
Source record: 43902

"garlicman" <None> wrote in message
news:kO2dnbXw9qJB8pDbnZ2dnUVZ_tyinZ2d@comcast.com...
> I moved here about seven months ago. There is not HOA, but some neighbors
> are rather sensitive to how others keep their property in our modest
street
> of 34 homes on lots about 70 x 120. I just upgraded to General. So far,
I've
> got a 40m dipole that is just strung across the back of the roof, but I
plan
> to string it between a tree and the chimney when I get a chance.
>
> I would appreciate your ideas on how to calm down neighbors that might be
> worried about RF interference, appearance, and property value.

Reverse psychology. You make sure they're glad you're a ham.

You help one neighbor correctly wire an outside GFCI receptacle because you know how and he doesn't (and he's already tripped the branch breaker six times with his attempts); you give another neighbor your old CB antenna for his boat (and you were done with it, anyway); you put an F-series connector on a piece of RG-6 so the next neighbor can hook up her cable modem in a new room (and she's a babe, too); you reflow the solder pads on a PC-mount RCA jack because your neighbor's kid keeps pushing the plug of his video game into the TV too hard (three times so far -- last time I gave it back with two short pigtail jumpers so he wouldn't do it again.).

Four neighbors, four stories, all true and there are more. Heck, I could put an air-search radar antenna on my roof and they wouldn't say anything!

3387. Re: Antenna Theory Question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 05:33:23 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99049E3B559Anonenowhere@61.9.191.5>
Source record: 43903

"AndyS" <andysharpe@juno.com> wrote in news:1175314795.342922.213610
@o5g2000hsb.googlegroups.com:

> Andy asks:
> I have a quick question about the number of microwatts that an
> antenna will extract from the air and put into a known load.
>
> Assume a 70 ohm perfect antenna used for receiving a signal....
>
> Preceived = Pwr density (watts/sq mtr) X Capture Area (sq
> mtrs)
>

Further to Roy's notes, keep in mind that for most antennas, you cannot determine the Effective Aperture Area (or Capture Area) using a ruler. This effect is demonstrated if you consider that a short low loss dipole with low loss matching has an Effective Aperture Area nearly as large as the much larger half wave dipole.

For many purposes, you would determine the Effective Aperture Area by determining Gain from Directivity and Loss, thence Effective Aperture Area from Gain and Wavelength.

Owen

3388. Re: Ameritron RCS4

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 07:27:34 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <hSYvyNEm1gDGFAvo@ifwtech.co.uk>
Source record: 43906

Roger wrote:
>On 26 Mar 2007 14:34:30 -0700, "Brian Kelly" <kelly@dvol.com> wrote:
>
>>On Mar 26, 11:50 am, "Jim Leder" <k...@fuse.net> wrote:
>>> I am most likely going to buy a new Ameritron RCS4 antenna switch so I can
>>> not have so many coax cables coming into the house. Question: does anyone
>>> know if this switch shorts all the unused connectors to ground? How about
>>> when the switch is turned off?
>>
>>You might consider a Top Ten Devices switch. Six positions, full
>>grounding.
>>
>>http://www.qth.com/topten/sixway.htm
>>
>Although a bit pricy DX Engineering has several very nice remote
>switches.
>
>>Note that they also sell a weatherproof version of the switch
>>

It's hard to believe that anybody, anywhere sells a "weatherproof" unit
that uses bare bulkhead SO-239s and terminal blocks... but that is what
every company, everywhere seems to do. They are easy to manufacture, but
they dump all the weatherproofing problems onto the customer.

Until someone starts to sell remote boxes that use sealed lead-throughs
with tails of cable, and in-line connectors that can be made truly
waterproof, I will continue to make my own.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

3389. Re: analysis and hypothesis question?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 07:38:47 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <im3s035fuap52hec95pjr67nkntjjacqi6@4ax.com>
Source record: 43904

On Fri, 30 Mar 2007 19:07:23 -0700, dansawyeror
<dansawyeror@comcast.net> wrote:

>Are there others?

Hi Dan,

There is the 130 foot radial (the transmission line's unchoked
shield).

There is also an unreasonable assumption that this slight variation is
meaningful.

You would do better (per the advice of Reggie, in times past) to
invest the wire in those 8 radials to more radials that are not much
longer than the radiator is tall.

Soil from a former forest is not particularly good soil; and it isn't
particularly relevant to the outcome except as a large resistor (which
may more than explain the good match).

73's
Richard Clark, KB7QHC

3390. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 07:45:04 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9904B48F3E21Anonenowhere@61.9.191.5>
Source record: 43907

Owen Duffy <none@no.where> wrote in
news:Xns990471CE38326nonenowhere@61.9.191.5:

...
> Hecht's, it is your partical quote and elaboration) that states that

How did that 'c' get in there? Should have been:

Hecht's, it is your partial quote and elaboration) that states that

3391. Re: How do I break it to the neighbors

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 07:55:56 UTC
From: garlicman <None>
Message-ID: <qqSdnSwGb6iSiZPbnZ2dnUVZ_rGinZ2d@comcast.com>
Source record: 43908

"Jim Higgins" <invalid@invalid.invalid> wrote in message
news:ambr039mk8hpmbga26gu2g21coilmtfb2i@4ax.com...
> On Fri, 30 Mar 2007 13:15:17 -0700, "garlicman" <None> wrote:
>
>>I moved here about seven months ago. There is not HOA, but some neighbors
>>are rather sensitive to how others keep their property in our modest
>>street
>>of 34 homes on lots about 70 x 120. I just upgraded to General. So far,
>>I've
>>got a 40m dipole that is just strung across the back of the roof, but I
>>plan
>>to string it between a tree and the chimney when I get a chance.
>>
>>I would appreciate your ideas on how to calm down neighbors that might be
>>worried about RF interference, appearance, and property value.
>
>
> Worries by the neighbors about possible interference in advance of
> actual interference are not a good reason to abandon your plans unless
> your allergy to pollen is a good reason for your neighbors not to
> plant that new flower bed or other flowering shrub or perhaps even to
> cut their grass while you're outside. And of course your wife's
> migraine condition requires they cut their lawn while she is at work
> or shopping, never on a weekend when she is home to hear the noise
> that aggravates her condition. Likewise the noise of the power saw
> used by your neighbor for his woodworking hobby is annoying to the
> peaceful enjoyment of your property and must be curtailed.
>
> I'm not talking confrontation here, just matter of fact casual
> conversation without any demands, but every bit of it designed to
> balance any picky complaints about your simple dipole with equally
> trivial and inconvenient concerns of your own that require lifestyle
> changes by your neighbors.
>
> Actually I think we're both jumping the gun because I don't see where
> your neighbors have complained yet. Hopefully you're just
> over-anticipating their reaction.
>
> Use of thin wire or wire, maybe with suitably colored insulation or
> spray paint, should help hide it. If they don't see you install it it
> may take weeks for them to notice it. That failure to notice
> immediately would go a long way toward countering how big an eyesore
> it really is.
>

> Good luck.

Thanks for all the advice. I haven't received any comments from the wire laying on my roof yet. Several neighbors already know I'm a ham and have no problem. I've told them about how I can really help out during an big emergency. The two most uptight residents (one across the street and one next door) are planning on selling their places this summer. I figure if I can get a wire in the air, I can always tell the new occupants, "I've had antennas up since before you moved in."

I do like the idea of being the neighborhood fix-it guy. I want to spread goodwill, not spite. They all know that I am a beekeeper (no hives on the property), and will take care of any wasp problems they have. Getting rid of a bald-faced hornets nest earns some big respect from the neighborhood boys. More so when I don't wear the white suit!

Also, we're having more young families (like mine) move in. It would be nice to build some interest among the young boys. Right now the only interest my 8 and 6-year old boys have is playing with the FRS. I'm in no rush.

3392. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 08:00:19 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4s4s03l0qkh5mk2mfcrt1slct8fikk2bil@4ax.com>
Source record: 43905

On Sat, 31 Mar 2007 03:35:47 GMT, Cecil Moore <nospam@w5dxp.com>
wrote:

>Keith Dysart wrote:
>> More curiousity: Can P1 and P2 have different signs, that is,
>> the power is going in different directions?
>
>Please reference Chapter 9, Interference, in "Optics",
>by Hecht, 4th edition. The two interfering waves are
>traveling in the same direction. The associated
>powers exist together at a point of interference.

It's a shame you have only one reference that is so impoverished as to
restrict itself to this "same direction." Otherwise, you would have
been able to answer Keith's question without asking him to figure out
what you couldn't. It is, after all, a commonplace of superposition
(that is what this thread is about, isn't it?) - or are you the
doubting Thomas this thread's subject alludes to?

The stumbling over absolute values was funny too. I was wondering who
was going to pull that rug.

3393. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 10:01:08 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175335267.970967.116660@q75g2000hsh.googlegroups.com>
Source record: 43909

On Mar 30, 11:35 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > More curiousity: Can P1 and P2 have different signs, that is,
> > the power is going in different directions?
>
> Please reference Chapter 9, Interference, in "Optics",
> by Hecht, 4th edition. The two interfering waves are
> traveling in the same direction. The associated
> powers exist together at a point of interference.

This is getting way too confusing. After adding absolute value
to clarify which of two possible roots is being used (though
without any rigorous rationale), it turns out that different
formulae are needed depending on the direction.

So some times
Ptot = Pf - Pr
while at other times
Ptot = P1 + P2 + Pfudge

Are there other conditions we need to be aware of when computing
Ptot?

How does this align with your previous quote?
"Known as the *Principle of Superposition*, this property
suggests that the resultant disturbance at any point in a
medium is the algebraic sum of the separate constituent
waves."

Neither of the equations is the "algebraic sum".

...Keith

How does this align with your

3394. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 11:11:13 UTC
From: Dave <noone@nowhere.com>
Message-ID: <IlrPh.73$gb6.18@trndny07>
Source record: 43910

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:z2jPh.3367$YL5.1973@newssvr29.news.prodigy.net...
> Owen Duffy wrote:
>> Cecil Moore <nospam@w5dxp.com> wrote:
>>> simply drop the units of area. The resultant "irradiance"
>>> equation for transmission line power is:
>>>
>>> Ptotal = P1 + P2 + 2*SQRT(P1*P2)cos(A)
>>>
>>> 2*SQRT(P1*P2)cos(A) is the interference term in watts
>>> where A is the angle between the two interfering fields.
>>
>> Is this what you mean by 'algebraic sum' as in your words 'resultant
>> disturbance at any point in a medium is the algebraic sum of the separate
>> constituent waves'?
>
> Of course not. That statement of Hecht's applies to vector
> (and phasor) fields. Powers are scalars and must be treated
> accordingly.

and hence my recommendation to abandon power as a useful method of analyzing
waves in transmission lines. power is a scalar, you can't add power without
resorting to digging out the phase angles that come from the current or
voltage waves. so really that p-total equation is what happens when you add
2 current waves and then convert back to powers... you cancel out a whole
bunch of Z0 terms but end up having to keep that ugly phase related factor.

3395. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 11:15:15 UTC
From: Dave <noone@nowhere.com>
Message-ID: <7prPh.1169$qE2.187@trndny09>
Source record: 43911

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:_lgPh.3345$YL5.605@newssvr29.news.prodigy.net...
> Keith Dysart wrote:
>> Superposition of voltages and currents seems to be quite
>> accepted and is an excellent tool for circuit and transmission
>> line analysis.
>
> Do you really expect us to believe that those voltages
> and currents can exist without energy? Maybe an example
> of EM voltage and EM current existing without ExB joules/sec
> would help.
> --
and yet again you cross up terms... voltage and current are on wires. E and B are fields between or outside of wires. while they can be handled similarly they should not be compared directly as you are asking. and yes, there is at least one very good example of a voltage without ExB... just charge a balloon up with some stray electrons and leave it alone long enough to reach steady state... voila, E with no B. Please do this experiment and reply when you have truly reached steady state.

3396. Re: Antenna Theory Question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 11:18:57 UTC
From: Dave <noone@nowhere.com>
Message-ID: <BsrPh.723$k%2.279@trndny01>
Source record: 43912

"Owen Duffy" <none@no.where> wrote in message
news:Xns99049E3B559Anonenowhere@61.9.191.5...
> "AndyS" <andysharpe@juno.com> wrote in news:1175314795.342922.213610
> @o5g2000hsb.googlegroups.com:
>
>> Andy asks:
>> I have a quick question about the number of microwatts that an
>> antenna will extract from the air and put into a known load.
>>
>> Assume a 70 ohm perfect antenna used for receiving a signal....
>>
>> Preceived = Pwr density (watts/sq mtr) X Capture Area (sq
>> mtrs)
>>
>
> Further to Roy's notes, keep in mind that for most antennas, you cannot
> determine the Effective Aperture Area (or Capture Area) using a ruler.
> This effect is demonstrated if you consider that a short low loss dipole
> with low loss matching has an Effective Aperture Area nearly as large as
> the much larger half wave dipole.
>
> For many purposes, you would determine the Effective Aperture Area by
> determining Gain from Directivity and Loss, thence Effective Aperture
> Area from Gain and Wavelength.
>
> Owen

and hence if you start with the capture area by definition all the power is
sent to the matched load. basically you measure the capture area by
measuring the power in the load and dividing by the power density.

3397. Re: analysis and hypothesis question?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 11:22:19 UTC
From: Dave <noone@nowhere.com>
Message-ID: <LvrPh.90$hI4.80@trndny08>
Source record: 43913

"dansawyeror" <dansawyeror@comcast.net> wrote in message
news:8YGdnajL1cPrX5DbnZ2dnUVZ_u-unZ2d@comcast.com...
> All,
>
> This is a real world "what is going on" question. The antenna is a
> 'screwdriver' on a 3 foot stand in the back yard. The earth ground is
> normal loam, the original soil was forest. The feed cable is about 130
> feet 50 ohm coax that measures to be in good shape. The ground system is 8
> wire radials between 30 and 60 feet in length.
>
> The measurement tool is an HP 8407a network analyzer and an HP 8601a sweep
> generator. The frequencies of interest are from 3.5 to 4 MHz. As the
> antenna is moved from resonance at 3.5 MHz to 4 MHz the return shows a
> marked difference. It varies between -24 db and -50 db. The pattern is
> irregular, however it is repeatable.
>
> The antenna design is a coil that moves up or down across copper fingers.
> As the coil moves those fingers contact more or less of the coil and
> change the impedance.
>
> What could cause the variation in return across a relatively narrow band.
> A return of -24db is relatively small, an impedance very close to 50 Ohms
> and an SWR about 1.135. A return of -50 db is less then 1.01 SWR and
> represents a small change in Z, however a change non the less.
>
> I can think of three potential causes for this change:
>
> 1. variations in the coil change Q
>
> 2. variations is the finger to coil connection change R
>
> 3. variations in the ground radials.
>
> Are there others?
>
> Thanks - Dan

the real important thing though is that the match is near perfect at either
1.135:1 or 1.01:1, so stop playing around and put some power to that sucker
and make some contacts! remember, 'too low an swr can kill you'! or at
least keep you off the air for as long as you are tweaking it.

3398. Re: Antenna Theory Question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 11:57:23 UTC
From: AndyS <andysharpe@juno.com>
Message-ID: <1175342243.729877.32670@q75g2000hsh.googlegroups.com>
Source record: 43914

Owen Duffy wrote:
> Further to Roy's notes, keep in mind that for most antennas, you cannot
> determine the Effective Aperture Area (or Capture Area) using a ruler.
> This effect is demonstrated if you consider that a short low loss dipole
> with low loss matching has an Effective Aperture Area nearly as large as
> the much larger half wave dipole.
>
> For many purposes, you would determine the Effective Aperture Area by
> determining Gain from Directivity and Loss, thence Effective Aperture
> Area from Gain and Wavelength.
>
> Owen

Andy writes:
Thanks to all for the discussion..... I have used the results of
these
calculations for many years but wanted to see what explanations I
would
get from others who also have experience in these matters.....

For capture area, I use " Gee lambda squared over four pi ",
which
is the standard definition for a well behaved antenna with a main
lobe, and it has always worked well for me. I don't remember doing
the
derivation for this, but I'm sure I must have done it in the past
(olden times)...

Yet, I was not comfortable with what seemed like a discrepancy
between
"all the extracted power goes to the load" and the proposition that
the
cosmos and antenna acted like a generator and therefore had an
internal
impedance which must be Thevenin matched for max extracted power....
I resolved it, in my mind, by ignoring the latter explanation
(grin)..... and
apparently it was the correct thing to do...

So, thanks again, guys.....

Andy W4OAH

3399. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 12:01:46 UTC
From: Mike Lucas <w5chr@bellsouth.net>
Message-ID: <w4sPh.41568$sC.7508@bignews2.bellsouth.net>
Source record: 43915

"Dave" wrote ...
>
> "Cecil Moore" wrote

>> Keith Dysart wrote:
>>> Superposition of voltages and currents seems to be quite
>>> accepted and is an excellent tool for circuit and transmission
>>> line analysis.
>>
>> Do you really expect us to believe that those voltages
>> and currents can exist without energy? Maybe an example
>> of EM voltage and EM current existing without ExB joules/sec
>> would help.
>> --
> and yet again you cross up terms... voltage and current are on wires. E
> and B are fields between or outside of wires. while they can be handled
> similarly they should not be compared directly as you are asking. and
> yes, there is at least one very good example of a voltage without ExB...
> just charge a balloon up with some stray electrons and leave it alone long
> enough to reach steady state... voila, E with no B. Please do this
> experiment and reply when you have truly reached steady state.
I've been waiting for someone to open the door so that Art could take
part in this thread.Dave, your use of the balloon as an example will do the
job nicely. Art will now be able to contribute quite a lot, although I'm not
sure that he ever reaches steady state!

Mike W5CHR

3400. Re: How do I break it to the neighbors

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 12:25:48 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <gpks035b077jmghsapuo27gtrcmfjednf1@4ax.com>
Source record: 43916

On Fri, 30 Mar 2007 13:15:17 -0700, "garlicman" <None> wrote:

>I moved here about seven months ago. There is not HOA, but some neighbors
>are rather sensitive to how others keep their property in our modest street
>of 34 homes on lots about 70 x 120. I just upgraded to General. So far, I've
>got a 40m dipole that is just strung across the back of the roof, but I plan
>to string it between a tree and the chimney when I get a chance.
>
>I would appreciate your ideas on how to calm down neighbors that might be
>worried about RF interference, appearance, and property value.
>
>GM
>

Have the neighbors actually said anything? If not, don't worry about
it and enjoy.

--
73 for now
Buck, N4PGW
www.lumpuckeroo.com

3401. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 13:18:49 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ZctPh.4255$u03.37@newssvr21.news.prodigy.net>
Source record: 43917

Keith Dysart wrote:
> So some times
> Ptot = Pf - Pr

Waves traveling in opposite directions have no effect
on each other. The result is standing waves.

> while at other times
> Ptot = P1 + P2 + Pfudge

Actually, Ptot = P1 + P2 +/- Pinterference

Coherent waves traveling in the same direction have an
effect on each other. As quoted from "Optics", the last
term in the irradiance (power) equation is known as the
"interference term".

> Neither of the equations is the "algebraic sum".

Of course not, power does not follow the superposition
principle. The irradiance (power) equation is the correct
way to add the power scalars that exist in superposed waves.

I'm posting an energy brain teaser problem under a new
thread by that name. Try solving the problem by conventional
methods and then try an energy analysis.
--
73, Cecil http://www.w5dxp.com

3402. Energy Brain Teaser

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 13:23:45 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <BhtPh.4257$u03.385@newssvr21.news.prodigy.net>
Source record: 43918

With as little effort as possible, determine Pfor2 and Pref2.

Given: Pfor1 = 100 watts, Pref1 = zero watts
[(Z02-Z01)/(Z02+Z01)]^2 = 0.5

100w---Z01 ohm line---+---Z02 ohm line---unknown load
Pfor1--> Pfor2-->
<--Pref1 <--Pref2
--
73, Cecil http://www.w5dxp.com

3403. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 13:25:55 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <DjtPh.4258$u03.3833@newssvr21.news.prodigy.net>
Source record: 43919

Dave wrote:
> and hence my recommendation to abandon power as a useful method of analyzing
> waves in transmission lines.

Dave, try the "Energy Brain Teaser" problem.
--
73, Cecil http://www.w5dxp.com

3404. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 13:28:43 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <fmtPh.220844$5j1.71063@bgtnsc04-news.ops.worldnet.att.net>
Source record: 43920

Cecil Moore wrote:
> Gene Fuller wrote:
>> OK, we are getting somewhere. According to the equation, we know that
>> interference has the same units as irradiance. Interesting. Does that
>> mean that interference doesn't work for fields? Are there multiple
>> definitions for interference?
>
> My IEEE Dictionary is 130 miles away so I cannot look
> up the technical definition for interference. The units
> of irradiance are watts per unit area. In a transmission
> line, we can consider the unit area to be constant and
> simply drop the units of area. The resultant "irradiance"
> equation for transmission line power is:
>
> Ptotal = P1 + P2 + 2*SQRT(P1*P2)cos(A)
>
> 2*SQRT(P1*P2)cos(A) is the interference term in watts
> where A is the angle between the two interfering fields.
>
> This is all explained at: http://www.w5dxp.com/energy.htm
> If the above equation is followed, adding powers is easier
> than superposing voltages and then calculating power.

Cecil,

This is a perfect example of how the messages get so confused around here. You cannot simply ignore dimensionality, units, vector vs. scalar, etc. That leads to really silly conclusions like expressing interference in the same units as irradiance.

I don't know if dimensional analysis is still taught these days, but way back when I was taking science classes it was often stated that the very first thing to do when attempting to solve any problem was to make sure that all of the dimensions and units matched up. The numbers mean nothing if the equations are wrong. I suspect a few others in this newsgroup had similar training.

73,
Gene
W4SZ

3405. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 13:35:33 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <FstPh.4263$u03.2545@newssvr21.news.prodigy.net>
Source record: 43921

Gene Fuller wrote:
> This is a perfect example of how the messages get so confused around
> here. You cannot simply ignore dimensionality, units, vector vs. scalar,
> etc. That leads to really silly conclusions like expressing interference
> in the same units as irradiance.

Just remember when you are standing at the Pearly Gates
outside looking in, it was you and not me who called
Eugene Hecht's conclusions "really silly". :-)
--
73, Cecil http://www.w5dxp.com

3406. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 13:38:41 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <BvtPh.220889$5j1.161642@bgtnsc04-news.ops.worldnet.att.net>
Source record: 43922

Cecil Moore wrote:
> Gene Fuller wrote:
>> Even if you could separate the forward and reverse waves the Poynting
>> vector energy calculation would still come out to exactly zero for
>> each component as well as the sum of the components.
>
> Forward and reflected waves are easily separated by a
> circulator so their existence is difficult to deny.
>
> So net energy equals zero? So what! We are NOT discussing net
> energy here. We are discussing the forward Poynting vector
> and the reflected Poynting vector as described in "Fields and
> Waves ...", by Ramo and Whinnery. The Superpositon Principle
> gives us permission to do so and the final result is identical
> to any other valid analysis. Why are you guys so irrationally
> afraid of the wave reflection model? What is your ulterior
> motive in denying the existence of reflected waves during
> steady-state? It has seemingly turned into a steady-state
> religion administered by the steady-state high priests.

Cecil,

I guess I was not quite clear. I don't care if you are talking net energy, gross energy, with or without circulators, or anything else. As long as there are no sources or sinks of energy in the region of interest, the Poynting vector tells you absolutely nothing about energy balance or conservation of energy.

You could have a completely incorrect analysis of forward and reverse waves, and the Poynting analysis will not reveal the error. The required integral will still come out to exactly zero.

Radio amateurs and radio charlatans love to talk about Poynting vectors, but it is obvious that most of those folks simply don't understand the full picture. Just forget about ExB (or more commonly, ExH). It is completely useless in support for the typical RRAA discussions.

73,
Gene
W4SZ

3407. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 13:51:32 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <EHtPh.4265$u03.472@newssvr21.news.prodigy.net>
Source record: 43923

Gene Fuller wrote:
> I guess I was not quite clear. I don't care if you are talking net
> energy, gross energy, with or without circulators, or anything else. As
> long as there are no sources or sinks of energy in the region of
> interest, the Poynting vector tells you absolutely nothing about energy
> balance or conservation of energy.

That's not the point at all. The question is pretty
simple. Does the principle of superposition give us
permission to analyze the individual forward and
reflected waves separately and then superpose the
results? If you say "no", then you don't accept the
superposition principle. If you say "yes", then
please stop harping that the only valid way to solve
a problem is your way.

> Just forget about ExB (or more commonly, ExH).

Your advice is to forget acquired knowledge and tools
and put one's trust in who? You?
--
73, Cecil http://www.w5dxp.com

3408. Re: How do I break it to the neighbors

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 13:52:29 UTC
From: Dino Papas <kl0s@cox.net>
Message-ID: <kl0s-121A92.09522931032007@news.lga.highwinds-media.com>
Source record: 43924

"....and then my wife said it was either her or ham radio....can you
imagine that, OVER."

Nahhh, just kidding...XYL here is a ham and she doesn't mind at all.

Dino KL0S

In article <uhps0353et4i7i8oudc5soibp10jg60171@4ax.com>,
Jim Higgins <invalid@invalid.invalid> wrote:

> On 30 Mar 2007 21:11:24 -0700, "AndyS" <andysharpe@juno.com> wrote:
>
> >> Use of thin wire or wire, maybe with suitably colored insulation or
> >> spray paint, should help hide it. If they don't see you install it it
> >> may take weeks for them to notice it. That failure to notice
> >> immediately would go a long way toward countering how big an eyesore
> >> it really is.
> >>
> >>
> >Andy adds:
> > Well, I don't have neighbors but I have a wife who does not see the
> >existence of outside antennae as an art form.
>
> A few of the hams I know have equally selfish wives. Some let
> themselves get run over and some don't.

3409. Re: How do I break it to the neighbors

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 13:53:24 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <oJtPh.4266$u03.2642@newssvr21.news.prodigy.net>
Source record: 43925

Jim Higgins wrote:
> A few of the hams I know have equally selfish wives. Some let
> themselves get run over and some don't.

Are you advocating running over selfish wives? :-)
--
73, Cecil http://www.w5dxp.com

3410. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 14:03:01 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <pStPh.2587$VU4.1432@bgtnsc05-news.ops.worldnet.att.net>
Source record: 43926

Cecil Moore wrote:
> Gene Fuller wrote:
>> I guess I was not quite clear. I don't care if you are talking net
>> energy, gross energy, with or without circulators, or anything else.
>> As long as there are no sources or sinks of energy in the region of
>> interest, the Poynting vector tells you absolutely nothing about
>> energy balance or conservation of energy.
>
> That's not the point at all. The question is pretty
> simple. Does the principle of superposition give us
> permission to analyze the individual forward and
> reflected waves separately and then superpose the
> results? If you say "no", then you don't accept the
> superposition principle. If you say "yes", then
> please stop harping that the only valid way to solve
> a problem is your way.
>
>> Just forget about ExB (or more commonly, ExH).
>
> Your advice is to forget acquired knowledge and tools
> and put one's trust in who? You?

Cecil,

I have said many times that you can choose to analyze the individual components or you can analyze the superposed combination, i.e., a standing wave. It is purely a matter of mathematical convenience. However, if you get different answers, including more or less completeness, then you have made an error. That is the essence of superposition. If that property was not true, then superposition would be of little value.

It is rather ironic that you are accusing *me* of allowing only one valid method when I have repeatedly stated a flexible approach. Is that some sort of debating technique you learned?

Are you instead seeing a reflection of yourself? Is this some sort of mirror trick?

8-)

73,
Gene
W4SZ

3411. Re: analysis and hypothesis question?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 14:17:50 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1175350670.393846.299190@n59g2000hsh.googlegroups.com>
Source record: 43827

On Mar 31, 7:22 am, "Dave" <n...@nowhere.com> wrote:
> "dansawyeror" <dansawye...@comcast.net> wrote in message
>
> news:8YGdnajL1cPrX5DbnZ2dnUVZ_u-unZ2d@comcast.com...
>
>
>
> > All,
>
> > This is a real world "what is going on" question. The antenna is a
> > 'screwdriver' on a 3 foot stand in the back yard. The earth ground is
> > normal loam, the original soil was forest. The feed cable is about 130
> > feet 50 ohm coax that measures to be in good shape. The ground system is 8
> > wire radials between 30 and 60 feet in length.
>
> > The measurement tool is an HP 8407a network analyzer and an HP 8601a sweep
> > generator. The frequencies of interest are from 3.5 to 4 MHz. As the
> > antenna is moved from resonance at 3.5 MHz to 4 MHz the return shows a
> > marked difference. It varies between -24 db and -50 db. The pattern is
> > irregular, however it is repeatable.
>
> > The antenna design is a coil that moves up or down across copper fingers.
> > As the coil moves those fingers contact more or less of the coil and
> > change the impedance.
>
> > What could cause the variation in return across a relatively narrow band.
> > A return of -24db is relatively small, an impedance very close to 50 Ohms
> > and an SWR about 1.135. A return of -50 db is less then 1.01 SWR and
> > represents a small change in Z, however a change non the less.
>
> > I can think of three potential causes for this change:
>
> > 1. variations in the coil change Q
>
> > 2. variations is the finger to coil connection change R
>
> > 3. variations in the ground radials.
>
> > Are there others?
>
> > Thanks - Dan
>
> the real important thing though is that the match is near perfect at either
> 1.135:1 or 1.01:1, so stop playing around and put some power to that sucker

> and make some contacts! remember, 'too low an swr can kill you'! or at
> least keep you off the air for as long as you are tweaking it.

My experience with a screwdriver antenna is that the bandwidth vs vswr is not as good as he is showing. My bet is that the ground is acting pretty much like a dummy load making the SWR look real good. He could probably use a good ground system before he tries talking . If I were using a screw driver antenna as a base antenna I would consider seriously increasing the length of the radiator.

Jimmie

3412. Re: How do I break it to the neighbors

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 14:23:04 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1175350984.665182.316280@o5g2000hsb.googlegroups.com>
Source record: 43828

On Mar 31, 12:11 am, "AndyS" <andysha...@juno.com> wrote:
> > Use of thin wire or wire, maybe with suitably colored insulation or
> > spray paint, should help hide it. If they don't see you install it it
> > may take weeks for them to notice it. That failure to notice
> > immediately would go a long way toward countering how big an eyesore
> > it really is.
>
> Andy adds:
> Well, I don't have neighbors but I have a wife who does not see the
> existence of outside antennae as an art form. We just moved into
> a new house 2 years ago, and recently I decided to get all the ham
> gear working again......
> I put the dipoles, and a 2 meter gnd plane, in my attic near the
> top
> of the roofline on the inside.
> They work just fine, low SWR, and receive and transmit well......
> Being
> under a half inch of plywood doesn't alter the characteristics
> significantly.
> If your roof line will accommodate this, it is a thought....
>
> Also, rather than dipoles, a loaded flagpole or TV antenna mast
> would
> be another option.....
>
> No way your neighbors could possibly be as picky as my wife.......
>
> I realize that there may be a difference of opinion about mounting
> an
> antenna in the attic versus on top of the roof, but I've never been
> able
> to tell any difference in performance for dipoles and gnd planes....
> The measure I use is : " When the H F antenna is connected to the
> receiver
> input, if the ambient noise level rises appreciably, the antenna is
> working
> just fine (noise level is due to the cosmos and not receiver
> generated) "
>
> Andy W4OAH

fortunately my wife holds a ticket too.

3413. Re: analysis and hypothesis question?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 14:23:23 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <aO6dncqBYfpr85PbnZ2dnUVZ_qXinZ2d@comcast.com>
Source record: 43829

Which portion of this antenna is the radiator? Is it the portion below
the coil or the entire antenna?

Richard Clark wrote:
> On Fri, 30 Mar 2007 19:07:23 -0700, dansawyeror
> <dansawyeror@comcast.net> wrote:
>
>> Are there others?
>
> Hi Dan,
>
> There is the 130 foot radial (the transmission line's unchoked
> shield).
>
> There is also an unreasonable assumption that this slight variation is
> meaningful.
>
> You would do better (per the advice of Reggie, in times past) to
> invest the wire in those 8 radials to more radials that are not much
> longer than the radiator is tall.
>
> Soil from a former forest is not particularly good soil; and it isn't
> particularly relevant to the outcome except as a large resistor (which
> may more than explain the good match).
>
> 73's
> Richard Clark, KB7QHC

3414. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 14:33:39 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <7juPh.12503$Um6.5346@newssvr12.news.prodigy.net>
Source record: 43830

Gene Fuller wrote:
> I have said many times that you can choose to analyze the individual
> components or you can analyze the superposed combination, i.e., a
> standing wave. It is purely a matter of mathematical convenience.
> However, if you get different answers, including more or less
> completeness, then you have made an error. That is the essence of
> superposition. If that property was not true, then superposition would
> be of little value.

An energy analysis yields exactly the same results as any
other valid method of analysis and is often much easier.
There are no "different answers", yet you imply there are.
An energy analysis obeys all of the principles of physics.
Optical physicists have been solving energy analysis
problems for centuries.

It's a simply yes/no question: Does the analysis of the
forward wave and reflected wave separately abide by the
rules of the principle of superposition? The answer is
obviously "yes" because identical results are obtained
using either method.

> It is rather ironic that you are accusing *me* of allowing only one
> valid method when I have repeatedly stated a flexible approach.

Stated, yes. Practiced, no. I don't attack your methods,
Gene, yet you repeatedly attack other valid methods that
yield results identical to yours with less effort. You
only pay lip service to your "flexible approach". Your
practiced approach is pretty narrow-minded - your way or
no way.
--
73, Cecil http://www.w5dxp.com

3415. Re: How do I break it to the neighbors

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 14:34:25 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1175351665.624076.10630@n59g2000hsh.googlegroups.com>
Source record: 43831

On Mar 31, 1:24 am, "Sal M. Onella" <salmone...@food.poisoning.org>
wrote:
> "garlicman" <None> wrote in message
>
> news:kO2dnbXw9qJB8pDbnZ2dnUVZ_tyinZ2d@comcast.com...
>
> > I moved here about seven months ago. There is not HOA, but some neighbors
> > are rather sensitive to how others keep their property in our modest
> street
> > of 34 homes on lots about 70 x 120. I just upgraded to General. So far,
> I've
> > got a 40m dipole that is just strung across the back of the roof, but I
> plan
> > to string it between a tree and the chimney when I get a chance.
>
> > I would appreciate your ideas on how to calm down neighbors that might be
> > worried about RF interference, appearance, and property value.
>
> Reverse psychology. You make sure they're glad you're a ham.
>
> You help one neighbor correctly wire an outside GFCI receptacle because you
> know how and he doesn't (and he's already tripped the branch breaker six
> times with his attempts); you give another neighbor your old CB antenna for
> his boat (and you were done with it, anyway); you put an F-series connector
> on a piece of RG-6 so the next neighbor can hook up her cable modem in a new
> room (and she's a babe, too); you reflow the solder pads on a PC-mount RCA
> jack because your neighbor's kid keeps pushing the plug of his video game
> into the TV too hard (three times so far -- last time I gave it back with
> two short pigtail jumpers so he wouldn't do it again.).
>
> Four neighbors, four stories, all true and there are more. Heck, I could
> put an air-search radar antenna on my roof and they wouldn't say anything!

Pretty much the same story here. occasionally. I get the new neighbor
that says something but the rest will put 'em straight. A little guilt
goes a long way too. I was accused of causing interference on their
TVs but I knew it wasn'.t me because I was on-the -air when they were
having problems. It turned out the guy that was complaining the
loudest had an antenna pre-amp on his tv that was breaking into
oscillation. i fed him a little humble pie but not too much. Since
then no problem.

Jimmie

3416. Re: How do I break it to the neighbors

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 14:39:51 UTC
From: Edwin Johnson <edwinljohnson@bellsouth.net>
Message-ID: <XouPh.24094$_a1.8792@bignews7.bellsouth.net>
Source record: 43832

On 2007-03-30, garlicman <> wrote:

> got a 40m dipole that is just strung across the back of the roof, but I plan
> to string it between a tree and the chimney when I get a chance.
>
> I would appreciate your ideas on how to calm down neighbors that might be
> worried about RF interference, appearance, and property value.

Wires are generally not noticeable at all and your neighbors probably will not even know, even if strung in the front yard, especially if feed lines are not hanging down too obtrusively.

I live in a neighborhood with no restrictions and have a 284' delta loop of #16 copper clad steel line between three trees (one tree in my front yard is my neighbor's with his permission), and unless you look you wouldn't know it was there. When a neighbor two houses away said she thought she heard my voice on the answering machine, I explained the situation (cheaply made, no filter answering machines) and promptly ordered her a telephone line filter which worked perfectly. She wanted to pay for it and I refused, believing the $30 bought a lot of good will. (I actually have been here longer than any of them and not the oldest by far.) Your offer to help sort out any problems goes a long way, but no need to go around asking.

I wouldn't worry at all about a wire and if anyone complains of RFI problems, help sort it out and eliminate it. After all, you may be their only contact to the outside some day in an emergency.

...Edwin, KD5ZLB
--
____
"Once you have flown, you will walk the earth with your eyes
turned skyward, for there you have been, there you long to
return."-da Vinci http://bellsouthpwp2.net/e/d/edwinljohnson

3417. Re: analysis and hypothesis question?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 14:43:15 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <7suPh.12504$Um6.11955@newssvr12.news.prodigy.net>
Source record: 43833

dansawyeror wrote:
> Which portion of this antenna is the radiator? Is it the portion below
> the coil or the entire antenna?

The part of the antenna that radiates the most
is the part below the loading coil. On my HS-1600,
that section is 3 feet long. If you want to
dramatically increase your radiated power, add
another three foot section under the existing one.
Since you don't have to contend with the 12.5 foot
mobile antenna limit, make that bottom section
below the coil as long as possible.
--
73, Cecil http://www.w5dxp.com

3418. Re: Energy Brain Teaser

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 14:48:45 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1175352525.048882.33710@q75g2000hsh.googlegroups.com>
Source record: 43834

On Mar 31, 6:23 am, Cecil Moore <nos...@w5dxp.com> wrote:
> With as little effort as possible, determine Pfor2 and Pref2.
>
> Given: Pfor1 = 100 watts, Pref1 = zero watts
> [(Z02-Z01)/(Z02+Z01)]^2 = 0.5
>
> 100w---Z01 ohm line---+---Z02 ohm line---unknown load
> Pfor1--> Pfor2-->
> <--Pref1 <--Pref2
> --
> 73, Cecil http://www.w5dxp.com

If EITHER line has loss, the problem statement is incomplete, at best.

If the lines are lossless, Pfor2=175W, and Pref2 is obvious.

And it's a REALLY weird way to state the impedances. It looks like someone was interested in the impedances of the lines after thinking to make some measurements of VOLTAGE and maybe CURRENT along those lines and couldn't quite figure out how to get there.

How do we KNOW that Pfor1 is 100 watts and Pref1 is zero?

How do we KNOW that line 1 and line 2 each have UNIFORM impedance?

Simply stating it as a brainteaser doesn't make it relevant to the problems hams are faced with in line-matching situations. In most cases, hams ASSUME they know the impedance of the line they are measuring, whether they realize it or not. That is, they'll use a bridge to make a measurement, and the bridge is calibrated for use at a certain impedance (commonly 50 ohms). If the line isn't that impedance, the measurement will be in error. Just because someone measured 100W forward and 0W reflected on line 1 doesn't make it so, and honestly, that's a much more interesting problem to me than this easy "brainteaser."

Cheers,
Tom

3419. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 15:12:37 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175353957.513703.180860@y80g2000hsf.googlegroups.com>
Source record: 43835

On Mar 31, 10:33 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Gene Fuller wrote:
> > I have said many times that you can choose to analyze the individual
> > components or you can analyze the superposed combination, i.e., a
> > standing wave. It is purely a matter of mathematical convenience.
> > However, if you get different answers, including more or less
> > completeness, then you have made an error. That is the essence of
> > superposition. If that property was not true, then superposition would
> > be of little value.
>
> An energy analysis yields exactly the same results as any
> other valid method of analysis and is often much easier.

A strange assertion given that in another thread your energy
analysis was incapable of producing any result while alternative
techniques could readily answer the question.

...Keith

3420. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 15:32:31 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175355151.608780.231140@p15g2000hsd.googlegroups.com>
Source record: 43836

On Mar 31, 9:18 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Neither of the equations is the "algebraic sum".
>
> Of course not, power does not follow the superposition
> principle.

Well that is a great leap forward. Since that was the point
of my response to your first post, I am curious as to why
you chose to object.

Do you now agree?

...Keith

3421. Re: Energy Brain Teaser

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 15:51:08 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <MrvPh.20107$uo3.1389@newssvr14.news.prodigy.net>
Source record: 43837

K7ITM wrote:
> On Mar 31, 6:23 am, Cecil Moore <nos...@w5dxp.com> wrote:
>> With as little effort as possible, determine Pfor2 and Pref2.
>>
>> Given: Pfor1 = 100 watts, Pref1 = zero watts
>> [(Z02-Z01)/(Z02+Z01)]^2 = 0.5
>>
>> 100w---Z01 ohm line---+---Z02 ohm line---unknown load
>> Pfor1--> Pfor2-->
>> <--Pref1 <--Pref2

>
> If the lines are lossless, Pfor2=175W, and Pref2 is obvious.

Yes, assume the lines are lossless, but I don't think
that is the correct answer.

> And it's a REALLY weird way to state the impedances.

Yes, to get people to think outside the box. Since the
Z0s are unknown, the voltages and currents are also
unknown, yet there exists a solution to the problem.
This is the typical kind of problem that my EE professors
used to give to the classes at Texas A&M to try to get
us to use our gray matter.

> How do we KNOW that Pfor1 is 100 watts and Pref1 is zero?

Given.

> How do we KNOW that line 1 and line 2 each have UNIFORM impedance?

Given.

> Just because someone
> measured 100W forward and 0W reflected on line 1 doesn't make it so,

Just because 100 watts forward and zero watts reflected
were measured by an ideal directional wattmeter calibrated
for a characteristic impedance of Z01, doesn't make it so???
Now that *is* an interesting diversion.
--
73, Cecil http://www.w5dxp.com

3422. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 15:53:05 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <BtvPh.20109$uo3.18869@newssvr14.news.prodigy.net>
Source record: 43838

Keith Dysart wrote:
> A strange assertion given that in another thread your energy
> analysis was incapable of producing any result while alternative
> techniques could readily answer the question.

Strange that you are willing to accept your erroneous
results based on mixing virtual and physical reflection
coefficients in the same example. Your "alternative
techniques" yielded a bogus answer.
--
73, Cecil http://www.w5dxp.com

3423. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 15:59:54 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <%zvPh.1885$H_5.523@newssvr23.news.prodigy.net>
Source record: 43839

Keith Dysart wrote:
> Well that is a great leap forward. Since that was the point
> of my response to your first post, I am curious as to why
> you chose to object.

Exactly what is it that I objected to?

> Do you now agree?

Old, worn out, diversionary technique. Doesn't work.
If you can prove that I ever said power can be
superposed, I will send you a $100 bill.

Have you stopped beating your girlfriend? See,
I know how to do that also.
--
73, Cecil http://www.w5dxp.com

3424. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 16:11:51 UTC
From: RST Engineering <jim@rstengineering.com>
Message-ID: <vLvPh.20$sy6.100451@news.sisna.com>
Source record: 43840
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Bill ...

I would bet that most of the "confustion" comes from the conditions people put on their answers to the question.

Some postulate a "tuner" between generator and load.

Some postulate a specific internal impedance of the generator.

Some postulate a specific length of feeder line (either lossless or resistive, which is another parameter in and of itself).

Some postulate lots of other stuff, almost all of which is valid in the context of their answer.

What exactly do we mean when we say that we have a "100 watt transmitter"? What we are actually saying is that the transmitter will cause a resistor of a specific value to dissipate 100 watts of energy when tied to the transmitter output port and the transmitter keyed. Let's not muddy the waters up by asking if we are talking about peak power, PE power, average power, or whatnot. Let's just assume an unmodulated carrier putting out a constant power into the resistor that gets just as hot as when 100 dc watts (E*I) is pumped into it from a battery.

What value resistor? Whatever the designer/engineer/manufacturer specifies. 32 ohms? Sure. 50 ohms? No problem. 300 ohms? Certainly. Any competent engineer can give you a specified power into a specified resistive load.

The crux of the question becomes, "What happens if my transmitter is specified into a 50 ohm resistor and I put a 100 ohm resistor as the load? How much "loss" do I get (or another way of asking that same question is how much power is dissipated in the 100 ohm resistor)?"

The answer is that it is impossible to tell without making the measurement. That may seem like a "wiggle" answer, but the truth of it is that the output stage design of the transmitter will dictate how it handles a "VSWR load". In some output stages, the output voltage will increase to the point of nearly driving 100 watts into the 2:1 VSWR resistor. Some will shut themselves down with a protection circuit. Some will go into parasitic oscillation. Some will fry the output devices.

Now increase the magnitude (and probably the sign also) of the problem to toss in a complex impedance instead of a resistive load and the confusion factor goes up rapidly. What DOES that output stage do when the load has an inductive component? Or a capacitive component? And both a resistive component and an imaginary component that varies with frequency?

The simple answer to your question outside the "laboratory environment"
where everything is nicely matched and the internal impedances are set "just
so" is that there IS NO SINGLE RIGHT ANSWER to this simple question.

And that is most probably the cause of your confusion.

Jim

"billcalley" <billcalley@yahoo.com> wrote in message
news:1175199045.962572.290380@e65g2000hsc.googlegroups.com...

But here again, I'm probably not seeing the
> entire picture here. What am I missing??
>
> Confused!
>
> -Bill
>

3425. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 16:37:34 UTC
From: Mike Lucas <w5chr@bellsouth.net>
Message-ID: <67wPh.23519$nV1.7753@bignews6.bellsouth.net>
Source record: 43842

"Cecil Moore" wrote
>
> Old, worn out, diversionary technique. Doesn't work.
> If you can prove that I ever said power can be
> superposed, I will send you a $100 bill.
>
> Have you stopped beating your girlfriend? See,
> I know how to do that also.
> 73, Cecil http://www.w5dxp.com

What do you know how to do, Cecil? Stop beating
your girlfriend? (big grin)

Mike w5chr

3426. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 17:13:27 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <XEwPh.3611$YL5.1030@newssvr29.news.prodigy.net>
Source record: 43846

Richard Clark wrote:
> Cecil Moore <nospam@w5dxp.com> wrote:
>
>> If you can prove that I ever said power can be
>> superposed, I will send you a $100 bill.
>
> On Sat, 31 Mar 2007 01:20:35 GMT, Cecil Moore <nospam@w5dxp.com>
> wrote:
>
>> Ptotal = P1 + P2 + 2*SQRT(P1*P2)cos(A)

Sorry Richard, that is not superposition. That is the
way the power is calculated when two EM waves are
superposed. And no, Eugene Hecht did not superpose
irradiances. For being wrong, please send me a
$100 bill. :-)
--
73, Cecil http://www.w5dxp.com

3427. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 17:21:00 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <0MwPh.1889$H_5.478@newssvr23.news.prodigy.net>
Source record: 43848

Richard Clark wrote:
> Cecil no doubt hesitates to trod this path that leads to the
> destruction of his other favorite, failed example of anti-glare glass.

I found out later that it wasn't anti-glare glass.
It was anti-reflective glass. Out of ignorance, I
just chose the wrong word. However, everything I
said was true about anti-reflective glass. A 1/4WL
thin film acts virtually the same way a 1/4WL series
matching section acts and reflections are eliminated
through wave cancellation. Incidentally, your attempt
at superposing powers was why your reflections turned
out to be brighter than the surface of the sun. If
you had instead used the irradiance equation, your
result and mine would have been identical - reflections
eliminated.
--
73, Cecil http://www.w5dxp.com

3428. Re: analysis and hypothesis question?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 17:33:37 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <456t039iqiercorgpdevtkd1lp2a7q25td@4ax.com>
Source record: 43841

On Sat, 31 Mar 2007 07:23:23 -0700, dansawyeror
<dansawyeror@comcast.net> wrote:

>Which portion of this antenna is the radiator? Is it the portion below
>the coil or the entire antenna?

Hi Dan,

To be precise, EVERYTHING is the radiator. The unchoked line, the vertical to the coil, the coil, the whip above the coil, AND the radials.

What is of concern, is what is called the current node (I'm about to embrace that tarbaby called standing waves) whose placement can have a very significant impact on the directivity (another tarbaby of "gain" raises its prospect here) of the antenna.

The higher the coil resides in the vertical element, the more linear distance beneath it is available to that current node, and from this, a greater signal out. There is a point of diminishing return (an economics term, not a radiation term) where raising the coil ever higher brings no further gain (both a pun to fulfill the economic basis, and a literal result of RF). You can reclaim more gain from a high coil by adding a top hat which serves to extend the whip above the coil. Hence there is a generally acknowledged rule of thumb that the coil resides somewhere between one half way up to two-thirds the way up of a simple vertical. You may note that your antenna attempts to conform to this model in some sense (for instance, it is not a base loading which is the poorest configuration).

73's
Richard Clark, KB7QHC

3429. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 17:35:11 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <jZwPh.4020$YL5.1493@newssvr29.news.prodigy.net>
Source record: 43850

Richard Clark wrote:
> Did Karl Rove write that flip-flop for you?

I'm afraid what you inferred is something that
I didn't imply. At no time have I ever said or
implied that scalar values can be superposed.
I have said many times that they cannot be.

Hecht's irradiance equations are valid for
computing transmission line power. As far as
I know, Dr. Best first applied the irradiance
equations to transmission lines in his 2001 QEX
article. Before that, I had never heard of the
irradiance equation.

Those threads with Dr. Best are archived by
Google for the spring/summer of 2001.
--
73, Cecil http://www.w5dxp.com

3430. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 17:39:15 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <71xPh.221839$5j1.204167@bgtnsc04-news.ops.worldnet.att.net>
Source record: 43851

Cecil Moore wrote:
> Gene Fuller wrote:
>> I have said many times that you can choose to analyze the individual
>> components or you can analyze the superposed combination, i.e., a
>> standing wave. It is purely a matter of mathematical convenience.
>> However, if you get different answers, including more or less
>> completeness, then you have made an error. That is the essence of
>> superposition. If that property was not true, then superposition would
>> be of little value.
>
> An energy analysis yields exactly the same results as any
> other valid method of analysis and is often much easier.
> There are no "different answers", yet you imply there are.
> An energy analysis obeys all of the principles of physics.
> Optical physicists have been solving energy analysis
> problems for centuries.
>
> It's a simply yes/no question: Does the analysis of the
> forward wave and reflected wave separately abide by the
> rules of the principle of superposition? The answer is
> obviously "yes" because identical results are obtained
> using either method.
>
>> It is rather ironic that you are accusing *me* of allowing only one
>> valid method when I have repeatedly stated a flexible approach.
>
> Stated, yes. Practiced, no. I don't attack your methods,
> Gene, yet you repeatedly attack other valid methods that
> yield results identical to yours with less effort. You
> only pay lip service to your "flexible approach". Your
> practiced approach is pretty narrow-minded - your way or
> no way.

Cecil,

You have argued with me many times that my preference of analyzing standing waves is insufficient; that there is more information contained in the two component traveling waves than in the standing wave. Superposition says that is not correct, but I don't suppose you will accept that.

However, you are in luck. This is Burger King Day. Have it your way.

I think I will drop out of this thread. Feel free to call yourself the winner. Also, go right ahead and give interference the unit of

watts/meter2 along with all of the other misinterpretations from your guru-authors.

73,
Gene
W4SZ

3431. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 17:40:45 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <x2xPh.4118$YL5.3762@newssvr29.news.prodigy.net>
Source record: 43852

Richard Clark wrote:
> Cecil Moore <nospam@w5dxp.com> wrote:
>
>> reflections eliminated.
>
> As I said, you lack of experience in the field of Optics is glaring.

I have some anti-reflective glass, Richard. It
does a reasonable job of wave cancellation even
under less than ideal conditions with ambient
light.

Our previous example involved an ideal laser and
an ideal 1/4WL coating of thin film. The index
of refraction of the thin film material was
exactly the square root of the index of refraction
of the glass. Those are ideal conditions for 100%
wave cancellation of reflections as anyone in
the field of optics should know.
--
73, Cecil http://www.w5dxp.com

3432. Re: Antenna Theory Question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 17:41:00 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <857t03p23lvhjn9cogpt34g2ud02jcajdi@4ax.com>
Source record: 43843

On 31 Mar 2007 04:57:23 -0700, "AndyS" <andysharpe@juno.com> wrote:

> Yet, I was not comfortable with what seemed like a discrepancy
>between
>"all the extracted power goes to the load" and the proposition that
>the
>cosmos and antenna acted like a generator and therefore had an
>internal
>impedance which must be Thevenin matched for max extracted power....
>I resolved it, in my mind, by ignoring the latter explanation
>(grin)..... and
>apparently it was the correct thing to do...

Hi Andy,

It is a bit of a stumble reading through that, and it gives the
impression that you have learned the incorrect thing to do (although I
find it hard to imagine how you could be "doing" anything when the
mechanics of radiation and reception take care of themselves).

73's
Richard Clark, KB7QHC

3433. Re: Energy Brain Teaser

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 17:41:45 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <t3xPh.221848$5j1.35066@bgtnsc04-news.ops.worldnet.att.net>
Source record: 43853

Cecil Moore wrote:
> K7ITM wrote:
>
>> And it's a REALLY weird way to state the impedances.
>
> Yes, to get people to think outside the box.

Cecil,

It is really rare when one of these threads is *inside* the box.

8-)

73,
Gene
W4SZ

3434. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 17:44:40 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <c6xPh.221861$5j1.168880@bgtnsc04-news.ops.worldnet.att.net>
Source record: 43854

```
Cecil Moore wrote:
> Richard Clark wrote:
>> Did Karl Rove write that flip-flop for you?
>
> I'm afraid what you inferred is something that
> I didn't imply. At no time have I ever said or
> implied that scalar values can be superposed.
> I have said many times that they cannot be.
>
> Hecht's irradiance equations are valid for
> computing transmission line power. As far as
> I know, Dr. Best first applied the irradiance
> equations to transmission lines in his 2001 QEX
> article. Before that, I had never heard of the
> irradiance equation.
>
> Those threads with Dr. Best are archived by
> Google for the spring/summer of 2001.

Cecil,

I think you missed the first publication by a hundred years or more.

73,
Gene
W4SZ
```

3435. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 17:50:38 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <tp7t031kpsmqp3qhgf0v4bbd97t88vemnu@4ax.com>
Source record: 43844

On Sat, 31 Mar 2007 10:59:54 -0500, Cecil Moore <nospam@w5dxp.com>
wrote:

>If you can prove that I ever said power can be
>superposed, I will send you a $100 bill.

On Sat, 31 Mar 2007 01:20:35 GMT, Cecil Moore <nospam@w5dxp.com>
wrote:

>Ptotal = P1 + P2 + 2*SQRT(P1*P2)cos(A)

3436. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 17:51:01 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <9cxPh.1049$Q23.556@newssvr17.news.prodigy.net>
Source record: 43855

Gene Fuller wrote:
> You have argued with me many times that my preference of analyzing
> standing waves is insufficient; that there is more information contained
> in the two component traveling waves than in the standing wave.
> Superposition says that is not correct, but I don't suppose you will
> accept that.

No, you have it wrong. All I have ever done is defend
my method of analyzing forward and reflected waves
separately and then superposing while you have done
your best to discredit that approach. You have said it
is an invalid approach and tried to prove it by
asserting that standings waves are completely different
from traveling waves because the phase has disappeared
and is gone forever. Your exact words:

>> Phase is gone. Kaput. Vanished. Cannot be recovered. Never to be
>> seen again.

You cannot have it both ways, Gene. If, as you say,
phase disappears from standing waves, then they are
quite different from traveling waves (which they are).

In a standing wave, the phase is constant.
In a traveling wave the phase is changing.

In a standing wave, the amplitude varies.
In a traveling wave the amplitude is constant.

In a lot of ways, standing waves and traveling
waves are opposites.
--
73, Cecil http://www.w5dxp.com

3437. Re: Energy Brain Teaser

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 17:52:34 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <BdxPh.1050$Q23.214@newssvr17.news.prodigy.net>
Source record: 43856

Gene Fuller wrote:
> It is really rare when one of these threads is *inside* the box.
> 8-)

Gene, can you solve the problem?
--
73, Cecil http://www.w5dxp.com

3438. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 17:55:47 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <DgxPh.4138$YL5.1588@newssvr29.news.prodigy.net>
Source record: 43857

Gene Fuller wrote:
> I think you missed the first publication by a hundred years or more.

Could be. Do you have a reference within the field
of RF transmission lines? Dr. Best gives W. Johnson
and Chipman as references but I don't recall seeing
that equation in either book.
--
73, Cecil http://www.w5dxp.com

3439. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 18:01:10 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <bu7t039tg14m3o63663mtv0m8sctccljeg@4ax.com>
Source record: 43845

On Sat, 31 Mar 2007 11:11:13 GMT, "Dave" <noone@nowhere.com> wrote:

>and hence my recommendation to abandon power as a useful method of analyzing
>waves in transmission lines. power is a scalar, you can't add power without
>resorting to digging out the phase angles that come from the current or
>voltage waves.

Hi Dave,

This is not a very compelling reason for method that has a wide application in optics; Cecil has no real experience in this field, and it shows frequently, but the math is quite common. It relates, peripherally, to Keith's advice to investigate lattice diagrams, but Cecil no doubt hesitates to trod this path that leads to the destruction of his other favorite, failed example of anti-glare glass.

73's
Richard Clark, KB7QHC

3440. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 18:17:09 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <gb9t03d8k8fi1u2hs94ln6hvph2supb6fa@4ax.com>
Source record: 43847

On Sat, 31 Mar 2007 17:13:27 GMT, Cecil Moore <nospam@w5dxp.com>
wrote:

>that is not superposition. That is the
>way the power is calculated when two EM waves are
>superposed.

Texans....

Did Karl Rove write that flip-flop for you?

3441. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 18:33:16 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <7aat03pmqp6prrl4q2k1s5v2d98rluvsfd@4ax.com>
Source record: 43849

On Sat, 31 Mar 2007 12:21:00 -0500, Cecil Moore <nospam@w5dxp.com>
wrote:

>reflections eliminated.

As I said, you lack of experience in the field of Optics is glaring.

3442. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 18:41:23 UTC
From: Dave <noone@nowhere.com>
Message-ID: <nXxPh.1402$%G4.1158@trndny05>
Source record: 43859

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:9cxPh.1049$Q23.556@newssvr17.news.prodigy.net...
> Gene Fuller wrote:
> In a lot of ways, standing waves and traveling
> waves are opposites.

'standing' waves aren't waves at all, they are figments of your instrumentation. simple instrumentation (read light bulb and loop of wire) that was originally used to 'tune' antennas could detect only the peaks and dips of the superimposed forward and reflected currents... because these 'looked' like waves that stood still on the line when you plotted them they became known as 'standing' waves. and this also led to the horrible use of the 'standing wave ratio' as a measure of how good an antenna was matched to the feed line. all of this over the years has led hams to consider 'standing' waves as a real thing when it is really just a consequence of the superposition principle. We would all be much better off if someone many years ago had labeled the first 'SWR' meter in units of db for measuring return loss, or v-forward/v-reverse, or some other real physical unit. not that the meter would function any differently, but we would all be better off understanding what is really being measured!

3443. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 18:51:15 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <D4yPh.1657$5e2.282@newssvr11.news.prodigy.net>
Source record: 43860

Dave wrote:
> "Cecil Moore" <nospam@w5dxp.com> wrote:
>> In a lot of ways, standing waves and traveling
>> waves are opposites.
>
> 'standing' waves aren't waves at all, they are figments of your
> instrumentation.

Yep, that's another way they are different from
traveling waves. :-)
--
73, Cecil http://www.w5dxp.com

3444. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 18:57:02 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <2ayPh.1658$5e2.1373@newssvr11.news.prodigy.net>
Source record: 43861

Richard Clark wrote:
> Cecil Moore <nospam@w5dxp.com> wrote:
> Your own model showed the falsity of this supposed 100% cancellation.

Actually, it showed perfectly the 100% cancellation
by two waves each of equal magnitude and opposite phase.
It was your superposition of powers that was at fault
and you apparently don't even realize your mistake.
Do you want to go through it again?

Have you tried the brain teaser I posted? It is a
lot like non-reflective thin films.
--
73, Cecil http://www.w5dxp.com

3445. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 19:16:23 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <jrft03h6fc9aitd6bj11ml8j6nvm847bmv@4ax.com>
Source record: 43862

On Fri, 30 Mar 2007 11:46:15 -0800, Richard Clark <kb7qhc@comcast.net> wrote:

>On Fri, 30 Mar 2007 18:19:20 GMT, Walter Maxwell <walt@w2du.com>
>wrote:
>
>>Oh, 'cmon Richard, are you saying that if a load reflected wave
>
>Is not the same statement as your earlier one:
>>>On Fri, 30 Mar 2007 14:45:56 GMT, Walter Maxwell <walt@w2du.com> wrote:
>>>
>>>>The part I feel is contradicted is that when total re-reflection
>>>>is caused without a total discontinuity such as a physical
>>>>short or open circuit
>
>What is in your "without a total discontinuity" that is now found in
>your "load reflected wave?"
>
>Are we to now parse "total discontinuity" as being wholly different
>from "partial discontinuity" such that waves suddenly mix from that
>difference?
>
>My example of the classic AT/ATR tube evidences EVERY observation you
>offer, except it is a necessary load without which those observations
>would never appear. If I were to replace its "total discontinuity"
>with a weak tube (it exhibits less than total short); it too would
>exhibit EVERY observation you offer EXCEPT they would be imperfect or
>"partial discontinuities" repeated every quarter wave. It is obvious
>that the effect follows the physical load, not the waves (they haven't
>changed when the tube went bad). The physical load is the principle
>in the process of interference.

Richard, I don't consider the AT/ATR tube relevant to the discussion of re-reflection of reflected power
incident on the output of a pi-network in an RF TX.

>There is absolutely no example of interference that does not rely on a
>load to reveal it.

If what you just said is true, then how do you explain nulls in a radiation pattern of an antenna having more
than one radiator, for example two verticals spaced 1/4 wl and fed in quadrature, thus creating a cardioid
pattern with a total null in one direction in azimuth? If the null was not created by interference between the
radiations from the two verticals, then how do you explain the formation of the null?

>73's
>Richard Clark, KB7QHC

Walt, W2DU

3446. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 19:37:37 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ggdt03hmv7ohtkqc7mt468hv8nh73nohp9@4ax.com>
Source record: 43858

On Sat, 31 Mar 2007 17:40:45 GMT, Cecil Moore <nospam@w5dxp.com>
wrote:

>Those are ideal conditions for 100%
>wave cancellation of reflections as anyone in
>the field of optics should know.

Amusing. You don't really know anyone of them, do you? Certainly none who have to live with the invalidity of this sophomoric treatment.

Your own model showed the falsity of this supposed 100% cancellation. As I said, your visiting the topic of Lattice diagrams is not even on the horizon, and behind it, Fresnel's equations are even more remote. (I can well imagine you flipping through the index to find those pages to presume their understanding, your Xeroxing other's work is apparent.)

Like I said, your are quite ignorant to the matters of Optics. RF runs a poor second, as your professional life in binary design has corrupted your thinking.

3447. Re: How do I break it to the neighbors

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 19:50:22 UTC
From: Bob Miller <NOSPAM@neosoft.com>
Message-ID: <jcet035g0gqe6drgptiate3pietrhagjqm@4ax.com>
Source record: 43863

On Fri, 30 Mar 2007 13:15:17 -0700, "garlicman" <None> wrote:

>I moved here about seven months ago. There is not HOA, but some neighbors
>are rather sensitive to how others keep their property in our modest street
>of 34 homes on lots about 70 x 120. I just upgraded to General. So far, I've
>got a 40m dipole that is just strung across the back of the roof, but I plan
>to string it between a tree and the chimney when I get a chance.
>
>I would appreciate your ideas on how to calm down neighbors that might be
>worried about RF interference, appearance, and property value.
>
>GM
>

How will they know what it is?

If you're sensitive to appearance, I personally use The Wireman's #18
AWG stranded wire with black insulation for an 80 meter dipole hung
from 3 trees. A screen door spring at each end inserts enough give to
keep the swaying trees from snapping the wire.

The whole setup is pretty hard to see, unless you're looking for it.

The Wireman also sells a #26 stranded, if you're really looking to be
invisible.

Bob
k5qwg

3448. Re: Energy Brain Teaser

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 19:55:46 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1175370946.739826.70400@l77g2000hsb.googlegroups.com>
Source record: 43864

On Mar 31, 8:51 am, Cecil Moore <nos...@w5dxp.com> wrote:
> K7ITM wrote:
> > On Mar 31, 6:23 am, Cecil Moore <nos...@w5dxp.com> wrote:
> >> With as little effort as possible, determine Pfor2 and Pref2.
>
> >> Given: Pfor1 = 100 watts, Pref1 = zero watts
> >> [(Z02-Z01)/(Z02+Z01)]^2 = 0.5
>
> >> 100w---Z01 ohm line---+---Z02 ohm line---unknown load
> >> Pfor1--> Pfor2-->
> >> <--Pref1 <--Pref2
>
> > If the lines are lossless, Pfor2=175W, and Pref2 is obvious.
>
> Yes, assume the lines are lossless, but I don't think
> that is the correct answer.
>
> > And it's a REALLY weird way to state the impedances.
>
> Yes, to get people to think outside the box. Since the
> Z0s are unknown, the voltages and currents are also
> unknown, yet there exists a solution to the problem.
> This is the typical kind of problem that my EE professors
> used to give to the classes at Texas A&M to try to get
> us to use our gray matter.
>
> > How do we KNOW that Pfor1 is 100 watts and Pref1 is zero?
>
> Given.
>
> > How do we KNOW that line 1 and line 2 each have UNIFORM impedance?
>
> Given.
>
> > Just because someone
> > measured 100W forward and 0W reflected on line 1 doesn't make it so,
>
> Just because 100 watts forward and zero watts reflected
> were measured by an ideal directional wattmeter calibrated
> for a characteristic impedance of Z01, doesn't make it so???
> Now that *is* an interesting diversion.
> --
> 73, Cecil http://www.w5dxp.com

In general, in real-world ham problems, it is far from given that we know that the impedance of a line is really uniform. We don't even know the impedance for certain. There have been any number of postings here in the past where someone can't figure out what the impedance of some unknown line is, and I'm sure there are far more instances of people ASSUMING that RG-8-type line is 50.00 ohms. It practically never is. (But it also practically never MATTERS for typical ham applications.) WHY should I believe you know how to measure the impedance of a line, and that you know how to calibrate a bridge to that impedance? I'm NOT saying that you DON'T know how, only that I need convincing. I've seen plenty of evidence of those who haven't a clue about either around here, so I prefer to start from the point of view that any reported measurements of "forward and reverse power" are likely to be flawed.

Since you "know" that the meter is calibrated for the impedance of the line, you must know the impedance of the line. Why didn't you just give the line impedance? Is it possible to determine the forward and reverse powers by measurement of a real TEM line of unknown impedance without measuring everything you need to know to find the line impedance (and in fact to do so nearly trivially)?

Yeah, I shouldn't try to work these things in my head before breakfast. Pfor2=200.

Cheers,
Tom

3449. Re: Energy Brain Teaser

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 20:19:24 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <fnzPh.1899$H_5.1442@newssvr23.news.prodigy.net>
Source record: 43865

K7ITM wrote:
> In general, in real-world ham problems, it is far from given that we
> know that the impedance of a line is really uniform. We don't even
> know the impedance for certain. There have been any number of
> postings here in the past where someone can't figure out what the
> impedance of some unknown line is, and I'm sure there are far more
> instances of people ASSUMING that RG-8-type line is 50.00 ohms. It
> practically never is. (But it also practically never MATTERS for
> typical ham applications.) WHY should I believe you know how to
> measure the impedance of a line, and that you know how to calibrate a
> bridge to that impedance? I'm NOT saying that you DON'T know how,
> only that I need convincing. I've seen plenty of evidence of those
> who haven't a clue about either around here, so I prefer to start from
> the point of view that any reported measurements of "forward and
> reverse power" are likely to be flawed.

Well, let me do you one better. It is far from given that
you exist. Please prove that you exist before we go any
farther. (I have rarely heard such a strange argument
against mental exercises as you presented above.)

Seems you would be completely opposed to exercises using
lossless lines, huh? I can hear it now: "It is far from
given that a transmission line can be lossless." Yes, it
is, but textbooks are filled to overflowing with such
examples.

> Since you "know" that the meter is calibrated for the impedance of the
> line, you must know the impedance of the line. Why didn't you just
> give the line impedance?

Then someone could have converted to voltage, wasted a
lot of time, and avoided the new experience of dealing
100% with power. I'm glad you woke up and figured it out.
See how easy that was? BTW, congratulations on being the
only one (so far) to figure it out.
--
73, Cecil http://www.w5dxp.com

3450. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 20:38:34 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9905438EA2BC8nonenowhere@61.9.191.5>
Source record: 43866

Cecil Moore <nospam@w5dxp.com> wrote in
news:9cxPh.1049$Q23.556@newssvr17.news.prodigy.net:

> In a standing wave, the phase is constant.
> In a traveling wave the phase is changing.
>
> In a standing wave, the amplitude varies.
> In a traveling wave the amplitude is constant.

Cecil, the set of statements above is not true in the general case.

You seem to want to talk principles, then make statements without
qualification that are not true in the general case.

Its all very confusing!

Owen

3451. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 20:48:27 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <vOzPh.20165$uo3.15642@newssvr14.news.prodigy.net>
Source record: 43867

Owen Duffy wrote:
> Cecil Moore <nospam@w5dxp.com> wrote:
>> In a standing wave, the phase is constant.
>> In a traveling wave the phase is changing.
>>
>> In a standing wave, the amplitude varies.
>> In a traveling wave the amplitude is constant.
>
> Cecil, the set of statements above is not true in the general case.

Owen, I told you a couple of days ago that I am talking
about average values during steady-state. If me talking
about average values during steady-state gets your
panties all bunched up, I profusely apologize.
--
73, Cecil http://www.w5dxp.com

3452. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 21:36:20 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <lgot03dlrrcaais6lg2430od5ujs7nbtai@4ax.com>
Source record: 43868

On 27 Mar 2007 16:39:52 -0700, "art" <aunwin@insightbb.com> wrote:

>On 27 Mar, 15:12, richardharri...@webtv.net (Richard Harrison) wrote:
>> Art wrote:
>>
>> "I have his (Kraus`) second edition (Antennas) and I find no mention of
>> radiation from the beginning where current is applied onward."
>>
>> I think I have that edition too. If you review the chapter on "Point
>> Sources" you`ll find: power patterns, a power theorem and its
>> application to isotropic sources, rediation intensity, source with
>> hemispheric power pattern, unidirectional cosine power pattern, etc.,
>> etc..
>>
>> The new, now available 3rd ed. of "Antennas" by Kraus, Marhefka, and a
>> host of others is greatly expanded and improved. It is worth the
>> investment.
>>
>> Being uncertain of what Art really wants, doesn`t stop me from advising
>> him to start by having a look at the famous Sommerfeld formula on page
>> 804 of Terman`s 1955 opus.
>> It predicts 1 kilowatt will produce 186 mv per m at a distance of 1 mile
>> from a short vertical transmitting antenna given a certain ground
>> conductivity and other conditions.
>>
>> Best regards, Richard Harrison, KB5WZI
>
>Richard, I have lots of books but as yet have not found the answer
>even tho many have posted none appear to really have an answer other
>than to throw stones. You apparently have found the answer! Could you
>quote from the books that you are refering to the angle of radiation
>relative to the radiator, thats it ? If you can't understand that then
>relay to me the angle of a radiation front relative to a radiator, I'm
>sure some other people are interested in what you found. Even better,
>let me know the TOA of a dipole in free space and how much it varies
>to that of the same dipole over a perfect ground. Use a computor
>program if you like, anything that sheds light on the matter . The
>books say that a horizontal "v" antenna should be tipped for max gain,
>doesn't that raise your interest about the reasoning and mathematics
>behind this? Jimmie D asked me to state this angle but I have only a
>expensive computor program that doesn't give the math with the answer.
>Please read off the angle and the specifics so we all can move on, I
>don't want a 160 thread postings some thrust upon Walt
>Art

The take-off angle of a dipole in free space? The angle with respect to what?

Walt, W2DU

3453. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 22:54:13 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175381653.183063.185490@n59g2000hsh.googlegroups.com>
Source record: 43869

On Mar 31, 9:18 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Neither of the equations is the "algebraic sum".
>
> Of course not, power does not follow the superposition
> principle.

I've reviewed some of your writings and you have said this
at least as far back as 2001. This is good.

So why did I think otherwise? I think it is your reliance
on Ptot = Pfor + Pref. I see this as an expression from
superposition much the same as Vtot = Vfor + Vref, but I
gather from the paper on your web site that you do not,
rather you see it as an expression of conservation of
energy.

>From re-reading your paper, it seems that your thinking
all derives from trying to satisfy the principle of
conservation of energy. This is good. There is general
agreement that energy is conserved.

But them I am confused with your ready acceptance of
Ptot = P1 + P2 +/- Pinterference

Given a P1 that actually exists and a P2 that actually
exists it seems to me that Ptot must equal P1 + P2.
Anything else would fail to satisfy the principle of
conservation of energy.

To make the expression work, +/-Pinterference must
be creating or destroying energy. Given my understanding
of the physical world, this seems most unlikely.

Can you elaborate on how +/-Pinterferance creates or
destroys energy while still conserving energy?

...Keith

3454. Re: Antenna Theory Question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 23:03:44 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1175382224.358209.205420@o5g2000hsb.googlegroups.com>
Source record: 43870

On 31 mar, 13:57, "AndyS" <andysha...@juno.com> wrote:
{text deleted}
> Andy writes:
>
> Thanks to all for the discussion..... I have used the results of
> these
> calculations for many years but wanted to see what explanations I
> would
> get from others who also have experience in these matters.....
>
> For capture area, I use " Gee lambda squared over four pi ",
> which
> is the standard definition for a well behaved antenna with a main
> lobe, and it has always worked well for me. I don't remember doing
> the
> derivation for this, but I'm sure I must have done it in the past
> (olden times)...
>
> Yet, I was not comfortable with what seemed like a discrepancy
> between
> "all the extracted power goes to the load" and the proposition that
> the
> cosmos and antenna acted like a generator and therefore had an
> internal
> impedance which must be Thevenin matched for max extracted power....
> I resolved it, in my mind, by ignoring the latter explanation
> (grin)..... and
> apparently it was the correct thing to do...
>
> So, thanks again, guys........
>
> Andy W4OAH

Hi Andy,

As you mentioned, Thevenin does apply, and your effective area formula is correct (gain w.r.t. isotropic radiator). So a thin halve wave dipole antenna has an internal resistance of about 70 Ohms, and half the power is lost, but not as heat in the antenna. The driving (incident) EM-field induces voltage with causes a current to flow in your 75 Ohms load (and in the antenna).

The current that flows into the antenna structure (two bars) radiate. So part of the incident field is reradiated by the dipole. It doesn't matter whether the antenna current is caused by a transmitter or

incident field. As your dipole delivers 1mW to the load, also 1mW is reradiated into space. Behind the antenna, the reradiated field cancels (partially) the incident field (causing a shadow effect).

When you remove the load, the output voltage at the antenna doubles and the current in the dipole reduces to a low value, hence less power is reradiated. When you short circuit the dipole, the current will double (w.r.t. to the matched situation). This will also happen to the current in the bars forming the dipole. As the current has been doubled, the reradiated power is 4 times higher (w.r.t. the matched situation).

The reradiated power can be detected. Radar and passive UHF RFID use the reradiated power. For example in UHF RFID, the chip on the RF tag changes the load to the dipole (that receives power from the interrogator), and controls the reradiated power. In this way the ID of the tag is transmitted from the tag to the interrogator (the tag has no battery present).

The more gain you have in your antenna, the higher the reradiated EIRP in the direction of maximum gain.

I hope this clarifies the antenna internal resistance.

Best Regards,

Wim
PA3DJS

3455. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 23:42:10 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175384530.696354.137320@e65g2000hsc.googlegroups.com>
Source record: 43871

On 31 Mar, 14:36, Walter Maxwell <w...@w2du.com> wrote:
> On 27 Mar 2007 16:39:52 -0700, "art" <aun...@insightbb.com> wrote:
>
>
>
>
>
> >On 27 Mar, 15:12, richardharri...@webtv.net (Richard Harrison) wrote:
> >> Art wrote:
>
> >> "I have his (Kraus`) second edition (Antennas) and I find no mention of
> >> radiation from the beginning where current is applied onward."
>
> >> I think I have that edition too. If you review the chapter on "Point
> >> Sources" you`ll find: power patterns, a power theorem and its
> >> application to isotropic sources, rediation intensity, source with
> >> hemispheric power pattern, unidirectional cosine power pattern, etc.,
> >> etc..
>
> >> The new, now available 3rd ed. of "Antennas" by Kraus, Marhefka, and a
> >> host of others is greatly expanded and improved. It is worth the
> >> investment.
>
> >> Being uncertain of what Art really wants, doesn`t stop me from advising
> >> him to start by having a look at the famous Sommerfeld formula on page
> >> 804 of Terman`s 1955 opus.
> >> It predicts 1 kilowatt will produce 186 mv per m at a distance of 1 mile
> >> from a short vertical transmitting antenna given a certain ground
> >> conductivity and other conditions.
>
> >> Best regards, Richard Harrison, KB5WZI
>
> >Richard, I have lots of books but as yet have not found the answer
> >even tho many have posted none appear to really have an answer other
> >than to throw stones. You apparently have found the answer! Could you
> >quote from the books that you are refering to the angle of radiation
> >relative to the radiator, thats it ? If you can't understand that then
> >relay to me the angle of a radiation front relative to a radiator, I'm
> >sure some other people are interested in what you found. Even better,
> >let me know the TOA of a dipole in free space and how much it varies
> >to that of the same dipole over a perfect ground. Use a computor
> >program if you like, anything that sheds light on the matter . The
> >books say that a horizontal "v" antenna should be tipped for max gain,
> >doesn't that raise your interest about the reasoning and mathematics

> >behind this? Jimmie D asked me to state this angle but I have only a
> >expensive computor program that doesn't give the math with the answer.
> >Please read off the angle and the specifics so we all can move on, I
> >don't want a 160 thread postings some thrust upon Walt
> >Art
>
> The take-off angle of a dipole in free space? The angle with respect to what?
>
> Walt, W2DU- Hide quoted text -
>
> - Show quoted text -

Always zero Walt since it takes two dipoles to tango.

3456. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-03-31 23:44:23 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <rnCPh.3744$VU4.802@bgtnsc05-news.ops.worldnet.att.net>
Source record: 43872

Dave wrote:
> "Cecil Moore" <nospam@w5dxp.com> wrote in message
> news:9cxPh.1049$Q23.556@newssvr17.news.prodigy.net...
>> Gene Fuller wrote:
>> In a lot of ways, standing waves and traveling
>> waves are opposites.
>
> 'standing' waves aren't waves at all, they are figments of your
> instrumentation. simple instrumentation (read light bulb and loop of wire)
> that was originally used to 'tune' antennas could detect only the peaks and
> dips of the superimposed forward and reflected currents... because these
> 'looked' like waves that stood still on the line when you plotted them they
> became known as 'standing' waves. and this also led to the horrible use of
> the 'standing wave ratio' as a measure of how good an antenna was matched to
> the feed line. all of this over the years has led hams to consider
> 'standing' waves as a real thing when it is really just a consequence of the
> superposition principle. We would all be much better off if someone many
> years ago had labeled the first 'SWR' meter in units of db for measuring
> return loss, or v-forward/v-reverse, or some other real physical unit. not
> that the meter would function any differently, but we would all be better
> off understanding what is really being measured!
>
>
Dave,

That is not a quote from me. Those are Cecil's words.

73,
Gene
W4SZ

3457. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 00:01:26 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns9904AD2B782EEdoldridgsprintca@64.59.135.159>
Source record: 43873
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

"Bob Myers" <nospamplease@address.invalid> wrote in news:MmdPh.1809
$_M5.921@news.cpqcorp.net:

>
> "Dave Oldridge" <doldridg@leavethisoutshaw.ca> wrote in message
> news:Xns9902A1B995929doldridgsprintca@64.59.135.159...
>> If the lossless transmission line (obviously no such animal exists)
were
>> tuned with a lossless tuner, then VSWR would not matter at all.
>
> Dave, I'm pretty sure I know what you mean here, but it should
> be noted that this isn't entirely true. The line would have to have a
> couple
> of other characteristics besides being simply "lossless" for VSWR
> not to matter at all.

Not if there's a lossless tuner.

> The problem, of course, is that a VSWR of other than 1:1 implies
> (by definition!) that the voltages and currents along the length of
> the line are not constant; there are cyclic variations in each, with
> maxima and minima located at half-wavelength intervals (that's
> the whole "standing wave" thing in the first place, right?).
> Particularly in high-power situations, it is possible for the maxima
> to exceed the ratings of the source or of the line itself.

In which case it's not truly "lossless" (and after breakdown becomes VERY
lossy).

--
Dave Oldridge+
ICQ 1800667

3458. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 00:49:27 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <rkDPh.4221$YL5.3773@newssvr29.news.prodigy.net>
Source record: 43874

Keith Dysart wrote:
> So why did I think otherwise?

Because you have been told by others that I was superposing
powers. It was a false malicious statement.

> But them I am confused with your ready acceptance of
> Ptot = P1 + P2 +/- Pinterference

If it is good enough for Eugene Hecht, it is good
enough for me. That is essentially the irradiance
from optical physics.

> Given a P1 that actually exists and a P2 that actually
> exists it seems to me that Ptot must equal P1 + P2.

No, that is superposition of powers, something that is
not valid. The only time that Ptot = P1 + P2 is when
the phase angle between the voltage is 90 degrees and
the interference term is zero.

> Anything else would fail to satisfy the principle of
> conservation of energy.

No, Ptot = P1 + P2 violates the conservation of principle
if the phase angle between V1 and V2 is not 90 degrees.

> To make the expression work, +/-Pinterference must
> be creating or destroying energy.

No, there are two Ptotal's, one in each direction in
a transmission line. If a certain value of destructive
interference exists in one direction then an absolutely
equal value of constructive interference has to exist
in the opposite direction in the transmission line.
Since destructive interference = constructive interference,
no energy is created or destroyed.

All this is explained in my energy article.

> Can you elaborate on how +/-Pinterferance creates or
> destroys energy while still conserving energy?

Transmission line energy is neither created or destroyed.
What is lost in one direction is gained in the
opposite direction. If reflected energy is eliminated
toward the source, it must show up in the forward wave
toward the load. I cannot explain it any better than

these web pages.

http://micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/waveinteractions/index.html

http://www.mellesgriot.com/products/optics/oc_2_1.htm
--
73, Cecil http://www.w5dxp.com

3459. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 00:54:30 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <9pDPh.1107$Q23.520@newssvr17.news.prodigy.net>
Source record: 43876

Gene Fuller wrote:
> Dave wrote:
>> "Cecil Moore" <nospam@w5dxp.com> wrote:
>>> Gene Fuller wrote:
>>> In a lot of ways, standing waves and traveling
>>> waves are opposites.
>
> That is not a quote from me. Those are Cecil's words.

It doesn't say it is a quote from you, Gene. Your name
is indented three levels. There are no quoted words at
4 levels, so nothing of yours was quoted. Since my
name is at two levels, everything at three levels
(except your name) is a quote of mine. Newsreader
attributions worked exactly as designed.
--
73, Cecil http://www.w5dxp.com

3460. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 00:57:20 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99056F6DFCC12nonenowhere@61.9.191.5>
Source record: 43777

Cecil Moore <nospam@w5dxp.com> wrote in news:vOzPh.20165$uo3.15642
@newssvr14.news.prodigy.net:

> Owen Duffy wrote:
>> Cecil Moore <nospam@w5dxp.com> wrote:
>>> In a standing wave, the phase is constant.
>>> In a traveling wave the phase is changing.
>>>
>>> In a standing wave, the amplitude varies.
>>> In a traveling wave the amplitude is constant.
>>
>> Cecil, the set of statements above is not true in the general case.
>
> Owen, I told you a couple of days ago that I am talking
> about average values during steady-state. If me talking
> about average values during steady-state gets your
> panties all bunched up, I profusely apologize.

if by 'changing' you mean 'changing with displacement or position', to
make these statements true, you must be talking about lossless or
distionless lines. If your entire discussion is premised on this, then
can your methods / formulas solve practical lossy line problems?

Nothing seems complete and self explanatory... so still, I am left
confused.

Owen

3461. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 01:01:02 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ivDPh.4225$YL5.2823@newssvr29.news.prodigy.net>
Source record: 43778

Richard Clark wrote:
> On Sat, 31 Mar 2007 18:57:02 GMT, Cecil Moore <nospam@w5dxp.com>
> wrote:
>
>> Do you want to go through it again?
>
> Do I need to see you crawl again?

Here it is again. Reflections are eliminated at the
air to thin-film surface.

In the following fixed font diagram, IR is the Index
of Refraction.

```
air | 1/4WL thin-film | Glass
1W Laser---IR=1.0---|----IR=1.222-----|--IR=1.493---...
Ifor=1W | Ifor=1.0101W | Ifor=1W
Iref=0W | Iref=0.0101W | Iref=0
```

Note that I is "irradiance", not current.

Given: The irradiance reflection coefficient is 0.01
at both interfaces. The irradiance transmission coefficient
is 0.99 at both interfaces.

>> Have you tried the brain teaser I posted? It is a
>> lot like non-reflective thin films.
>
> proves my point adequately (your fumbling with patch-work proofs like
> bracing the SQRT with absolutes is funny only once however).

Well, Hecht apparently didn't have to deal with nit-pickers
as exist on this newsgroup. If such had any importance at
all, I'm sure he would have mentioned it.
--
73, Cecil http://www.w5dxp.com

3462. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 01:06:21 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <hADPh.4227$YL5.2534@newssvr29.news.prodigy.net>
Source record: 43780

Owen Duffy wrote:
> if by 'changing' you mean 'changing with displacement or position', to
> make these statements true, you must be talking about lossless or
> distionless lines. If your entire discussion is premised on this, then
> can your methods / formulas solve practical lossy line problems?

Of course, that's why the feedpoint impedance of a 1/2WL
dipole is not zero ohms. Approximately 20% of the
energy on the antenna is radiated during steady-state.
--
73, Cecil http://www.w5dxp.com

3463. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 01:29:00 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <460f0ad4$0$21255$39cecf19@news.twtelecom.net>
Source record: 43781
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Cecil Moore wrote:
> bw wrote:
>
>> Entropy increases
>
>
> Seems to me that evolution violates that principle.

Duh, life always violates it locally, but makes the sum total of entropy higer than it would have been. You aren't the idiot you appear, I hope.

tom
K0TAR

3464. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 01:37:14 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <e1EPh.4874$Kd3.1975@newssvr27.news.prodigy.net>
Source record: 43782
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Tom Ring wrote:
> Duh, life always violates it locally, but makes the sum total of entropy
> higer than it would have been. You aren't the idiot you appear, I hope.

I guess I should have added a smiley face.
--
73, Cecil http://www.w5dxp.com

3465. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 01:53:42 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <su3u03dtjh0jtckgjtl7ij94lnqbpbhs8l@4ax.com>
Source record: 43875

On Sat, 31 Mar 2007 18:57:02 GMT, Cecil Moore <nospam@w5dxp.com>
wrote:

>Do you want to go through it again?

Do I need to see you crawl again? No one is really interested in
your capacity to hug a second rate explanation; neither am I. The
amusement factor may provide comic relief, but your invitation:

>Have you tried the brain teaser I posted? It is a
>lot like non-reflective thin films.

proves my point adequately (your fumbling with patch-work proofs like
bracing the SQRT with absolutes is funny only once however).

3466. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 01:53:49 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <NgEPh.4876$Kd3.52@newssvr27.news.prodigy.net>
Source record: 43783

Cecil Moore wrote:
> Owen Duffy wrote:
>> if by 'changing' you mean 'changing with displacement or position', to
>> make these statements true, you must be talking about lossless or
>> distionless lines. If your entire discussion is premised on this, then
>> can your methods / formulas solve practical lossy line problems?
>
> Of course, that's why the feedpoint impedance of a 1/2WL
> dipole is not zero ohms. Approximately 20% of the
> energy on the antenna is radiated during steady-state.

To answer the question more fully: The title of my energy
article is: "An Energy Analysis at an Impedance Discontinuity
in an RF Transmission Line". Since the analysis is done at
a *point*, what happens somewhere else in a lossy line is
not a consideration. There are essentially no losses at an
impedance discontinuity *point* (or plane).
--
73, Cecil http://www.w5dxp.com

3467. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 02:01:53 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <f64u03ln9t7i264gn4hoeahel4cv6t0kbu@4ax.com>
Source record: 43779

On Sat, 31 Mar 2007 19:16:23 GMT, Walter Maxwell <walt@w2du.com>
wrote:

>>My example of the classic AT/ATR tube evidences EVERY observation you
>>offer, except it is a necessary load without which those observations
>>would never appear. If I were to replace its "total discontinuity"
>>with a weak tube (it exhibits less than total short); it too would
>>exhibit EVERY observation you offer EXCEPT they would be imperfect or
>>"partial discontinuities" repeated every quarter wave. It is obvious
>>that the effect follows the physical load, not the waves (they haven't
>>changed when the tube went bad). The physical load is the principle
>>in the process of interference.
>
>Richard, I don't consider the AT/ATR tube relevant to the discussion of re-reflection of
reflected power
>incident on the output of a pi-network in an RF TX.

Hi Walt,

And yet they are relevant to the larger topic of reflection, are they
not? That is their sole purpose after all, they exhibit EVERY
observation you've offered, and without them those observations
disappear.

>>There is absolutely no example of interference that does not rely on a
>>load to reveal it.
>
>If what you just said is true, then how do you explain nulls in a radiation pattern of an
antenna having more
>than one radiator, for example two verticals spaced 1/4 wl and fed in quadrature, thus
creating a cardioid
>pattern with a total null in one direction in azimuth? If the null was not created by
interference between the
>radiations from the two verticals, then how do you explain the formation of the null?

I use a load. It is exactly like the internal resistance of a
internal resistance where the reflected energy is in phase with the
source. The load exhibits no current flow (a null). Shift the phase
180 and the internal resistance exhibits a dramatic current flow (a
lobe). The energies are there either way. Remove the internal
resistance and nothing conducts EVER. Clearly the internal resistance
(the load in this case) is what reveals interference, not the
energies. In free space they would pass like ships in the night.

73's
Richard Clark, KB7QHC

3468. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 02:44:04 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <dcau035sgm5u74iks5bklsplg80f4fvokd@4ax.com>
Source record: 43784

On Sat, 31 Mar 2007 18:01:53 -0800, Richard Clark <kb7qhc@comcast.net> wrote:

>On Sat, 31 Mar 2007 19:16:23 GMT, Walter Maxwell <walt@w2du.com>
>wrote:
snip
>>>There is absolutely no example of interference that does not rely on a
>>>load to reveal it.
>>
>>If what you just said is true, then how do you explain nulls in a radiation pattern of an antenna having more
>>than one radiator, for example two verticals spaced 1/4 wl and fed in quadrature, thus creating a cardioid
>>pattern with a total null in one direction in azimuth? If the null was not created by interference between the
>>radiations from the two verticals, then how do you explain the formation of the null?
>
>I use a load. It is exactly like the internal resistance of a
>internal resistance where the reflected energy is in phase with the
>source. The load exhibits no current flow (a null). Shift the phase
>180 and the internal resistance exhibits a dramatic current flow (a
>lobe). The energies are there either way. Remove the internal
>resistance and nothing conducts EVER. Clearly the internal resistance
>(the load in this case) is what reveals interference, not the
>energies. In free space they would pass like ships in the night.
>
>73's
>Richard Clark, KB7QHC

Richard, you are dodging the question again! You have not answered my question, 'how do you explain the
formation of the null in an antenna pattern' in the example I presented above?

Walt

3469. Re: Energy Brain Teaser

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 03:06:10 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1175396769.982186.143710@e65g2000hsc.googlegroups.com>
Source record: 43785

On Mar 31, 1:19 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> K7ITM wrote:
> > In general, in real-world ham problems, it is far from given that we
> > know that the impedance of a line is really uniform. We don't even
> > know the impedance for certain. There have been any number of
> > postings here in the past where someone can't figure out what the
> > impedance of some unknown line is, and I'm sure there are far more
> > instances of people ASSUMING that RG-8-type line is 50.00 ohms. It
> > practically never is. (But it also practically never MATTERS for
> > typical ham applications.) WHY should I believe you know how to
> > measure the impedance of a line, and that you know how to calibrate a
> > bridge to that impedance? I'm NOT saying that you DON'T know how,
> > only that I need convincing. I've seen plenty of evidence of those
> > who haven't a clue about either around here, so I prefer to start from
> > the point of view that any reported measurements of "forward and
> > reverse power" are likely to be flawed.
>
> Well, let me do you one better. It is far from given that
> you exist. Please prove that you exist before we go any
> farther. (I have rarely heard such a strange argument
> against mental exercises as you presented above.)
>
> Seems you would be completely opposed to exercises using
> lossless lines, huh? I can hear it now: "It is far from
> given that a transmission line can be lossless." Yes, it
> is, but textbooks are filled to overflowing with such
> examples.
>
> > Since you "know" that the meter is calibrated for the impedance of the
> > line, you must know the impedance of the line. Why didn't you just
> > give the line impedance?
>
> Then someone could have converted to voltage, wasted a
> lot of time, and avoided the new experience of dealing
> 100% with power. I'm glad you woke up and figured it out.
> See how easy that was? BTW, congratulations on being the
> only one (so far) to figure it out.
> --
> 73, Cecil http://www.w5dxp.com

Actually, Cecil, I don't exist. I am purely a figment of your
imagination. So--why are you bothering to respond to me? Ah, never
mind. I see that you didn't, actually.

Since I'm just a figment of your imagination, there is no way I can be awake, asleep, or anything else.

I'm sure I'm not the only one to have "figured it out;" I'm just the only one fool enough to bother posting a reply. But since I don't exist, I'm obviously not a fool, either.

Cheers,
Tom

3470. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 07:08:29 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <63lu03l77bov7nfs8mph3sbt3hr6t4md63@4ax.com>
Source record: 43786

On Sun, 01 Apr 2007 01:01:02 GMT, Cecil Moore <nospam@w5dxp.com>
wrote:

>If such had any importance at
>all, I'm sure he would have mentioned it.

So, Hecht is rather limited is he? Absolutely nothing about Fresnel's Equations, hmmm? Now that is shallow - but for who? As you are generally a poor reporter, I'll drop the second shoe for others: Hecht does cover them.

3471. Re: Antenna Theory Question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 11:08:45 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <460f92c0$0$4793$4fafbaef@reader4.news.tin.it>
Source record: 43787

> As you mentioned, Thevenin does apply, and your effective area formula
> is correct (gain w.r.t. isotropic radiator). So a thin halve wave
> dipole antenna has an internal resistance of about 70 Ohms, and half
> the power is lost, but not as heat in the antenna.

If I may add just a simple observation to the exhaustive Wim's explanation, I would say that we generally tend to consider resistors as things that necessarily dissipate power, turning it into heat. That is not always the case.

As a matter of fact, having current in phase with voltage (what we usually call resistance) signify the transformation of electrical power into any form of power, not just heat. For instance:

- an ideal electrical engine (no ohmic loss, no friction) fully transforming the applied electrical power into mechanical power. It looks like a resistor, but no heat is generated anywhere

- an ideal antenna (no ohmic loss) fully transforming the applied electrical power into electromagnetic power. Again it looks like a resistor, but no heat is generated anywhere

.

73

Tony I0JX

3472. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 11:21:04 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175426464.866702.4200@l77g2000hsb.googlegroups.com>
Source record: 43788

On Mar 30, 3:44 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> So does the Superposition Principle give us permission
> to analyze the forward wave and the reflected wave
> separately, or not?

It would appear from the many posts that the consensus is
that superposition is alive and well. It works for voltages
and currents. It does not work for power.

But then I have two questions.

Firstly, in another thread, the solution for the problem
presented required knowing the impedance that the generator
presented to the reflected wave. This is exactly the sort
of question that superposition handles easily: The impedance
encountered by the reflected wave at the generator is the
same as the generator's source impedance. I am curious as to
why you don't want to use superposition to facilitate solving
this problem?

Secondly, the "directional wattmeter" uses superposition
to compute Vf and Vr from which it computes Pf and Pr. You,
like many others seem willing to subtract Pr from Pf to
obtain Pnet. But this would only seem to be valid if
superposition works for power. So why are people who accept
that superposition does not work for power, prepared to
accept that Pnet = Pf - Pr?

...Keith

3473. Re: Antenna Theory Question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 12:03:34 UTC
From: AndyS <andysharpe@juno.com>
Message-ID: <1175429014.397799.9350@e65g2000hsc.googlegroups.com>
Source record: 43789

Wimpie wrote:> I hope this clarifies the antenna internal resistance.
>
> Best Regards,
>
> Wim
> PA3DJS

Andy replies:
Thanks Wim and Tony, for a very well presented explanation of
the Thevinen .... I KNEW it had to coincide with the CAxPdens
numbers, but your post pretty well cleared it up....for me, at
least...

Regarding RFID using re-radiation --- I was the designer of
the TIRIS toll tag system for T I (at 915 mhz) and the method I used
was
to open and short a dipole in the TAG to send data replies to the
Reader.... The specification required an RCS
(Radar Cross Section) change of 180
sq cm at 915, and that was easy to obtain with a dipole and a
pin diode . (Actually, the RCS changed too much for the spec,
and I had to pad it down a bit)......

I hadn't considered that an antenna delivering to a matched load
lost it's power by re-radiation .... DUHHHH!!!.... Been building stuff
for 50 years , and that obvious fact just never dawned on me....
So, thanks again....

73, Andy W4OAH

3474. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 12:41:05 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <BLNPh.20291$uo3.15558@newssvr14.news.prodigy.net>
Source record: 43790

Richard Clark wrote:
> Cecil Moore <nospam@w5dxp.com> wrote:

>> Richard Clark wrote:
>>> proves my point adequately (your fumbling with patch-work proofs like
>>> bracing the SQRT with absolutes is funny only once however).

You deliberately trimmed the above to try to falsify
the meaning of my posting through innuendo.

>> Well, Hecht apparently didn't have to deal with nit-pickers
>> as exist on this newsgroup. If such had any importance at
>> all, I'm sure he would have mentioned it.

> So, Hecht is rather limited is he? Absolutely nothing about Fresnel's
> Equations, hmmm? Now that is shallow - but for who? As you are
> generally a poor reporter, I'll drop the second shoe for others: Hecht
> does cover them.

Richard, don't you think falsifying postings is getting a
little desparate? As you know, and as indicated by your
posting to which I was responding, the subject was which
square root to use in the irradiance equations, not Fresnel's
equations. I have honestly reproduced the thread above. You
have been caught red-handed cutting and editing in an attempt
to falsify the meaning of my posting. That's a violation of
netnews rules and probably a violation of your ISP's rules.
--
73, Cecil http://www.w5dxp.com

3475. Re: Antenna Theory Question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 12:49:40 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ETNPh.1157$Q23.656@newssvr17.news.prodigy.net>
Source record: 43791

Antonio Vernucci wrote:
> - an ideal electrical engine (no ohmic loss, no friction) fully
> transforming the applied electrical power into mechanical power. It
> looks like a resistor, but no heat is generated anywhere

No, it looks like a resistance, not a resistor. There is one
IEEE definition for resistor. There are two IEEE definitions
for resistance. A resistor with current dissipates power. A
resistance may or may not dissipate power. One definition of
resistance in the IEEE describes a dissipationless resistance.
There is no such thing as a dissipationless resistor.
--
73, Cecil http://www.w5dxp.com

3476. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 13:34:58 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <5yOPh.2245$H_5.714@newssvr23.news.prodigy.net>
Source record: 43792

Keith Dysart wrote:

> The impedance
> encountered by the reflected wave at the generator is the
> same as the generator's source impedance.

No, the generator's source impedance is *NOT* the
impedance encountered by the reflected wave. Please
reference w2du's article again.

http://www.w2du.com/r3ch19a.pdf

Forget about the conjugate match and concentrate on the
non-dissipative source resistance being different from
what you are calling the generator's source impedance.
An *active* source creates a source impedance looking back
into the source that is *different* from what you are
calling the generator impedance.

> Secondly, the "directional wattmeter" uses superposition
> to compute Vf and Vr from which it computes Pf and Pr. You,
> like many others seem willing to subtract Pr from Pf to
> obtain Pnet.

One can directly add and subtract powers under certain
conditions. One condition is if two waves are not coherent.
Another condition is if two coherent waves have no effect
on each other. Since the forward wave and the reflected
wave have no effect on each other (except in the human
mind) reflected power can simply be subtracted from from
forward power to obtain power delivered to the load but
that is NOT superposition of powers. It is a simple
addition/subtraction of scalars based on the conservation
of energy principle.

> But this would only seem to be valid if
> superposition works for power. So why are people who accept
> that superposition does not work for power, prepared to
> accept that Pnet = Pf - Pr?

You seem to have forgotten the definition and rules of
superposition. Superposition applies to fields and waves.
Superposition doesn't apply to scalars. Power is a scalar.
Or another way to express it is:

V1 + V2 = V3 (vectors or phasors)

(V1 + V2)^2 = V3^2 (scalars)

V1^2 + V2^2 <> V3^2 (scalars)

It's a pretty simple principle of mathematics. The square
of the sum is NOT equal to the sum of the squares.
--
73, Cecil http://www.w5dxp.com

3477. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 13:49:48 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <0MOPh.5000$Kd3.359@newssvr27.news.prodigy.net>
Source record: 43793

Cecil Moore wrote:
> V1 + V2 = V3 (vectors or phasors)
>
> (V1 + V2)^2 = V3^2 (scalars)

In fact, the irradiance (power) equation falls out directly from the above valid equation. Continuing the process:

V1^2 + 2(V1)(V2) + V2^2 = V3^2

V1^2 + 2*SQRT(V1^2)*SQRT(V2^2) + V2^2 = V3^2

V1^2 + V2^2 + 2*SQRT(V1^2*V2^2) = V3^2

Dividing both sides of the equation by Z0 yields:

P1 + P2 + 2*SQRT(P1*P2) = P3

There you have it. The mathematical derivation of the irradiance (power) equation.
--
73, Cecil http://www.w5dxp.com

3478. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 14:50:05 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <wEPPh.1168$Q23.503@newssvr17.news.prodigy.net>
Source record: 43794

Cecil Moore wrote:
> P1 + P2 + 2*SQRT(P1*P2) = P3
>
> There you have it. The mathematical derivation of
> the irradiance (power) equation.

This is, of course, for the condition where V1 and
V2 are in phase.
--
73, Cecil http://www.w5dxp.com

3479. Re: Antenna Theory Question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 14:52:49 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <460fc744$0$37200$4fafbaef@reader3.news.tin.it>
Source record: 43795

>> - an ideal electrical engine (no ohmic loss, no friction) fully
>> transforming the applied electrical power into mechanical power. It looks
>> like a resistor, but no heat is generated anywhere
>
> No, it looks like a resistance, not a resistor. There is one
> IEEE definition for resistor. There are two IEEE definitions
> for resistance. A resistor with current dissipates power. A
> resistance may or may not dissipate power. One definition of
> resistance in the IEEE describes a dissipationless resistance.
> There is no such thing as a dissipationless resistor.

It IS a resistance, but it LOOKS like a resistor because, from the exterior, one has no means to determine whether energy gets dissipated or transformed in some other form.

73

Tony I0JX

3480. Re: Antenna Theory Question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 15:14:19 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <f%PPh.12668$Um6.9372@newssvr12.news.prodigy.net>
Source record: 43796

Antonio Vernucci wrote:
> It IS a resistance, but it LOOKS like a resistor because, from the
> exterior, one has no means to determine whether energy gets dissipated
> or transformed in some other form.

Appearances can be deceiving. It doesn't look
like a resistor to me until I hold it in my hand.
--
73, Cecil http://www.w5dxp.com

3481. Re: Antenna Theory Question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 16:16:46 UTC
From: AndyS <andysharpe@juno.com>
Message-ID: <1175444206.181038.286390@l77g2000hsb.googlegroups.com>
Source record: 43797

Cecil Moore wrote:
> There is no such thing as a dissipationless resistor.
> --
> 73, Cecil http://www.w5dxp.com

Andy comments:

Not to make too fine a point on this, Cec, but I , personally,
would consider a perfect 52 ohm antenna to be a dissipationless
resistor..... although, in the cosmic sense, the power that is
fed into it will eventually reside as "heat" in the bowels of the
cosmos.....somewhere......

Actually, ... "heat" is simply EM at a different frequency....
.... Hmmmmm... I see a deep, philosophical discussion brewing
here..... ..

... Me brain hoits......!!!!

Andy W4OAH

3482. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 16:33:19 UTC
From: richardharrison@webtv.net
Message-ID: <11009-460FDECF-7@storefull-3252.bay.webtv.net>
Source record: 43801

Art wrote:
"Even better, let me know the TOA of a dipole in free space and how much it varies to that of the same dipole over perfect ground."

If possible, look at Terman`s1955 opus page 882:
"Effect of Ground on the Directional Pattern of Ungrounded Antennas - Image Antennas."

In free space, no reflecting surface is nearby to distort the pattern of a radiator.

Terman gives the familiar radiation of a 1/2-wave dipole in space in Fig. 23-4(a) on page 867.

Terman says on page 883:
"For purposes of calculation, it is convenient to consider that the reflected wave is generated, not by reflection, but rather by an "image" antenna located below the surface of the ground."

The summation of the direct and reflected waves from a horoizontal wire above the earth often has serious consequences as Terman notes on page 885:
"Consequently, to obtain strong radiation in directions approaching the horizontal using a horizontally polarized radiating system, it is necessary that the height of the antenna above the earth be in the order of one wavelength or more."

Terman shows the vertical radiation patterns for a horizontal wire at various heights above the earth in Fig. 23-21 on page 884. Note that half-wave elevation concentrates most energy into a good elevation angle for sky wave reflection at some frequencies and distances.

Best regards, Richard Harrison, KB5WZI

3483. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 16:34:58 UTC
From: richardharrison@webtv.net
Message-ID: <10504-460FDF32-25@storefull-3256.bay.webtv.net>
Source record: 43802

Art wrote:
"Even better, let me know the TOA of a dipole in free space and how much it varies to that of the same dipole over perfect ground."

If possible, look at Terman`s1955 opus page 882:
"Effect of Ground on the Directional Pattern of Ungrounded Antennas - Image Antennas."

In free space, no reflecting surface is nearby to distort the pattern of a radiator.

Terman gives the familiar radiation of a 1/2-wave dipole in space in Fig. 23-4(a) on page 867.

Terman says on page 883:
"For purposes of calculation, it is convenient to consider that the reflected wave is generated, not by reflection, but rather by an "image" antenna located below the surface of the ground."

The summation of the direct and reflected waves from a horoizontal wire above the earth often has serious consequences as Terman notes on page 885:
"Consequently, to obtain strong radiation in directions approaching the horizontal using a horizontally polarized radiating system, it is necessary that the height of the antenna above the earth be in the order of one wavelength or more."

Terman shows the vertical radiation patterns for a horizontal wire at various heights above the earth in Fig. 23-21 on page 884. Note that half-wave elevation concentrates most energy into a good elevation angle for sky wave reflection at some frequencies and distances.

Best regards, Richard Harrison, KB5WZI

3484. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 16:43:01 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <2lrv03ljhkvh9ba4cdllhce3mpmssl8lv2@4ax.com>
Source record: 43800

On Sun, 01 Apr 2007 02:44:04 GMT, Walter Maxwell <walt@w2du.com> wrote:

>On Sat, 31 Mar 2007 18:01:53 -0800, Richard Clark <kb7qhc@comcast.net> wrote:
>
>>On Sat, 31 Mar 2007 19:16:23 GMT, Walter Maxwell <walt@w2du.com>
>>wrote:
>snip
>>>>There is absolutely no example of interference that does not rely on a
>>>>load to reveal it.
>>>
>>>If what you just said is true, then how do you explain nulls in a radiation pattern of an antenna having more
>>>than one radiator, for example two verticals spaced 1/4 wl and fed in quadrature, thus creating a cardioid
>>>pattern with a total null in one direction in azimuth? If the null was not created by interference between the
>>>radiations from the two verticals, then how do you explain the formation of the null?
>>
>>I use a load. It is exactly like the internal resistance of a
>>internal resistance where the reflected energy is in phase with the
>>source. The load exhibits no current flow (a null). Shift the phase
>>180 and the internal resistance exhibits a dramatic current flow (a
>>lobe). The energies are there either way. Remove the internal
>>resistance and nothing conducts EVER. Clearly the internal resistance
>>(the load in this case) is what reveals interference, not the
>>energies. In free space they would pass like ships in the night.
>>
>>73's
>>Richard Clark, KB7QHC
>
>Richard, you are dodging the question again! You have not answered my question, 'how do you explain the
>formation of the null in an antenna pattern' in the example I presented above?
>
>Walt

Richard, are you avoiding answering my question because you don't want to admit that the null in an antenna
pattern results from interference between two coherent fields?

Walt

3485. Re: open - short -- 0 - 180 ??

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 17:08:05 UTC
From: richardharrison@webtv.net
Message-ID: <10503-460FE6F5-134@storefull-3256.bay.webtv.net>
Source record: 43686

Cecil, W5DXP wrote:
"Since Walter Maxwell was a contributor, I`ll bet that those are Walt`s phasor diagrams."

My 19th edition of the ARRL Antenna Book has the same diagrams in Chapter 24. The phasors look right so they well may be Walt`s.

Best regards, Richard Harrison, KB5WZI

3486. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 17:32:56 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <91qv039c0d95o9hbvn3h81bn4hh8633h2p@4ax.com>
Source record: 43798

On Sun, 01 Apr 2007 12:41:05 GMT, Cecil Moore <nospam@w5dxp.com>
wrote:

>That's a violation of
>netnews rules and probably a violation of your ISP's rules.

******* SPOILER FOLLOWS ************

A toothless cowboy outside his moderated day-job!

I suppose you itch to snip, delete, or otherwise discard posts like
another Texan by the name of Gonzales. Should we call you "Judge"
instead of Gabby?

3487. Re: Antenna Theory Question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 17:35:10 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <09rv03l1qbs7a44tt3ctof40r3b3n68p03@4ax.com>
Source record: 43799

On 1 Apr 2007 09:16:46 -0700, "AndyS" <andysharpe@juno.com> wrote:

>I see a deep, philosophical discussion brewing
>here....

Only if it starts out with:
"Who's on first?"

3488. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 18:18:53 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <m01013lsmd669jg2t1t3qfik256ui6fmfs@4ax.com>
Source record: 43803

On Sun, 01 Apr 2007 16:43:01 GMT, Walter Maxwell <walt@w2du.com> wrote:

>On Sun, 01 Apr 2007 02:44:04 GMT, Walter Maxwell <walt@w2du.com> wrote:
>
>>On Sat, 31 Mar 2007 18:01:53 -0800, Richard Clark <kb7qhc@comcast.net> wrote:
>>
>>>On Sat, 31 Mar 2007 19:16:23 GMT, Walter Maxwell <walt@w2du.com>
>>>wrote:
>>snip
>>>>>There is absolutely no example of interference that does not rely on a
>>>>>load to reveal it.
>>>>
>>>>If what you just said is true, then how do you explain nulls in a radiation pattern of an antenna having more
>>>>than one radiator, for example two verticals spaced 1/4 wl and fed in quadrature, thus creating a cardioid
>>>>pattern with a total null in one direction in azimuth? If the null was not created by interference between the
>>>>radiations from the two verticals, then how do you explain the formation of the null?
>>>
>>>I use a load. It is exactly like the internal resistance of a
>>>internal resistance where the reflected energy is in phase with the
>>>source. The load exhibits no current flow (a null). Shift the phase
>>>180 and the internal resistance exhibits a dramatic current flow (a
>>>lobe). The energies are there either way. Remove the internal
>>>resistance and nothing conducts EVER. Clearly the internal resistance
>>>(the load in this case) is what reveals interference, not the
>>>energies. In free space they would pass like ships in the night.
>>>
>>>73's
>>>Richard Clark, KB7QHC
>>
>>Richard, you are dodging the question again! You have not answered my question, 'how do you explain the
>>formation of the null in an antenna pattern' in the example I presented above?
>>
>>Walt
>
>Richard, are you avoiding answering my question because you don't want to admit that the null in an antenna
>pattern results from interference between two coherent fields?
>
>Walt

Richard, also consider an open-wire transmission line, equal and opposite currents flowing on each wire, and
no common-mode currents. There is zero radiation, because the opposing fields developed by the current flow
cancel. Are you denying that the zero radiation results from interferece?

Also, consider standing waves on on a line, resulting from the superposition of the forward and reflected
waves, where the maximum amplitude results from constructive interference and the minimum amplitude results
from destructive interference. Are you denying the existence of interference in this case?

Walt

3489. Re: Antenna Theory Question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 18:24:33 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <BNSPh.4329$YL5.2697@newssvr29.news.prodigy.net>
Source record: 43804

AndyS wrote:
> Not to make too fine a point on this, Cec, but I , personally,
> would consider a perfect 52 ohm antenna to be a dissipationless
> resistor..... although, in the cosmic sense, the power that is
> fed into it will eventually reside as "heat" in the bowels of the
> cosmos.....somewhere......

Yep, a common misconception. The feedpoint impedance
of a standing-wave antenna, like a 1/2WL dipole, is
a *virtual* impedance equal to (Vfor+Vref)/(Ifor+Iref).
It may be a resistance, but it is not a resistor. It
is essentially the same entity as the impedance looking
into a stub. For a resonant 1/2WL dipole the equation
becomes:

Feedpoint resistance = (|Vfor|-|Vref|)/(|Ifor|+|Iref|)

With Vfor at a reference angle of zero, Vref is at
180 degrees. With Ifor at zero degrees, Iref is
also at zero degrees. Thus the ability to add and
subtract magnitudes directly.

Some guru once challenged me to make a measurement
at the shack and tell the difference between a 50 ohm
dipole and a 50 ohm resistor. Told him all I needed
was a field strength meter. :-)

The words "impedor" and "resistor" are reserved for
real physical devices. The words "impedance" and
"resistance" have two meanings and can mean either
real devices or virtual V/I's. So says the IEEE
Dictionary.
--
73, Cecil http://www.w5dxp.com

3490. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 18:30:06 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <OSSPh.4331$YL5.1269@newssvr29.news.prodigy.net>
Source record: 43805

Richard Clark wrote:
> Cecil Moore <nospam@w5dxp.com> wrote:

Richard, did you unethically edit my posting to make
it appear that I said something different from what
I said?

> I suppose ...

OK, please don't do that anymore.
--
73, Cecil http://www.w5dxp.com

3491. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 19:04:49 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <pj301314olp4mfrg88m04ha4q8nd9ojk83@4ax.com>
Source record: 43807

On Sun, 01 Apr 2007 23:43:27 -0700, Richard Clark <kb7qhc@comcast.net> wrote:

>On Sun, 01 Apr 2007 16:43:01 GMT, Walter Maxwell <walt@w2du.com>
>wrote:
>
>>Richard, are you avoiding answering my question because you don't want to admit that the null in an antenna
>>pattern results from interference between two coherent fields?
>
>Hi Walt,
>
>Of course a null, or a peak, or any point in between results in the
>interference (the combination of energy phases as power from separate
>sources, or separate waves) found only in a load. I recall having
>posted comments specifically to the issue of phase combination several
>many times in as many days. I will do it several times more here:
>
>That same point in space without that load has absolutely no effect on
>any energies that passes through it. Energies do not mix (combine) in
>linear space; thus one energy can have no effect on other energies.
>Any single energy is unperturbed by any other energies without that
>load to offer a point of summation (the point of interference). That
>unloaded point in space cannot support reflections or force any change
>on any energy.
>
>Interference is not the cessation of energy flow; it is not an
>impediment to energy flow; it is not an redirection of energy flow; it
>is not the amplification of energy flow; it is merely the passive
>observation at a point of the summation in a load of all contributions
>of energy flow. Further, the load may compound the redistribution of
>energy flows (AKA directors or reflectors) becoming, as it were, a new
>and separate source for a yet another remote load to combine new phase
>relationships into a new null/peak/what-have-you. Remove the load,
>and those products disappear.
>
>Interference follows the load. Interference is caused by source
>relationships developed at the load. Move ANY of these actors, and
>the entire map of responsivity changes. All antenna graphical lobe
>descriptions demonstrate this.
>
>73's
>Richard Clark, KB7QHC

Allright, Richard, then where is the load when there are two vertical radiators spaced 1/4 wl and fed in

quadrature, such that their individual fields are omni-directional in azimuth, but when the two fields
combine, a maximum greater than either of the individual fields is propagated in one direction, while a null
results in the opposite direction, negating the propagation of the individual fields in the direction of the
null. What is your explanation of the negation of the propagation of the individual fields when both radiators
are radiating equal EM energy? Are you still denying that interference is not the cause of the modification of
the resultant fields? So I repeat the question--where is the load in this case?

Walt

3492. Re: Antenna Theory Question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 19:16:31 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <bn4013d1m3vtq2lsouakd0udbihdm1vufq@4ax.com>
Source record: 43808

On Sun, 01 Apr 2007 18:24:33 GMT, Cecil Moore <nospam@w5dxp.com> wrote:

>AndyS wrote:
>> Not to make too fine a point on this, Cec, but I , personally,
>> would consider a perfect 52 ohm antenna to be a dissipationless
>> resistor..... although, in the cosmic sense, the power that is
>> fed into it will eventually reside as "heat" in the bowels of the
>> cosmos.....somewhere......
>
>Yep, a common misconception. The feedpoint impedance
>of a standing-wave antenna, like a 1/2WL dipole, is
>a *virtual* impedance equal to (Vfor+Vref)/(Ifor+Iref).
>It may be a resistance, but it is not a resistor. It
>is essentially the same entity as the impedance looking
>into a stub. For a resonant 1/2WL dipole the equation
>becomes:
>
>Feedpoint resistance = (|Vfor|-|Vref|)/(|Ifor|+|Iref|)
>
>With Vfor at a reference angle of zero, Vref is at
>180 degrees. With Ifor at zero degrees, Iref is
>also at zero degrees. Thus the ability to add and
>subtract magnitudes directly.
>
>Some guru once challenged me to make a measurement
>at the shack and tell the difference between a 50 ohm
>dipole and a 50 ohm resistor. Told him all I needed
>was a field strength meter. :-)
>
>The words "impedor" and "resistor" are reserved for
>real physical devices. The words "impedance" and
>"resistance" have two meanings and can mean either
>real devices or virtual V/I's. So says the IEEE
>Dictionary.

Amen to that, Cecil

Walt, W2DU

3493. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 20:28:23 UTC
From: "Harold E. Johnson" <W4ZCB@mchsi.com>
Message-ID: <HBUPh.24578$_c5.3773@attbi_s22>
Source record: 43809

> Allright, Richard, then where is the load when there are two vertical
> radiators spaced 1/4 wl and fed in
> quadrature, such that their individual fields are omni-directional in
> azimuth, but when the two fields
> combine, a maximum greater than either of the individual fields is
> propagated in one direction, while a null
> results in the opposite direction, negating the propagation of the
> individual fields in the direction of the
> null. What is your explanation of the negation of the propagation of the
> individual fields when both radiators
> are radiating equal EM energy? Are you still denying that interference is
> not the cause of the modification of
> the resultant fields? So I repeat the question--where is the load in this
> case?
>
> Walt

Shoot Walt, even I can answer that one. The load is called a pair of
vertical radiators spaced 1/4 Lambda and fed in quadrature.

W4ZCB

3494. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 20:31:59 UTC
From: Dean Craft <harolddcraft@bellsouth.net>
Message-ID: <9FUPh.28929$Wc.5152@bignews3.bellsouth.net>
Source record: 43810

"Harold E. Johnson" <W4ZCB@mchsi.com> wrote in message
news:HBUPh.24578$_c5.3773@attbi_s22...
>> Allright, Richard, then where is the load when there are two vertical
>> radiators spaced 1/4 wl and fed in
>> quadrature, such that their individual fields are omni-directional in
>> azimuth, but when the two fields
>> combine, a maximum greater than either of the individual fields is
>> propagated in one direction, while a null
>> results in the opposite direction, negating the propagation of the
>> individual fields in the direction of the
>> null. What is your explanation of the negation of the propagation of the
>> individual fields when both radiators
>> are radiating equal EM energy? Are you still denying that interference is
>> not the cause of the modification of
>> the resultant fields? So I repeat the question--where is the load in this
>> case?
>>
>> Walt
>
> Shoot Walt, even I can answer that one. The load is called a pair of
> vertical radiators spaced 1/4 Lambda and fed in quadrature.
>
> W4ZCB
>
>

Harold -- I'm going to do a 'Cecil' on you...;) Wrong! The load is the
space into which the antennae is radiating!

The devil made me do that! Sorry.

Dean -- W4IHK

3495. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 21:01:49 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175461309.403293.122610@e65g2000hsc.googlegroups.com>
Source record: 43811

On 1 Apr, 09:34, richardharri...@webtv.net (Richard Harrison) wrote:
> Art wrote:
>
> "Even better, let me know the TOA of a dipole in free space and how much
> it varies to that of the same dipole over perfect ground."
>
> If possible, look at Terman`s1955 opus page 882:
> "Effect of Ground on the Directional Pattern of Ungrounded Antennas -
> Image Antennas."
>
> In free space, no reflecting surface is nearby to distort the pattern of
> a radiator.
>
> Terman gives the familiar radiation of a 1/2-wave dipole in space in
> Fig. 23-4(a) on page 867.
>
> Terman says on page 883:
> "For purposes of calculation, it is convenient to consider that the
> reflected wave is generated, not by reflection, but rather by an "image"
> antenna located below the surface of the ground."
>
> The summation of the direct and reflected waves from a horoizontal wire
> above the earth often has serious consequences as Terman notes on page
> 885:
> "Consequently, to obtain strong radiation in directions approaching the
> horizontal using a horizontally polarized radiating system, it is
> necessary that the height of the antenna above the earth be in the order
> of one wavelength or more."
>
> Terman shows the vertical radiation patterns for a horizontal wire at
> various heights above the earth in Fig. 23-21 on page 884. Note that
> half-wave elevation concentrates most energy into a good elevation angle
> for sky wave reflection at some frequencies and distances.
>
> Best regards, Richard Harrison, KB5WZI

Very good, all accepted, I am now in a position to ask the real
question of "why" where the starting point is acceptable to all.
.
I model a dipole in free space to obtain its impedance, this dipole
was resonant at right angles to the ground and resting on the ground.
I also modelled another dipole over the ground and tipped it over
about 5% of its WL but letting the length grow until the dipole was
resonant over ground (ground means perfect ground as per Mininec) I

then placed this tipped dipole in free space and noted its impedance.
In all cases the impedance in free space was the same though not
resonant! In all cases over ground the dipoles were resonant. Why were
both dipoles over ground resonant? Why did the program model the
dipole at a tipped angle for resonance when given total freedom
instead of modeling a dipole at right angles to ground?
Regards
Art

3496. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 21:37:32 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <4610261a$0$27025$4c368faf@roadrunner.com>
Source record: 43812

"art" <aunwin@insightbb.com> wrote in message
news:1175038792.312433.127780@e65g2000hsc.googlegroups.com...
> On 27 Mar, 15:12, richardharri...@webtv.net (Richard Harrison) wrote:
>> Art wrote:
>>
>> "I have his (Kraus`) second edition (Antennas) and I find no mention of
>> radiation from the beginning where current is applied onward."
>>
>> I think I have that edition too. If you review the chapter on "Point
>> Sources" you`ll find: power patterns, a power theorem and its
>> application to isotropic sources, rediation intensity, source with
>> hemispheric power pattern, unidirectional cosine power pattern, etc.,
>> etc..
>>
>> The new, now available 3rd ed. of "Antennas" by Kraus, Marhefka, and a
>> host of others is greatly expanded and improved. It is worth the
>> investment.
>>
>> Being uncertain of what Art really wants, doesn`t stop me from advising
>> him to start by having a look at the famous Sommerfeld formula on page
>> 804 of Terman`s 1955 opus.
>> It predicts 1 kilowatt will produce 186 mv per m at a distance of 1 mile
>> from a short vertical transmitting antenna given a certain ground
>> conductivity and other conditions.
>>
>> Best regards, Richard Harrison, KB5WZI
>
> Richard, I have lots of books but as yet have not found the answer
> even tho many have posted none appear to really have an answer other
> than to throw stones. You apparently have found the answer! Could you
> quote from the books that you are refering to the angle of radiation
> relative to the radiator, thats it ? If you can't understand that then
> relay to me the angle of a radiation front relative to a radiator, I'm
> sure some other people are interested in what you found. Even better,
> let me know the TOA of a dipole in free space and how much it varies
> to that of the same dipole over a perfect ground. Use a computor
> program if you like, anything that sheds light on the matter . The
> books say that a horizontal "v" antenna should be tipped for max gain,
> doesn't that raise your interest about the reasoning and mathematics
> behind this? Jimmie D asked me to state this angle but I have only a
> expensive computor program that doesn't give the math with the answer.
> Please read off the angle and the specifics so we all can move on, I
> don't want a 160 thread postings some thrust upon Walt
> Art

The V antenna is a terminated traveling wave antenna the dipoles that you have been refering to are standingwave antennas. You are comparing apples and oranges. The best I can tell is that all other references you made to tilt have been perpedicular to the direction of the wave front. The V antenna is tilted in the direction of the wave front, more apples and oranges. Throw in some grapes and pineapple and we will have fruit salad.

Jimmie

3497. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 22:05:11 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175465111.732656.253020@e65g2000hsc.googlegroups.com>
Source record: 43813

On 1 Apr, 14:37, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
> "art" <aun...@insightbb.com> wrote in message
>
> news:1175038792.312433.127780@e65g2000hsc.googlegroups.com...
>
>
>
>
>
> > On 27 Mar, 15:12, richardharri...@webtv.net (Richard Harrison) wrote:
> >> Art wrote:
>
> >> "I have his (Kraus`) second edition (Antennas) and I find no mention of
> >> radiation from the beginning where current is applied onward."
>
> >> I think I have that edition too. If you review the chapter on "Point
> >> Sources" you`ll find: power patterns, a power theorem and its
> >> application to isotropic sources, rediation intensity, source with
> >> hemispheric power pattern, unidirectional cosine power pattern, etc.,
> >> etc..
>
> >> The new, now available 3rd ed. of "Antennas" by Kraus, Marhefka, and a
> >> host of others is greatly expanded and improved. It is worth the
> >> investment.
>
> >> Being uncertain of what Art really wants, doesn`t stop me from advising
> >> him to start by having a look at the famous Sommerfeld formula on page
> >> 804 of Terman`s 1955 opus.
> >> It predicts 1 kilowatt will produce 186 mv per m at a distance of 1 mile
> >> from a short vertical transmitting antenna given a certain ground
> >> conductivity and other conditions.
>
> >> Best regards, Richard Harrison, KB5WZI
>
> > Richard, I have lots of books but as yet have not found the answer
> > even tho many have posted none appear to really have an answer other
> > than to throw stones. You apparently have found the answer! Could you
> > quote from the books that you are refering to the angle of radiation
> > relative to the radiator, thats it ? If you can't understand that then
> > relay to me the angle of a radiation front relative to a radiator, I'm
> > sure some other people are interested in what you found. Even better,
> > let me know the TOA of a dipole in free space and how much it varies
> > to that of the same dipole over a perfect ground. Use a computor
> > program if you like, anything that sheds light on the matter . The

> > books say that a horizontal "v" antenna should be tipped for max gain,
> > doesn't that raise your interest about the reasoning and mathematics
> > behind this? Jimmie D asked me to state this angle but I have only a
> > expensive computor program that doesn't give the math with the answer.
> > Please read off the angle and the specifics so we all can move on, I
> > don't want a 160 thread postings some thrust upon Walt
> > Art
>
> The V antenna is a terminated traveling wave antenna the dipoles that you
> have been refering to are standingwave antennas. You are comparing apples
> and oranges. The best I can tell is that all other references you made to
> tilt have been perpedicular to the direction of the wave front. The V
> antenna is tilted in the direction of the wave front, more apples and
> oranges. Throw in some grapes and pineapple and we will have fruit salad.
>
> Jimmie- Hide quoted text -
>
> - Show quoted text -

Jimmie,
You are way to quick with your answers which means you are not
commited to follow thru in serious thinking. There is a perfectly
logical reason for it
if you are familiar with the study of waves and fields in electro
magnetics.(grin) And there are a couple of people that stand above all
others that will possibly provide as to why it is logical. Stand by
quietly to listen and learn,you don't have to post if you have nothing
to contribute! Read what Richard Harrison has kindly provided and use
that as a solid base to think about
I have worked very hard to get to this particular point in a thread so
as to cut of diversionary talk at the outset. We have an observation,
now we need the explanation.....Should be a very short thread
if we only count contributors with possible explanations as to what
has been observed.
I'll leave it to others to discern who are the real educated
contributors
and who are the lemmings.
Regards
Art

3498. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 22:25:03 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175466303.252023.104560@q75g2000hsh.googlegroups.com>
Source record: 43814

On 31 Mar, 14:36, Walter Maxwell <w...@w2du.com> wrote:
> On 27 Mar 2007 16:39:52 -0700, "art" <aun...@insightbb.com> wrote:
>
>
>
>
>
> >On 27 Mar, 15:12, richardharri...@webtv.net (Richard Harrison) wrote:
> >> Art wrote:
>
> >> "I have his (Kraus`) second edition (Antennas) and I find no mention of
> >> radiation from the beginning where current is applied onward."
>
> >> I think I have that edition too. If you review the chapter on "Point
> >> Sources" you`ll find: power patterns, a power theorem and its
> >> application to isotropic sources, rediation intensity, source with
> >> hemispheric power pattern, unidirectional cosine power pattern, etc.,
> >> etc..
>
> >> The new, now available 3rd ed. of "Antennas" by Kraus, Marhefka, and a
> >> host of others is greatly expanded and improved. It is worth the
> >> investment.
>
> >> Being uncertain of what Art really wants, doesn`t stop me from advising
> >> him to start by having a look at the famous Sommerfeld formula on page
> >> 804 of Terman`s 1955 opus.
> >> It predicts 1 kilowatt will produce 186 mv per m at a distance of 1 mile
> >> from a short vertical transmitting antenna given a certain ground
> >> conductivity and other conditions.
>
> >> Best regards, Richard Harrison, KB5WZI
>
> >Richard, I have lots of books but as yet have not found the answer
> >even tho many have posted none appear to really have an answer other
> >than to throw stones. You apparently have found the answer! Could you
> >quote from the books that you are refering to the angle of radiation
> >relative to the radiator, thats it ? If you can't understand that then
> >relay to me the angle of a radiation front relative to a radiator, I'm
> >sure some other people are interested in what you found. Even better,
> >let me know the TOA of a dipole in free space and how much it varies
> >to that of the same dipole over a perfect ground. Use a computor
> >program if you like, anything that sheds light on the matter . The
> >books say that a horizontal "v" antenna should be tipped for max gain,
> >doesn't that raise your interest about the reasoning and mathematics

> >behind this? Jimmie D asked me to state this angle but I have only a
> >expensive computor program that doesn't give the math with the answer.
> >Please read off the angle and the specifics so we all can move on, I
> >don't want a 160 thread postings some thrust upon Walt
> >Art
>
> The take-off angle of a dipole in free space? The angle with respect to what?
>
> Walt, W2DU- Hide quoted text -
>
> - Show quoted text -

Perhaps Walter you are really serious with the above question!!!!!!
You have two reference planes, the radiator and the plane of maximum
gain(ie. for vertical polarization) Therefor 90 degrees minus the
angle between both planes equal "take off angle".
Regards
Art

3499. Some thoughts relevant to measuring Tx eq src impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 22:38:43 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990657ED77ECAnonenowhere@61.9.191.5>
Source record: 43815

I am intrigued that many people have attempted to measure the equivalent source impedance of a transmitter with such varying results.

On the one hand is the assertion that a transmitter adjusted for optimum operation is comparable with a linear source, and the source impedance must therefore be the conjugate of the load.

On the other hand is the analysis usually used to engineer a PA that should reveal the sensitivity of output power to small changes in load impedance and therefore an equivalent dynamic source impedance.

Taking a valve amplifier as an example for discussion...

On first glance, the change in peak anode voltage and current is indicated on the anode I/V characteristics by laying an incrementally different load line on the chart and observing the change with peak grid voltage held constant. The deltas then could be used to calculate a dynamic source resistance at the anode. Essentially, the value calculated will be the inverse of the slope of the constant grid voltage line.

The required anode load resistance is the resistance calculated from the fundamental anode RMS voltage divided by the fundament anode RMS current.

These are not necessarily the same value. In fact, the dynamic source resistance is usually much higher than the required load resistance, and the ratio is usually higher for a pentode or tetrode than for a triode operating at the same voltage and current.

So, immediately, there is an apparent conflict with the proposition that the dynamic source resistance and the load resistance are the same.

Many of the experiments to try to prove that the PA is "conjugate matched" have used a valve transmitter with a PI coupler, so let us examine the behaviour of a PI coupler.

I have designed PI couplers for a 7MHz transmitter using the formulas given in Eimac's "Care and Feeding of Power Tubes". The formulas seem to assume that the intrinsic Q of the components is infinite, ie that the components themselves are lossless. This assumption introduces error, but my supposition is that for very small changes in load resistance, the assumption that Qi is very large will not seriously impact the models.

Models were constructed with loaded Q ranging from 8 to 21, and for a range of anode load impedances, the the sensitivity of the impedance presented to the anode to small changes in the nominal 50 ohm external load.

The interesting observation is that a very small decrease in the nominal 50 ohms load can result in a different relative change in the anode load, indeed, it can result in an increase in anode load impedance, and the sensitivity depends on loaded Q and the required anode load resistance.

For example:
-if Ql is 10 and Ra is 1400 ohms, a 1% decrease in the extenal 50 ohm load results in a 0.26% decrease in the anode load impedance; and
-if Ql is 12 and Ra is 1400 ohms, a 1% decrease in the extenal 50 ohm load results in a 0.48% decrease in the anode load impedance.

For this very small change in operating Q, the effect of a small change in external load resistance is quite different on the anode load impedance.

A further set of examples:
-if Ql is 10 and Ra is 1260 ohms, a 1% decrease in the extenal 50 ohm load results in a 0.32% decrease in the anode load impedance; and
-if Ql is 12 and Ra is 1260 ohms, a 1% decrease in the extenal 50 ohm load results in a 0.52% decrease in the anode load impedance.

So, if the PA is "tuned up" to deliver a slightly different anode load resistance (in this case 10% lower), the sensitivity of anode load impedance to small changes in the external 50 ohm load is different.

The modelling suggests that conventional circuit theory can explain some of the experimental results that are otherwise ascribed to some magical behaviour of the PI network.

Owen

3500. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 22:55:40 UTC
From: "Harold E. Johnson" <W4ZCB@mchsi.com>
Message-ID: <MLWPh.24730$_c5.8446@attbi_s22>
Source record: 43816

> Harold -- I'm going to do a 'Cecil' on you...;) Wrong! The load is the
> space into which the antennae is radiating!
>
> The devil made me do that! Sorry.
>
> Dean -- W4IHK

Hi Dean, these guys have WAY too much time on their hands. If they had a life, I'm sure they wouldn't know what to do with it.

Regards
W4ZCB
>
>
>

3501. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 23:05:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <k5q5e4-3fn.ln1@mail.specsol.com>
Source record: 43817

art <aunwin@insightbb.com> wrote:
> On 31 Mar, 14:36, Walter Maxwell <w...@w2du.com> wrote:
> > On 27 Mar 2007 16:39:52 -0700, "art" <aun...@insightbb.com> wrote:
> >
> >
> >
> >
> >
> > >On 27 Mar, 15:12, richardharri...@webtv.net (Richard Harrison) wrote:
> > >> Art wrote:
> >
> > >> "I have his (Kraus`) second edition (Antennas) and I find no mention of
> > >> radiation from the beginning where current is applied onward."
> >
> > >> I think I have that edition too. If you review the chapter on "Point
> > >> Sources" you`ll find: power patterns, a power theorem and its
> > >> application to isotropic sources, rediation intensity, source with
> > >> hemispheric power pattern, unidirectional cosine power pattern, etc.,
> > >> etc..
> >
> > >> The new, now available 3rd ed. of "Antennas" by Kraus, Marhefka, and a
> > >> host of others is greatly expanded and improved. It is worth the
> > >> investment.
> >
> > >> Being uncertain of what Art really wants, doesn`t stop me from advising
> > >> him to start by having a look at the famous Sommerfeld formula on page
> > >> 804 of Terman`s 1955 opus.
> > >> It predicts 1 kilowatt will produce 186 mv per m at a distance of 1 mile
> > >> from a short vertical transmitting antenna given a certain ground
> > >> conductivity and other conditions.
> >
> > >> Best regards, Richard Harrison, KB5WZI
> >
> > >Richard, I have lots of books but as yet have not found the answer
> > >even tho many have posted none appear to really have an answer other
> > >than to throw stones. You apparently have found the answer! Could you
> > >quote from the books that you are refering to the angle of radiation
> > >relative to the radiator, thats it ? If you can't understand that then
> > >relay to me the angle of a radiation front relative to a radiator, I'm
> > >sure some other people are interested in what you found. Even better,
> > >let me know the TOA of a dipole in free space and how much it varies
> > >to that of the same dipole over a perfect ground. Use a computor
> > >program if you like, anything that sheds light on the matter . The
> > >books say that a horizontal "v" antenna should be tipped for max gain,

> > >doesn't that raise your interest about the reasoning and mathematics
> > >behind this? Jimmie D asked me to state this angle but I have only a
> > >expensive computor program that doesn't give the math with the answer.
> > >Please read off the angle and the specifics so we all can move on, I
> > >don't want a 160 thread postings some thrust upon Walt
> > >Art
> >
> > The take-off angle of a dipole in free space? The angle with respect to what?
> >
> > Walt, W2DU- Hide quoted text -
> >
> > - Show quoted text -

> Perhaps Walter you are really serious with the above question!!!!!!
> You have two reference planes, the radiator and the plane of maximum
> gain(ie. for vertical polarization) Therefor 90 degrees minus the
> angle between both planes equal "take off angle".
> Regards
> Art

Of course he is serious.

There are no planes in free space for a dipole.

The dipole defines a line, not a plane.

Since the pattern of a dipole in free space is a circle viewed from
the end, and a cardioid from the side, there is no plane there either.

You are plain confused about planes.

--
Jim Pennino

Remove .spam.sux to reply.

3502. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 23:05:04 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <gcq5e4-3fn.ln1@mail.specsol.com>
Source record: 43818

art <aunwin@insightbb.com> wrote:
> On 1 Apr, 14:37, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
> > "art" <aun...@insightbb.com> wrote in message

<snip prior babbling>

> > The V antenna is a terminated traveling wave antenna the dipoles that you
> > have been refering to are standingwave antennas. You are comparing apples
> > and oranges. The best I can tell is that all other references you made to
> > tilt have been perpedicular to the direction of the wave front. The V
> > antenna is tilted in the direction of the wave front, more apples and
> > oranges. Throw in some grapes and pineapple and we will have fruit salad.
> >
> > Jimmie- Hide quoted text -
> >
> > - Show quoted text -

> Jimmie,
> You are way to quick with your answers which means you are not
> commited to follow thru in serious thinking. There is a perfectly
> logical reason for it

Or, he knows what he is talking about and you are just babbling again.

<snip remaining babbling nonsense>

--
Jim Pennino

Remove .spam.sux to reply.

3503. Re: Some thoughts relevant to measuring Tx eq src impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 23:11:15 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1175469074.999185.17760@d57g2000hsg.googlegroups.com>
Source record: 43819

On Apr 1, 2:38 pm, Owen Duffy <n...@no.where> wrote:
> I am intrigued that many people have attempted to measure the equivalent
> source impedance of a transmitter with such varying results.
>
> On the one hand is the assertion that a transmitter adjusted for optimum
> operation is comparable with a linear source, and the source impedance
> must therefore be the conjugate of the load.

...

I have a lot of trouble with that one, especially the "must therefore" part. What is "optimum operation"? Is it delivering the most power to the load, or is it delivering the RATED power to the load, at some particular efficiency and level of distortion? I'd claim it's the latter.

There are lots of examples of "optimum" load NOT being "conjugate-matched" load. A typical stereo amplifier has an output impedance that's a fraction of an ohm, but the amplifier is optimized to deliver power to loads in the vicinity of 4 to 8 ohms, most often. The power lines delivering power to a home show a source impedance that's a tiny fraction of an ohm, but with everything in the house turned on, the net load might be as low an an ohm--in rare cases a bit less than an ohm. The load placed on a typical battery is similarly many times the battery's internal resistance, except in the case of a heavy load on a battery near the end of its charge. And lest you think that all sources are optimized for load resistances higher than the source resistance, I can change the feedback on that stereo amplifier without changing the power output stage design, so the amplifier is still best at delivering power to loads in the 4-8 ohm range, but now the output impedance with new feedback is around 100 ohms.

So WHY should we expect a transmitter to represent a source impedance particularly close to the load impedance, or to its complex conjugate?

I've gone through analyses similar to what you what you reported in the remainder of your posting, with an output network whose Q I varied (in the analysis), and come to similar conclusions. Just as you say, Owen, when I do that, it's all clear and not magical at all. And the source resistance can be made to be what I want through feedback, if I wish. In some of the work I do, it's important to have a virtual ZERO impedance at a particular node, but that's generally done using an AGC loop, so the very short term dynamic impedance at that node may be something considerably different from zero. But if you do power measurements with varying loads, it will appear that the impedance there is very close to zero. (Then you can put a 50 ohm resistor from

that node to a precision 50 ohm line, and have a very good 50 ohm source; you can put another 50 ohm resistor from that node to another line and have two matched sources, for testing other circuits...part of a vector network analyzer.)

Cheers,
Tom

3504. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 23:23:41 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <46103efb$0$18850$4c368faf@roadrunner.com>
Source record: 43820

"art" <aunwin@insightbb.com> wrote in message
news:1175465111.732656.253020@e65g2000hsc.googlegroups.com...
> On 1 Apr, 14:37, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
>> "art" <aun...@insightbb.com> wrote in message
>>
>> news:1175038792.312433.127780@e65g2000hsc.googlegroups.com...
>>
>>
>>
>>
>>
>> > On 27 Mar, 15:12, richardharri...@webtv.net (Richard Harrison) wrote:
>> >> Art wrote:
>>
>> >> "I have his (Kraus`) second edition (Antennas) and I find no mention
>> >> of
>> >> radiation from the beginning where current is applied onward."
>>
>> >> I think I have that edition too. If you review the chapter on "Point
>> >> Sources" you`ll find: power patterns, a power theorem and its
>> >> application to isotropic sources, rediation intensity, source with
>> >> hemispheric power pattern, unidirectional cosine power pattern, etc.,
>> >> etc..
>>
>> >> The new, now available 3rd ed. of "Antennas" by Kraus, Marhefka, and a
>> >> host of others is greatly expanded and improved. It is worth the
>> >> investment.
>>
>> >> Being uncertain of what Art really wants, doesn`t stop me from
>> >> advising
>> >> him to start by having a look at the famous Sommerfeld formula on page
>> >> 804 of Terman`s 1955 opus.
>> >> It predicts 1 kilowatt will produce 186 mv per m at a distance of 1
>> >> mile
>> >> from a short vertical transmitting antenna given a certain ground
>> >> conductivity and other conditions.
>>
>> >> Best regards, Richard Harrison, KB5WZI
>>
>> > Richard, I have lots of books but as yet have not found the answer
>> > even tho many have posted none appear to really have an answer other
>> > than to throw stones. You apparently have found the answer! Could you
>> > quote from the books that you are refering to the angle of radiation
>> > relative to the radiator, thats it ? If you can't understand that then

>> > relay to me the angle of a radiation front relative to a radiator, I'm
>> > sure some other people are interested in what you found. Even better,
>> > let me know the TOA of a dipole in free space and how much it varies
>> > to that of the same dipole over a perfect ground. Use a computor
>> > program if you like, anything that sheds light on the matter . The
>> > books say that a horizontal "v" antenna should be tipped for max gain,
>> > doesn't that raise your interest about the reasoning and mathematics
>> > behind this? Jimmie D asked me to state this angle but I have only a
>> > expensive computor program that doesn't give the math with the answer.
>> > Please read off the angle and the specifics so we all can move on, I
>> > don't want a 160 thread postings some thrust upon Walt
>> > Art
>>
>> The V antenna is a terminated traveling wave antenna the dipoles that you
>> have been refering to are standingwave antennas. You are comparing apples
>> and oranges. The best I can tell is that all other references you made to
>> tilt have been perpedicular to the direction of the wave front. The V
>> antenna is tilted in the direction of the wave front, more apples and
>> oranges. Throw in some grapes and pineapple and we will have fruit salad.
>>
>> Jimmie- Hide quoted text -
>>
>> - Show quoted text -
>
> Jimmie,
> You are way to quick with your answers which means you are not
> commited to follow thru in serious thinking. There is a perfectly
> logical reason for it
> if you are familiar with the study of waves and fields in electro
> magnetics.(grin) And there are a couple of people that stand above all
> others that will possibly provide as to why it is logical. Stand by
> quietly to listen and learn,you don't have to post if you have nothing
> to contribute! Read what Richard Harrison has kindly provided and use
> that as a solid base to think about
> I have worked very hard to get to this particular point in a thread so
> as to cut of diversionary talk at the outset. We have an observation,
> now we need the explanation.....Should be a very short thread
> if we only count contributors with possible explanations as to what
> has been observed.
> I'll leave it to others to discern who are the real educated
> contributors
> and who are the lemmings.
> Regards
> Art
>

Actually my short answers are short because they are to the point if I can find one in your ramblings.The point I made illustated an obvious fault and inconsistencey with your reasoning which you deflect with insults because you have no answers. I know what I had had no value to anyone else but since

you were makeing an iirelevant connection between tilt angle of a V antenna and polarization I thought it may give you some pause for thought. Obviously a wasted effort on my part

Jimmie

3505. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 23:29:05 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175470145.865453.49230@d57g2000hsg.googlegroups.com>
Source record: 43821

On 1 Apr, 16:05, j...@specsol.spam.sux.com wrote:
> art <aun...@insightbb.com> wrote:
> > On 1 Apr, 14:37, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
> > > "art" <aun...@insightbb.com> wrote in message
>
> <snip prior babbling>
>
> > > The V antenna is a terminated traveling wave antenna the dipoles that you
> > > have been refering to are standingwave antennas. You are comparing apples
> > > and oranges. The best I can tell is that all other references you made to
> > > tilt have been perpedicular to the direction of the wave front. The V
> > > antenna is tilted in the direction of the wave front, more apples and
> > > oranges. Throw in some grapes and pineapple and we will have fruit salad.
>
> > > Jimmie- Hide quoted text -
>
> > > - Show quoted text -
> > Jimmie,
> > You are way to quick with your answers which means you are not
> > commited to follow thru in serious thinking. There is a perfectly
> > logical reason for it
>
> Or, he knows what he is talking about and you are just babbling again.
>
> <snip remaining babbling nonsense>
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

Jim Pennino, it was only a short time ago that you showed your
ignorance of electrical laws (gaussian) by calling it nonsense and
babling. Now you are attempting to concilidate your position of
ignorance, and doing quite well at it I might add. I suggest you
accept the same advice I gave Jimmie if you want to avoid being blown
away by electric laws once again.
Art

3506. Re: Some thoughts relevant to measuring Tx eq src impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 23:41:00 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9906627CB13E0nonenowhere@61.9.191.5>
Source record: 43822

"K7ITM" <k7itm@msn.com> wrote in news:1175469074.999185.17760
@d57g2000hsg.googlegroups.com:

> On Apr 1, 2:38 pm, Owen Duffy <n...@no.where> wrote:
>> I am intrigued that many people have attempted to measure the
equivalent
>> source impedance of a transmitter with such varying results.
>>
>> On the one hand is the assertion that a transmitter adjusted for
optimum
>> operation is comparable with a linear source, and the source impedance
>> must therefore be the conjugate of the load.
>
> ...
>
> I have a lot of trouble with that one, especially the "must therefore"
> part. What is "optimum operation"? Is it delivering the most power
> to the load, or is it delivering the RATED power to the load, at some
> particular efficiency and level of distortion? I'd claim it's the
> latter.

Tom, I chose the word optimum for a reason, and I agree with you.

The design process does not find a drop dead maximum power in the way that loading a source with a variable impedance finds a maximum power. The rated power of an amplifier is a compromise, and dependent on the available voltage and current, required linearity / IMD, active device characteristics (eg saturation effects), dissipation limits (anode, control grid etc), harmonic output, efficiency to name just a few. To complicate crude experiments to determine maximum power output, the valve is usually operated close to saturation, so small load changed result in severly non-linear behavior. Further, apparent output impedance is affected by the regulation of the DC supply, which is many transmitters is better for short term current demands than sustained load.

For example, I have a Ameritron AL811H amplifier with 4 x 811A. The operating point for SSB telephony is different to AM due to anode dissipation limits. Some would suggest that when optimised for each of the SSB telephony and AM operating points (ie different anode load resistances) into a 50 ohm load, that the equivalent source impedance *must* be 50 ohms, and that it happens without specific design provisions.

Owen

3507. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-01 23:42:40 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175470960.742573.253680@b75g2000hsg.googlegroups.com>
Source record: 43823

On 1 Apr, 16:23, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
> "art" <aun...@insightbb.com> wrote in message
>
> news:1175465111.732656.253020@e65g2000hsc.googlegroups.com...
>
>
>
>
>
> > On 1 Apr, 14:37, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
> >> "art" <aun...@insightbb.com> wrote in message
>
> >>news:1175038792.312433.127780@e65g2000hsc.googlegroups.com...
>
> >> > On 27 Mar, 15:12, richardharri...@webtv.net (Richard Harrison) wrote:
> >> >> Art wrote:
>
> >> >> "I have his (Kraus`) second edition (Antennas) and I find no mention
> >> >> of
> >> >> radiation from the beginning where current is applied onward."
>
> >> >> I think I have that edition too. If you review the chapter on "Point
> >> >> Sources" you`ll find: power patterns, a power theorem and its
> >> >> application to isotropic sources, rediation intensity, source with
> >> >> hemispheric power pattern, unidirectional cosine power pattern, etc.,
> >> >> etc..
>
> >> >> The new, now available 3rd ed. of "Antennas" by Kraus, Marhefka, and a
> >> >> host of others is greatly expanded and improved. It is worth the
> >> >> investment.
>
> >> >> Being uncertain of what Art really wants, doesn`t stop me from
> >> >> advising
> >> >> him to start by having a look at the famous Sommerfeld formula on page
> >> >> 804 of Terman`s 1955 opus.
> >> >> It predicts 1 kilowatt will produce 186 mv per m at a distance of 1
> >> >> mile
> >> >> from a short vertical transmitting antenna given a certain ground
> >> >> conductivity and other conditions.
>
> >> >> Best regards, Richard Harrison, KB5WZI
>
> >> > Richard, I have lots of books but as yet have not found the answer
> >> > even tho many have posted none appear to really have an answer other

> >> > than to throw stones. You apparently have found the answer! Could you
> >> > quote from the books that you are refering to the angle of radiation
> >> > relative to the radiator, thats it ? If you can't understand that then
> >> > relay to me the angle of a radiation front relative to a radiator, I'm
> >> > sure some other people are interested in what you found. Even better,
> >> > let me know the TOA of a dipole in free space and how much it varies
> >> > to that of the same dipole over a perfect ground. Use a computor
> >> > program if you like, anything that sheds light on the matter . The
> >> > books say that a horizontal "v" antenna should be tipped for max gain,
> >> > doesn't that raise your interest about the reasoning and mathematics
> >> > behind this? Jimmie D asked me to state this angle but I have only a
> >> > expensive computor program that doesn't give the math with the answer.
> >> > Please read off the angle and the specifics so we all can move on, I
> >> > don't want a 160 thread postings some thrust upon Walt
> >> > Art
>
> >> The V antenna is a terminated traveling wave antenna the dipoles that you
> >> have been refering to are standingwave antennas. You are comparing apples
> >> and oranges. The best I can tell is that all other references you made to
> >> tilt have been perpedicular to the direction of the wave front. The V
> >> antenna is tilted in the direction of the wave front, more apples and
> >> oranges. Throw in some grapes and pineapple and we will have fruit salad.
>
> >> Jimmie- Hide quoted text -
>
> >> - Show quoted text -
>
> > Jimmie,
> > You are way to quick with your answers which means you are not
> > commited to follow thru in serious thinking. There is a perfectly
> > logical reason for it
> > if you are familiar with the study of waves and fields in electro
> > magnetics.(grin) And there are a couple of people that stand above all
> > others that will possibly provide as to why it is logical. Stand by
> > quietly to listen and learn,you don't have to post if you have nothing
> > to contribute! Read what Richard Harrison has kindly provided and use
> > that as a solid base to think about
> > I have worked very hard to get to this particular point in a thread so
> > as to cut of diversionary talk at the outset. We have an observation,
> > now we need the explanation.....Should be a very short thread
> > if we only count contributors with possible explanations as to what
> > has been observed.
> > I'll leave it to others to discern who are the real educated
> > contributors
> > and who are the lemmings.
> > Regards
> > Art
>
> Actually my short answers are short because they are to the point if I can
> find one in your ramblings.The point I made illustated an obvious fault and

> inconsistencey with your reasoning which you deflect with insults because
> you have no answers. I know what I had had no value to anyone else but since
> you were makeing an iirelevant connection between tilt angle of a V antenna
> and polarization I thought it may give you some pause for thought. Obviously
> a wasted effort on my part
>
> Jimmie- Hide quoted text -
>
> - Show quoted text -

No Jimmie, Richard Harrison gave a very clear starting point to my question which I might add was about an observation about dipoles. The "v" antenna was a subset of the discussion about the possibility of take of angle relative to the plane of antennas generally. None of the above refer to making a salad as you put it. I would point out however that the subject of TOA is a sutle question that relates to both instances but I will leave it up to you to determine that if you wish. On the subject of making a salad that was your statement not mine that you refer to as insulting.
Cool down for a while and then step back in
Art

3508. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 00:30:43 UTC
From: walt <walt@w2du.com>
Message-ID: <1175473843.244002.164070@n76g2000hsh.googlegroups.com>
Source record: 43825

On Apr 1, 11:55 pm, "Harold E. Johnson" <W...@mchsi.com> wrote:
> > Harold -- I'm going to do a 'Cecil' on you...;) Wrong! The load is the
> > space into which the antennae is radiating!
>
> > The devil made me do that! Sorry.
>
> > Dean -- W4IHK
>
> Hi Dean, these guys have WAY too much time on their hands. If they had a
> life, I'm sure they wouldn't know what to do with it.
>
> Regards
> W4ZCB
>
>
>
> - Hide quoted text -
>
> - Show quoted text -

Hi Harold,

I've found out that it takes a lot of time to spar with Richard C.
When he gets ya he won't let go. He and I have somewhat different
backgrounds--he's an English major, while mine are math and physics.
That's probably why his definition of 'interference' disagrees with
mine.

As you've probable already determined, I maintain that modification of
an antenna pattern from that of a single dipole results from
interference between the fields radiated from more than one radiator,
and the pattern is determined by the relative phase between the
interfering fields. Kraus developed 'interferometers' to analyze the
field relationship between the fields radiated from the radiators in
his radio telescope. What more does one need to understand the effect
of interference? SWR on a transmission line is another example of
interference, that between the forward and reflected, is it not?
Thanks for permitting me the 'time'.

Walt, W2DU

3509. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 00:35:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <8ev5e4-1k9.ln1@mail.specsol.com>
Source record: 43826

art <aunwin@insightbb.com> wrote:
> On 1 Apr, 16:05, j...@specsol.spam.sux.com wrote:
> > art <aun...@insightbb.com> wrote:
> > > On 1 Apr, 14:37, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
> > > > "art" <aun...@insightbb.com> wrote in message
> > >
> > > <snip prior babbling>
> > >
> > > > The V antenna is a terminated traveling wave antenna the dipoles that you
> > > > have been refering to are standingwave antennas. You are comparing apples
> > > > and oranges. The best I can tell is that all other references you made to
> > > > tilt have been perpedicular to the direction of the wave front. The V
> > > > antenna is tilted in the direction of the wave front, more apples and
> > > > oranges. Throw in some grapes and pineapple and we will have fruit salad.
> > >
> > > > Jimmie- Hide quoted text -
> > >
> > > > - Show quoted text -
> > > Jimmie,
> > > You are way to quick with your answers which means you are not
> > > commited to follow thru in serious thinking. There is a perfectly
> > > logical reason for it
> > >
> > Or, he knows what he is talking about and you are just babbling again.
> >
> > <snip remaining babbling nonsense>
> >
> > --
> > Jim Pennino
> >
> > Remove .spam.sux to reply.

> Jim Pennino, it was only a short time ago that you showed your
> ignorance of electrical laws (gaussian) by calling it nonsense and
> babling. Now you are attempting to concilidate your position of
> ignorance, and doing quite well at it I might add. I suggest you
> accept the same advice I gave Jimmie if you want to avoid being blown
> away by electric laws once again.
> Art

Like all your other posts, this one makes no sense either.

As I understand it, you want to blow me?

--
Jim Pennino

Remove .spam.sux to reply.

3510. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 01:00:03 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1175475603.685066.214000@y80g2000hsf.googlegroups.com>
Source record: 43679

On Mar 29, 7:33 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Unless it is located at a
> physical impedance discontinuity, absolutely nothing happens
> because of the V/I ratio.

The last half of the sentence is absolute correct. The V/I ratio is a
result, not a cause.

73, ac6xg

3511. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 01:04:37 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175475877.303675.251520@e65g2000hsc.googlegroups.com>
Source record: 43680

On 1 Apr, 17:35, j...@specsol.spam.sux.com wrote:
> art <aun...@insightbb.com> wrote:
> > On 1 Apr, 16:05, j...@specsol.spam.sux.com wrote:
> > > art <aun...@insightbb.com> wrote:
> > > > On 1 Apr, 14:37, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
> > > > > "art" <aun...@insightbb.com> wrote in message
>
> > > <snip prior babbling>
>
> > > > > The V antenna is a terminated traveling wave antenna the dipoles that you
> > > > > have been refering to are standingwave antennas. You are comparing apples
> > > > > and oranges. The best I can tell is that all other references you made to
> > > > > tilt have been perpedicular to the direction of the wave front. The V
> > > > > antenna is tilted in the direction of the wave front, more apples and
> > > > > oranges. Throw in some grapes and pineapple and we will have fruit salad.
>
> > > > > Jimmie- Hide quoted text -
>
> > > > > - Show quoted text -
> > > > Jimmie,
> > > > You are way to quick with your answers which means you are not
> > > > commited to follow thru in serious thinking. There is a perfectly
> > > > logical reason for it
>
> > > Or, he knows what he is talking about and you are just babbling again.
>
> > > <snip remaining babbling nonsense>
>
> > > --
> > > Jim Pennino
>
> > > Remove .spam.sux to reply.
> > Jim Pennino, it was only a short time ago that you showed your
> > ignorance of electrical laws (gaussian) by calling it nonsense and
> > babling. Now you are attempting to concilidate your position of
> > ignorance, and doing quite well at it I might add. I suggest you
> > accept the same advice I gave Jimmie if you want to avoid being blown
> > away by electric laws once again.
> > Art
>
> Like all your other posts, this one makes no sense either.
>
> As I understand it, you want to blow me?
>

> --
> Jim Pennino
>
> Remove .spam.sux to reply.- Hide quoted text -
>
> - Show quoted text -

Wow, I didn't know you lived near San Francisco. Your pattern of life is certainly different to that of the Mid West. I suppose if you must live near your "friemds" then you must go where the action your looking for is at.
Hopefully you live at a long distance from schools and your computor is scanned regularly by the authorities.I had suspected from your postings that you were not "normal" as well as being uneducated. I am going to plonk your posts as I don't wish to be associated with you in any way especially that kind of talk. You make me shiver....

YUK

3512. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 01:05:39 UTC
From: walt <walt@w2du.com>
Message-ID: <1175475939.619691.85370@q75g2000hsh.googlegroups.com>
Source record: 43681

On Apr 2, 1:51 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Sun, 01 Apr 2007 18:30:06 GMT, Cecil Moore <nos...@w5dxp.com>
> wrote:
>
> >> Cecil Moore <nos...@w5dxp.com> wrote:
>
> >Richard, did you unethically edit my posting to make
> >it appear that I said something different from what
> >I said?
>
> So, are you still sleeping with Hecht?

Richard, it's very uncommon, but on this issue I'm having a difficult
time following you. The only reason that I can conclude for my lack of
understanding is that our definition of 'interference' must be
divergent. So I'll just drop the discussion--OK?

Walt

3513. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 01:25:19 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1175477119.206548.122780@y66g2000hsf.googlegroups.com>
Source record: 43682

On Mar 31, 6:01 pm, Cecil Moore <nos...@w5dxp.com> wrote:

> In the following fixed font diagram, IR is the Index
> of Refraction.

IR usually means 'infra red' in optics discussions. The letter 'n' is
customarily used for the variable representing index of refraction.
Sort of obviates the need to define one in every discussion.

> air | 1/4WL thin-film | Glass
> 1W Laser---IR=1.0---|----IR=1.222-----|--IR=1.493---...
> Ifor=1W | Ifor=1.0101W | Ifor=1W
> Iref=0W | Iref=0.0101W | Iref=0
>
> Note that I is "irradiance", not current.

Also note that 'Watt' isn't a unit of irradiance or current.

73, ac6xg

3514. Re: Some thoughts relevant to measuring Tx eq src impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 01:30:34 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990675109FB4nonenowhere@61.9.191.5>
Source record: 43683

Owen Duffy <none@no.where> wrote in
news:Xns990657ED77ECAnonenowhere@61.9.191.5:

> On first glance, the change in peak anode voltage and current is
> indicated on the anode I/V characteristics by laying an incrementally
> different load line on the chart and observing the change with peak
> grid voltage held constant. The deltas then could be used to calculate
> a dynamic source resistance at the anode. Essentially, the value
> calculated will be the inverse of the slope of the constant grid
> voltage line.

The last sentence should read:

Essentially, the value calculated for a class B amplifier will be about
half the inverse of the slope of the constant grid voltage line.

Owen

3515. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 01:33:14 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175477594.166858.147480@o5g2000hsb.googlegroups.com>
Source record: 43684

On Apr 1, 9:34 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > The impedance
> > encountered by the reflected wave at the generator is the
> > same as the generator's source impedance.
>
> No, the generator's source impedance is *NOT* the
> impedance encountered by the reflected wave. Please
> reference w2du's article again.
>
> http://www.w2du.com/r3ch19a.pdf
>
> Forget about the conjugate match and concentrate on the
> non-dissipative source resistance being different from
> what you are calling the generator's source impedance.
> An *active* source creates a source impedance looking back
> into the source that is *different* from what you are
> calling the generator impedance.

It would appear that you are confusing the possible complexities
of a class C power amplifier with the simplicity of the generator
in the experiment I proposed. A 2 Amp current source
in parallel with a 450 Ohm resistor does not, as far as I can
tell, have a 'non-dissipative source resistance'. It has a
dissipating source resistor. This is not a particularly efficient
implementation, but is certainly a possible one. Now that I
have clarified that there is a dissipating source resistor will
this allow you to use superposition to solve the problem?

Just for your convenience, a reminder of the problem:
- generator with 450 Ohm source resistance drives
- a line with 450 Ohm characteristic impedance
- terminated by a 75 Ohm load
- the generator is set such that it would output
450 Volts into a 450 Ohm load

Question:
- Will there be ghosts?
If the answer is yes...
- What is the magnitude of the first re-reflection?
Ancillary question:
- What 'forward power' will a directional wattmeter in the
450 Ohm line indicate?
- What 'reverse power' will a directional wattmeter in the
450 Ohm line indicate?

If necessary for answering the question:
- The line can be assumed to be 31 wavelengths long.
- The generator can be assumed to be a 2 Amp current source
in parallel with a 450 Ohm resistor.

...Keith

3516. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 01:35:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <ss26e4-8pi.ln1@mail.specsol.com>
Source record: 43685

art <aunwin@insightbb.com> wrote:

Nothing but babble as usual.

--
Jim Pennino

Remove .spam.sux to reply.

3517. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 02:12:10 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175479930.247321.216820@p15g2000hsd.googlegroups.com>
Source record: 43687

On Mar 28, 7:38 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Once again the hypothetical equality
> > Preflected = Pdissipated + Pre-reflected
> > 229.6 = 872 + 0
> > does not hold.
>
> I have pointed out your errors and misconceptions
> 3-4 times and you have refused to correct them.
> This is the last time I am going to waste my
> time.
>
> The source is a 2A Norton with a shunt 450 ohm
> resistor. During steady-state, the source sees
> 75 ohms. Adding 1WL of 75 ohm lossless line doesn't
> change anything but for the Nth time, points out
> your errors and misconceptions.
>
> source--1WL 75 ohm line--+--1000' 450 ohm line--75 ohm load
> Pfor1--> Pfor2--> Pload
> <--Pref1 <--Pref2
>
> Taking your numbers, Pload = 220.4w, Pfor2 = 450w, and
> Pref2 = 229.6w
>
> Obviously Pfor1 = Pload = 220.4w and Pref1 = ZERO
>
> The joules/sec into the impedance discontinuity must equal
> the joules/sec out of the impedance discontinuity. Let's
> see if they do.
> Pfor1 + Pref2 = Pref1 + Pfor2
> 220.4 + 229.6 = ZERO + 450
> 450 joules/sec = 450 joules/sec
>
> There you have it. You simply made a mistake. There is NO
> violation of the conservation of energy principle. The
> same conditions that exist at the impedance discontinuity
> also exist at the source. Total destructive interference
> toward the source is accompanied by total constructive
> interference toward the load. Every sliver of energy is
> accounted for. You analysis is, once again, simply wrong.
> --
> 73, Cecil http://www.w5dxp.com

I didn't catch this first time round, but better late then never.

As you say, adding 1 wavelength of 75 Ohm line will not change
the steady state.

So the condition on the right side of the inserted 75 Ohm line
section will be reproduced on the left side of the line section.

This means that reflecting back into the generator from the
left end of the 75 Ohm line will be the same Pref2 = 229.6 W
that exists on the right side of the 75 Ohm line section.

If you doubt, do the same energy analysis for the left end of
the line that you did for the right end. The generator is
putting 450 W forward into the connection to the 75 Ohm line,
229.6 W is being reflected and 220.4 W is entering the 75 Ohm
line. All is in balance at the connection at the left end
as it is at the right end. But 229.6 W are going back into
the generator. Where do these Watts go?

Using your analytical approach it may help if you put a one
wavelength section of 450 Ohm line between the generator
and the 75 Ohm line section previously inserted. This will
not change the steady state result but may make it easier
to visualize the reflected 229.6 W.

...Keith

3518. Re: Best Yagi impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 02:40:27 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175481627.063742.107630@e65g2000hsc.googlegroups.com>
Source record: 43688

On 17 Mar, 20:41, Owen Duffy <n...@no.where> wrote:
> "Yuri Blanarovich" <K...@optonline.net> wrote innews:eth0l0$fm6$1@aioe.org:
>
> ...
>
> > I realized that Yagi has low impedance and I generally do not like any
> > matching and introducing unnecessary loses. The way for maximum gain,
> > clean pattern, great F/B, 50 ohm feedpoint impedance and no matching
> > gizmos to me was to go Quad and Quad/Yagi element combinations. Quads
> > have higher impedance and by adding elements, the impedance would drop
> > to around 50 ohms.
>
> Yuri, that is your approach, but it is not the only one.
>
> Others of us quantify the expected transformation losses, and add them into
> the gain equation to deal with the effects, making a design selection on a
> rational basis rather that just excluding a whole bunch of solutions
> because of a prejudice about matching loss.
>
> Owen

Owen
I agree. Amateurs and probably some professionals place to much weight
on total antenna gain as opposed to maximum gain of the required
polarity and frankly polarity is always of primary importance for all
antennas. This rationality also include the attainment of less
required compromises with other factors when dealing with bandwidth
(per the above comments referncing matching.) Compromises with respect
to the design of yagi antennas is extensively described in most ARRL
publications and are best avoided.
Art

3519. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 04:08:47 UTC
From: Thomas Horne <hornetd@mindspring.com>
Message-ID: <jl%Ph.18775$tD2.6269@newsread1.news.pas.earthlink.net>
Source record: 43691

Jimmie D wrote:
> "Dave" <noone@nowhere.com> wrote in message
> news:r42dnQKD8rIImATYnZ2dnUVZ_rGinZ2d@crocker.com...
>> <wizard12342002@yahoo.com> wrote in message
>> news:1167655229.508078.212740@h40g2000cwb.googlegroups.com...
>>> I would like to propose a grounding arrangement for my [hypothetical]
>>> antenna and get some feedback on it. I have access to the solid-copper
>>> cold-water pipe that enters my home through the basement wall close to
>>> the basement floor.
>> bad start
>>
>>> This pipe is used [in addition to cold water] for
>>> the service entrance [circuit breaker box] ground.
>> thats bad news
>>
>>> I was thinking of putting an antenna outside on a pole and running the
>>> coax into the
>>> basement.
>> nope, not the way to do it right.
>>
>>> Then I would strip back several inches of the outer jacket
>>> of the coax [axposing the braided shield] and connect the coax braid to
>>> the cold water pipe using several hose clamps. This should ground the
>>> coax directly to the service ground - the single point ground for the
>>> house.
>> except the single point shouldn't be 'inside' the house.
>>
>>> I would add an arrester near the ground point. I would then run
>>> the coax upstairs [about 10 feet] to the radio, where it would [via the
>>> PL-259] connect to the transceiver chassis. The radio chassis will be
>>> electrically bonded to peripheral equipment chassis'.
>> the radio chassis should be connected to the same single point ground, and
>> not via just the coax shield.
>>
>>> It seems that in the unlikely event [low altitude, semi-urban area]
>>> that the antenna were struck by lightning, the energy [albeit
>>> significant] would have no reason to propagate up to my station. Even
>>> though it may elevate my house ground by thousands of volts [with
>>> respect to some other ground point], the station should ride up with it
>>> - and little current should flow in the coax at the station.
>>>
>>> Am I whistling Dixie?
>>
>>

>>
>
> Hopefully you are not really using the water pipe for a ground for your
> electrical service. Hopefully your plumbing is just bonded to the electrical
> ground. Dont even think about using this for lightning protection. Nothing
> like having lightning run in on your plumbing while taking a bath or have it
> run in on yor ground and eat about $7K worth of test equipment(my bad).
>
> Jimmie
>

Jimmie

DE KB3OPR

I am an electrician by craft. The US National Electric Code Requires
that underground metal water piping on the premise be used as a
grounding electrode for the electrical system. There is no way around
it. No matter how fast people talk you cannot avoid using an
underground metal piping system as a grounding electrode unless the
electrical inspector is incompetent.
--
Tom Horne

3520. a tuned counterpoise system question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 04:43:11 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <upKdnfW_yv-VF43bnZ2dnUVZ_hudnZ2d@comcast.com>
Source record: 43692

All,

I am interested in building a tuned counterpoise system. The antenna is a screwdriver and the frequency of interest is 3970 kc. Reg's c_poise program predicts a reasonable set of parameters, a 10 foot 'wire tube', one meter up, and a coil in the range of 50 uH. The program predicts a 'ground' in the range of 5 Ohms.

How oversimplified is this?

The current ground measures over 40 Ohms and the system is just over 5% efficient. To go from a ground of 40 Ohms to one of 5 Ohms gives the potential of a system efficiency approaching 50%. An 8 to 1 increase in efficiency could yield a 9 db improvement. This is worth some serious experimentation.

Thanks for you thoughts and analysis in advance - Dan

3521. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 06:43:27 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <do7113ds6j1sojosmklgsevn9l1m8gr9t5@4ax.com>
Source record: 43806

On Sun, 01 Apr 2007 16:43:01 GMT, Walter Maxwell <walt@w2du.com>
wrote:

>Richard, are you avoiding answering my question because you don't want to admit that the
null in an antenna
>pattern results from interference between two coherent fields?

Hi Walt,

Of course a null, or a peak, or any point in between results in the interference (the combination of energy phases as power from separate sources, or separate waves) found only in a load. I recall having posted comments specifically to the issue of phase combination several many times in as many days. I will do it several times more here:

That same point in space without that load has absolutely no effect on any energies that passes through it. Energies do not mix (combine) in linear space; thus one energy can have no effect on other energies. Any single energy is unperturbed by any other energies without that load to offer a point of summation (the point of interference). That unloaded point in space cannot support reflections or force any change on any energy.

Interference is not the cessation of energy flow; it is not an impediment to energy flow; it is not an redirection of energy flow; it is not the amplification of energy flow; it is merely the passive observation at a point of the summation in a load of all contributions of energy flow. Further, the load may compound the redistribution of energy flows (AKA directors or reflectors) becoming, as it were, a new and separate source for a yet another remote load to combine new phase relationships into a new null/peak/what-have-you. Remove the load, and those products disappear.

Interference follows the load. Interference is caused by source relationships developed at the load. Move ANY of these actors, and the entire map of responsivity changes. All antenna graphical lobe descriptions demonstrate this.

73's
Richard Clark, KB7QHC

3522. Comparing Tuner Match to EZNEC Impedance Prediction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 07:02:58 UTC
From: dykesc <cupstidd@bellsouth.net>
Message-ID: <1175497378.760848.33570@l77g2000hsb.googlegroups.com>
Source record: 43694

I'm fairly new here so if this post is not appropriate for this group, direct me elsewhere.

I am using the EZNEC demo to analyze an Off Center Fed sloper I am using on 75m. The antenna is being fed with 85 feet of 450 ohm ladder line which runs all the way to my operating location. At 3.9405 Mhz, EZNEC shows an impedance of 28.11 -j102.2 at the transmission line input (Alt Z0 of 450 ohms). My MFJ auto tuner (L-Network) is actually matching the sloper at a 1.1 SWR with an inductor value of 5.34 uH and a capacitor value of 605 pf. The capacitor is shunted on the transmitter side of the inductor.

I am using a formula I found in the L-Network section of Chapter 25 of the ARRL Antenna Book to take the MFJ tuner values above and calculate the impedance the tuner is matching. There are a couple of statements in this section of the Antenna Book which lead me to believe that L-Networks are used for matching purely resistive loads. It also states that loads containing "reactance" can be accounted for in the L-Network inductor or capacitor values. Do I need to eliminate the portion of the tuner inductor value being used to bring the system to resonance before I calculate the impedance transform? If so is there a way to do this or is my whole approach here off base?

Thanks for any replies. Interesting stuff.

3523. Re: Comparing Tuner Match to EZNEC Impedance Prediction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 07:22:04 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9906B0A8B259Enonenowhere@61.9.191.5>
Source record: 43695

"dykesc" <cupstidd@bellsouth.net> wrote in news:1175497378.760848.33570
@l77g2000hsb.googlegroups.com:

> I'm fairly new here so if this post is not appropriate for this group,
> direct me elsewhere.
>
> I am using the EZNEC demo to analyze an Off Center Fed sloper I am
> using on 75m. The antenna is being fed with 85 feet of 450 ohm ladder
> line which runs all the way to my operating location. At 3.9405 Mhz,
> EZNEC shows an impedance of 28.11 -j102.2 at the transmission line
> input (Alt Z0 of 450 ohms). My MFJ auto tuner (L-Network) is actually
> matching the sloper at a 1.1 SWR with an inductor value of 5.34 uH and
> a capacitor value of 605 pf. The capacitor is shunted on the
> transmitter side of the inductor.

Your values, if they are correct, suggest that Z is more like 18-j211
(depending on the Q of the coil).

Your transmission line may not be the 450 ohms that you think, and is a
likely contribution to error.

EZNEC probably models lossless transmission lines, and probably assumes
Zo is resistive. Combined with probable error in Zo, the input impedance
of the line may be different to model. Further, the feedpoint impedance
may be different to model, modelling an off centre fed antenna is
problematic.

>
> I am using a formula I found in the L-Network section of Chapter 25 of
> the ARRL Antenna Book to take the MFJ tuner values above and calculate
> the impedance the tuner is matching. There are a couple of statements
> in this section of the Antenna Book which lead me to believe that L-
> Networks are used for matching purely resistive loads. It also states

No, they are not restricted to resistive loads.

> that loads containing "reactance" can be accounted for in the L-
> Network inductor or capacitor values. Do I need to eliminate the
> portion of the tuner inductor value being used to bring the system to
> resonance before I calculate the impedance transform? If so is there a
> way to do this or is my whole approach here off base?
>
> Thanks for any replies. Interesting stuff.
>
>

Owen

3524. Re: Comparing Tuner Match to EZNEC Impedance Prediction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 07:25:01 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9906B128EB337nonenowhere@61.9.191.5>
Source record: 43696

Owen Duffy <none@no.where> wrote in news:Xns9906B0A8B259Enonenowhere@
61.9.191.5:

> Your values, if they are correct, suggest that Z is more like 18-j211
> (depending on the Q of the coil).

Sorry, I keyed a mistake in frequency in my analysis:

Your values, if they are correct, suggest that Z is more like 32-j110
(depending on the Q of the coil).

3525. Re: a tuned counterpoise system question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 07:48:56 UTC
From: nm5k@wt.net
Message-ID: <1175500136.364684.288680@d57g2000hsg.googlegroups.com>
Source record: 43697

On Apr 1, 10:43 pm, dansawyeror <dansawye...@comcast.net> wrote:
> All,
>
> I am interested in building a tuned counterpoise system. The antenna is
> a screwdriver and the frequency of interest is 3970 kc. Reg's c_poise
> program predicts a reasonable set of parameters, a 10 foot 'wire tube',
> one meter up, and a coil in the range of 50 uH. The program predicts a
> 'ground' in the range of 5 Ohms.

Is that a base load? Seems to be using a 50 uH coil.. I'd be thinking
70-80 uH
for a short center load...?
>
> How oversimplified is this?
>
> The current ground measures over 40 Ohms and the system is just over 5%
> efficient. To go from a ground of 40 Ohms to one of 5 Ohms gives the
> potential of a system efficiency approaching 50%. An 8 to 1 increase in
> efficiency could yield a 9 db improvement. This is worth some serious
> experimentation.
>
> Thanks for you thoughts and analysis in advance - Dan

I'm just wondering why you want to use this type of antenna. Seems
like a
lot of work involved to get semi decent performance vs even a simple
dipole.
IE: why only a 10 ft whip? Is this for some type of portable use?
To get a low ground loss you will need quite a few radials when near
the ground, and using the short antenna makes things even more
critical.
If I had a mobile whip, I'd just as soon mount it on a car, and run
coax to it,
vs other options.
If this was at the house, I'd try to use a taller vertical, use top
loading
wires, etc.
But most of my 75m stuff is fairly local NVIS yik yak, so I'd just as
soon be
on a dipole.
You say the mount is three feet up... Might as well be on the ground
as far as the number of radials needed. They can be resonant, and
there
will be a slight advantage over non resonant radials laying on the
ground,

but nothing earthshaking. Don't expect high efficiency with 2-4
radials
strung 3 ft in the air. You'll need 30-60 just to get in the medium
performance
mode, and you would still be in the mud vs the usual dipole..

Dunno...I may be confused... But I don't see it..If I was going to get
on
75m, I'd stick up a coax fed dipole and be done with it. It would
smoke
that short vertical running over most any counterpoise you might cook
up.
I can live with a short vertical when mobile because I have no choice.
But otherwise, I can think of better antennas for that band. But I
don't
know if you work NVIS or DX.. Even with DX, a vertical will need to
be
fairly decent to compete with an efficient dipole at even 25-35-45 ft
up,
which is pretty low height in wavelength for 75 meters. I work DX on
75m
with 100w no problem at all using a coax fed dipole at about 40 ft.
This is not to say I don't like verticals.. I do. But I would try to
run a bit
more robust version than a screwdriver unless actually mobile..
IE: a simple inv L or T made of wire "60-65 ft" thrown over a tree
will
usually outdo the short whip. I like the "T" better for a pure
vertical
pattern with little horizontal componant.
But I'm much more likely to use a T vertical on 160m than I am 80..
I'm almost always on the dipoles on 80m. Well, actually a turnstile
at the moment.. Crossed dipoles..
MK

3526. Re: Comparing Tuner Match to EZNEC Impedance Prediction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 08:58:48 UTC
From: dykesc <cupstidd@bellsouth.net>
Message-ID: <1175504328.939428.90870@n59g2000hsh.googlegroups.com>
Source record: 43698

On Apr 2, 2:25 am, Owen Duffy <n...@no.where> wrote:
> Owen Duffy <n...@no.where> wrote in news:Xns9906B0A8B259Enonenowhere@
> 61.9.191.5:
>
> > Your values, if they are correct, suggest that Z is more like 18-j211
> > (depending on the Q of the coil).
>
> Sorry, I keyed a mistake in frequency in my analysis:
>
> Your values, if they are correct, suggest that Z is more like 32-j110
> (depending on the Q of the coil).

Thanks Owen. If not to much trouble, could you tell me how you derived
Z from my values?

3527. Re: Comparing Tuner Match to EZNEC Impedance Prediction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 09:07:10 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9906C27A5C98Enonenowhere@61.9.191.5>
Source record: 43699

"dykesc" <cupstidd@bellsouth.net> wrote in news:1175504328.939428.90870
@n59g2000hsh.googlegroups.com:

>>
>> Your values, if they are correct, suggest that Z is more like 32-j110
>> (depending on the Q of the coil).
>
> Thanks Owen. If not to much trouble, could you tell me how you derived
> Z from my values?

Nothing too sophisticated, I plugged them into a Smith chart program and played with the load until it matched to approx 50+j0. It could be done with a hand calculator nearly as quickly.

BTW, you might find the line loss calculator at http://www.vk1od.net/tl/tllc.php helpful, you can specify the Z looking into the line, or at the load end of the line, and it will calculate the other for you (using a lossy line model).

Owen

3528. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 12:07:18 UTC
From: Roger <GetValidAddress@my.com>
Message-ID: <p7s113luin4a4gt71bf4sno0lhl2ndig6s@4ax.com>
Source record: 43700

On Mon, 02 Apr 2007 04:08:47 GMT, Thomas Horne
<hornetd@mindspring.com> wrote:

>Jimmie D wrote:
>> "Dave" <noone@nowhere.com> wrote in message
>> news:r42dnQKD8rIImATYnZ2dnUVZ_rGinZ2d@crocker.com...
>>> <wizard12342002@yahoo.com> wrote in message
>>> news:1167655229.508078.212740@h40g2000cwb.googlegroups.com...
>>>> I would like to propose a grounding arrangement for my [hypothetical]
>>>> antenna and get some feedback on it. I have access to the solid-copper
>>>> cold-water pipe that enters my home through the basement wall close to
>>>> the basement floor.
>>> bad start
>>>
>>>> This pipe is used [in addition to cold water] for
>>>> the service entrance [circuit breaker box] ground.
>>> thats bad news
>>>
>>>> I was thinking of putting an antenna outside on a pole and running the
>>>> coax into the
>>>> basement.
>>> nope, not the way to do it right.
>>>
>>>> Then I would strip back several inches of the outer jacket
>>>> of the coax [axposing the braided shield] and connect the coax braid to
>>>> the cold water pipe using several hose clamps. This should ground the
>>>> coax directly to the service ground - the single point ground for the
>>>> house.
>>> except the single point shouldn't be 'inside' the house.
>>>
>>>> I would add an arrester near the ground point. I would then run
>>>> the coax upstairs [about 10 feet] to the radio, where it would [via the
>>>> PL-259] connect to the transceiver chassis. The radio chassis will be
>>>> electrically bonded to peripheral equipment chassis'.
>>> the radio chassis should be connected to the same single point ground, and
>>> not via just the coax shield.
>>>
>>>> It seems that in the unlikely event [low altitude, semi-urban area]
>>>> that the antenna were struck by lightning, the energy [albeit
>>>> significant] would have no reason to propagate up to my station. Even
>>>> though it may elevate my house ground by thousands of volts [with
>>>> respect to some other ground point], the station should ride up with it
>>>> - and little current should flow in the coax at the station.
>>>>

>>>> Am I whistling Dixie?
>>>
>>>
>>>
>>
>> Hopefully you are not really using the water pipe for a ground for your
>> electrical service. Hopefully your plumbing is just bonded to the electrical
>> ground. Dont even think about using this for lightning protection. Nothing
>> like having lightning run in on your plumbing while taking a bath or have it
>> run in on yor ground and eat about $7K worth of test equipment(my bad).
>>
>> Jimmie
>>
>
>Jimmie
>
>DE KB3OPR
>
>I am an electrician by craft. The US National Electric Code Requires
>that underground metal water piping on the premise be used as a
>grounding electrode for the electrical system. There is no way around

Ahhh...The water pipe must be bonded to the electrical system, but the
main ground must be at the entrance. Here, we have plastic water pipe
all the way to the main from the meter, yet we have to bond the meters
which are metal with plastic running in and plastic running out.

>it. No matter how fast people talk you cannot avoid using an
>underground metal piping system as a grounding electrode unless the
>electrical inspector is incompetent.

It's really easy to avoid here. We do not have metal piping available
for grounding.
Roger Halstead (K8RI & ARRL life member)
(N833R, S# CD-2 Worlds oldest Debonair)
www.rogerhalstead.com

3529. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 12:27:15 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <j4t113dl4gpjgqv0sp318l88usikuh9dhc@4ax.com>
Source record: 43824

On Sun, 01 Apr 2007 19:04:49 GMT, Walter Maxwell <walt@w2du.com>
wrote:

>Allright, Richard, then where is the load when there are two vertical radiators spaced 1/4 wl and fed in
>quadrature, such that their individual fields are omni-directional in azimuth, but when the two fields
>combine, a maximum greater than either of the individual fields is propagated in one direction, while a null
>results in the opposite direction, negating the propagation of the individual fields in the direction of the
>null. What is your explanation of the negation of the propagation of the individual fields when both radiators
>are radiating equal EM energy? Are you still denying that interference is not the cause of the modification of
>the resultant fields? So I repeat the question--where is the load in this case?

Hi Walt,

The load is anywhere you place it, obviously. We can even abstract
one radiator of these two radiators being a load for the other - and
through symmetry, the other way around. They obviously interefere
with each other. As I've offered, remove (or simply move) either and
the entire picture changes. If you want to add yet another, remote
load, that is fine. There is no limit to where it can reside. There
is no limit in the number of loads either. All loads reveal
interference, however, if you remove them, obviously there is no
interference.

Fields do not act one upon the other in linear space. The addition of
a load may present a new source of radiation. In that case, the new
mapping of wave action follows the load. This is demonstrated in
every yagi. Remove the load (or yagi element) and the specific
mapping changes, following the load.

73's
Richard Clark, KB7QHC

3530. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 12:42:23 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <bnt11355gjurkjp4c6tv25rnbclftp72vp@4ax.com>
Source record: 43677

On Sun, 01 Apr 2007 18:18:53 GMT, Walter Maxwell <walt@w2du.com>
wrote:

>Richard, also consider an open-wire transmission line, equal and opposite currents
flowing on each wire, and
>no common-mode currents. There is zero radiation, because the opposing fields developed by
the current flow
>cancel. Are you denying that the zero radiation results from interferece?

Hi Walt,

Zero radiation results from a particularly small in relation to
wavelength separation of wires. In a very close proximity, all loads
see the same phase balance (0), hence the combination of these issues
of distance with regard to wavelength render a null in any load remote
from the line you have described.

>Also, consider standing waves on on a line, resulting from the superposition of the
forward and reflected
>waves, where the maximum amplitude results from constructive interference and the minimum
amplitude results
>from destructive interference. Are you denying the existence of interference in this case?

In a lossless line, you can't tell the difference. In a lossy line,
you have found a load. As any lossy line generally presents the same
loss on a per-length basis, it is obvious that phase combines to
create loss in only certain positions with regard to distance and
wavelength. Mapping will follow the load.

Barring either of these cases, you have to insert a load into the line
to force the interference. Sure, you can anticipate it
mathematically. And certainly it will be borne out in practice with
lossy line melting or arcing at cardinal points. Without that loss -
who cares? Nothing happened or will happen and the waves will never
interact to give a new product as (I imagine we have agreed) this is
linear space.

The operation of TR/ATR tubes in transmission line systems works with
this to force interference to steer radiation. Remove the tubes and
the action ceases. The fields in an identical transmission line
environment cannot do it themselves without that load present. This
is classic RADAR systems topology.

Imagine what this would be like with the "Magic T?"

73's
Richard Clark, KB7QHC

3531. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 12:51:10 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ipu113tajn5oij0m82k2qe7sceen1gttga@4ax.com>
Source record: 43678

On Sun, 01 Apr 2007 18:30:06 GMT, Cecil Moore <nospam@w5dxp.com>
wrote:
>> Cecil Moore <nospam@w5dxp.com> wrote:
>
>Richard, did you unethically edit my posting to make
>it appear that I said something different from what
>I said?

So, are you still sleeping with Hecht?

3532. Re: a tuned counterpoise system question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 14:12:41 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <NY6dnTRJuc0fkozbnZ2dnUVZ_tmknZ2d@comcast.com>
Source record: 43701

Thanks,

The input to Reg's program is:
F 4 MHz
H 1 M
L 3.3 M
D 25 mm
A 98
B 70
R .7
G 40

This yields 3.2 Ohms input impedance. The coil can be made from PVC and
12 gage wire, the rod, wire, can be 1 inch copper tubing.

- Dan

Richard Clark wrote:
> On Sun, 01 Apr 2007 21:43:11 -0700, dansawyeror
> <dansawyeror@comcast.net> wrote:
>
>> Reg's c_poise
>> program predicts a reasonable set of parameters, a 10 foot 'wire tube',
>> one meter up, and a coil in the range of 50 uH. The program predicts a
>> 'ground' in the range of 5 Ohms.
>>
>> How oversimplified is this?
>
> Hi Dan,
>
> You don't include enough information to say. Certainly you can
> provide us with the cogent details entered into Reggie's program,
> couldn't you?
>
> 73's
> Richard Clark, KB7QHC

3533. Re: Best Yagi impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 14:41:38 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <WC8Qh.14$cD2.13@newsfe12.lga>
Source record: 43702

"art" <aunwin@insightbb.com> wrote in message
news:1175481627.063742.107630@e65g2000hsc.googlegroups.com...
> On 17 Mar, 20:41, Owen Duffy <n...@no.where> wrote:
>> "Yuri Blanarovich" <K...@optonline.net> wrote
>> innews:eth0l0$fm6$1@aioe.org:
>>
>> ...
>>
>> > I realized that Yagi has low impedance and I generally do not like any
>> > matching and introducing unnecessary loses. The way for maximum gain,
>> > clean pattern, great F/B, 50 ohm feedpoint impedance and no matching
>> > gizmos to me was to go Quad and Quad/Yagi element combinations. Quads
>> > have higher impedance and by adding elements, the impedance would drop
>> > to around 50 ohms.
>>
>> Yuri, that is your approach, but it is not the only one.
>>
>> Others of us quantify the expected transformation losses, and add them
>> into
>> the gain equation to deal with the effects, making a design selection on
>> a
>> rational basis rather that just excluding a whole bunch of solutions
>> because of a prejudice about matching loss.
>>
>> Owen
>
>
> Owen
> I agree. Amateurs and probably some professionals place to much weight
> on total antenna gain as opposed to maximum gain of the required
> polarity and frankly polarity is always of primary importance for all
> antennas. This rationality also include the attainment of less
> required compromises with other factors when dealing with bandwidth
> (per the above comments referncing matching.) Compromises with respect
> to the design of yagi antennas is extensively described in most ARRL
> publications and are best avoided.
> Art
>

3534. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 14:51:14 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4r5213d1hifiurop98ndhvqfq1eri8l0hb@4ax.com>
Source record: 43689

On 1 Apr 2007 18:05:39 -0700, "walt" <walt@w2du.com> wrote:

>On Apr 2, 1:51 pm, Richard Clark <kb7...@comcast.net> wrote:
>> On Sun, 01 Apr 2007 18:30:06 GMT, Cecil Moore <nos...@w5dxp.com>
>> wrote:
>>
>> >> Cecil Moore <nos...@w5dxp.com> wrote:
>>
>> >Richard, did you unethically edit my posting to make
>> >it appear that I said something different from what
>> >I said?
>>
>> So, are you still sleeping with Hecht?
>
>Richard, it's very uncommon, but on this issue I'm having a difficult
>time following you. The only reason that I can conclude for my lack of
>understanding is that our definition of 'interference' must be
>divergent. So I'll just drop the discussion--OK?

Hi Walt,

It's fine, except you were the only lucid respondent in this recent
line of inquiry.

73's
Richard Clark, KB7QHC

3535. Re: Best Yagi impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 14:54:17 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <NO8Qh.16$cD2.12@newsfe12.lga>
Source record: 43703

> "art" <aunwin@insightbb.com> wrote in message

>> Owen
>> I agree. Amateurs and probably some professionals place to much weight
>> on total antenna gain as opposed to maximum gain of the required
>> polarity and frankly polarity is always of primary importance for all
>> antennas. This rationality also include the attainment of less
>> required compromises with other factors when dealing with bandwidth
>> (per the above comments referncing matching.) Compromises with respect
>> to the design of yagi antennas is extensively described in most ARRL
>> publications and are best avoided.
>> Art

OK, genius, what is POLARITY and how did we manage to ignore it over the
century plus of fiddling with antennas?
I promise to always use PLUS or POSITIVE polarity, never to engage any
NEGATIVE, which would be detrimental to Gaussian jambalaya.

Yuri, K3BU

3536. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 15:01:02 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <j86213l74v5tlvrpbceubrosepbr5efgej@4ax.com>
Source record: 43690

On 1 Apr 2007 18:25:19 -0700, "Jim Kelley" <jwkelley@uci.edu> wrote:

>Also note that 'Watt' isn't a unit of irradiance or current.

Also note that irradiance also demands an area unit. Same old errors.

Maybe absolute braces could gussy up the treatment.

73's
Richard Clark, KB7QHC

3537. What is the purpose of a DC injector?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 15:09:07 UTC
From: MRW <mr.whatever@gmail.com>
Message-ID: <1175526547.018205.147130@p15g2000hsd.googlegroups.com>
Source record: 43704

Good day!

In some of the articles that I'm reading, I keep seeing references to a DC injector use in RF ports. I really don't know what this means and what the DC injectors are used for. The only think that I can think of is for some DC voltage control for a voltage controlled oscillator (VCO).

Thank you!

3538. Re: Best Yagi impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 15:16:36 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175526996.036089.26350@o5g2000hsb.googlegroups.com>
Source record: 43705

On 2 Apr, 07:54, "Yuri Blanarovich" <K...@optonline.net> wrote:
> > "art" <aun...@insightbb.com> wrote in message
> >> Owen
> >> I agree. Amateurs and probably some professionals place to much weight
> >> on total antenna gain as opposed to maximum gain of the required
> >> polarity and frankly polarity is always of primary importance for all
> >> antennas. This rationality also include the attainment of less
> >> required compromises with other factors when dealing with bandwidth
> >> (per the above comments referncing matching.) Compromises with respect
> >> to the design of yagi antennas is extensively described in most ARRL
> >> publications and are best avoided.
> >> Art
>
> OK, genius, what is POLARITY and how did we manage to ignore it over the
> century plus of fiddling with antennas?
> I promise to always use PLUS or POSITIVE polarity, never to engage any
> NEGATIVE, which would be detrimental to Gaussian jambalaya.
>
> Yuri, K3BU

Yuri, If you don't understand the foibles of polarization then the
search
for gain alone is pointless

3539. Re: What is the purpose of a DC injector?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 15:23:56 UTC
From: Philo <philo@nospampse.be>
Message-ID: <ge9Qh.99210$4b.727079@phobos.telenet-ops.be>
Source record: 43706

"MRW" <mr.whatever@gmail.com> wrote in message
news:1175526547.018205.147130@p15g2000hsd.googlegroups.com...
> Good day!
>
> In some of the articles that I'm reading, I keep seeing references to
> a DC injector use in RF ports. I really don't know what this means and
> what the DC injectors are used for. The only think that I can think of
> is for some DC voltage control for a voltage controlled oscillator
> (VCO).
>
> Thank you!
>
Supplying DC power for a preamplifier or transverter trough the antenna
cable for instance.

3540. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 15:46:58 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175528818.661982.213050@y66g2000hsf.googlegroups.com>
Source record: 43707

On 27 Mar, 12:22, "Wimpie" <wim...@tetech.nl> wrote:
> On 27 mar, 19:47, "art" <aun...@insightbb.com> wrote:
>
>
>
>
>
> > On 27 Mar, 10:20, richardharri...@webtv.net (Richard Harrison) wrote:
>
> > > Jim Pennino wrote:
>
> > > "Have you ever heard of a helix?"
>
> > > Most would likely enjoy Kraus` story of his invention of the axial-mode
> > > helix in his 3rd edition of "Antennas". This is a choice book!
>
> > > Best regards, Richard Harrison, KB5WZI
>
> > I have his second edition and I find no mention of radiation from the
> > beginning where current is applied onwards. Have you found anything
> > that can
> > contribute other than empirical grounds? You have avoided the question
> > so far
>
> Hello Art,
>
> Radiation from accelerating charge is fully understood (from theory
> and verified practically), hence antenna theory. When you take the
> complete formula for fields (near and far) generated by a short wire
> segment (hertzian dipole), you can calculate the far and near field
> (magnitude, orientation, phase, etc) from every construction. The only
> problem is that you have to know the current distribution in your
> construction.
>
> It is not of interest whether the charge is excited by just a voltage
> source or EM radiation (like in reflection of waves on conductors and
> dielectrics). This is done in many FEM programs.
>
> Of course in many practical circumstances it is easier to use the
> "laws" from other people (that are derived from basic theory). One of
> the results are the Fresnel formulas for reflection.
>
> When you know the properties of the soil at the operating frequency,
> you can calculate the complex surface impedance and hence the complex

> reflection coefficient.
>
> Just mentioning words as "curl", "vector", "Gaussian" etc, doesn't
> make sense without further information.
>
> Best Regards,
>
> Wim- Hide quoted text -
>
> - Show quoted text -

Wim
Earlier I explained that the gaussian law can be expanded to provide a link to a radiator. The mathematics has been provenon this newsgroup. Unfortunately only one person accepted that proof. Using this new aproach,thesis or what have you provided for the generation of arrays where all radiator were resonant which provides specific advantages. It also provides for multiple arrangements of elements for maximum gain by virtue of the condition that equilibrium must be maintained in the enclosed volume of a standard Gaussian field which means that more than one arrangement of a given number of radiating elements can be arrived at for maximum gain.
Thus not only was the theory proved by mathematics in accordance with known laws it has also been overchecked by the use of the equilibrium condition which was imposed as well as all being confirmed by accepted computor programs. Since all new theorem are immediately rejected by the vast majority of this group but with one exception from down under you surely can understand the futility of convincing people until they see it written in a book because of their lack of individual thought. One thing I have proved to my satisfaction that many who perceived themselves as experts have shown quite clearly that they have over estimated their abilities.
When my work is published it will not only be seen that many were unable to think on the basis of there own knoweledge but also their knowledge of Electrical laws were flawed. That was my intention to prove when I introduced extension of known laws on this newsgroup plus the exposure to all of the residing pseudo experts. Time will tell that I have suceeded
in my mission
Regards
Art

3541. Re: a tuned counterpoise system question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 16:39:07 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <s3c213t72b6blmsn16dcm8qaq0ol9mv54q@4ax.com>
Source record: 43708

On Mon, 02 Apr 2007 07:12:41 -0700, dansawyeror
<dansawyeror@comcast.net> wrote:

>The input to Reg's program is:
>F 4 MHz
>H 1 M
>L 3.3 M
>D 25 mm
>A 98
>B 70
>R .7
>G 40
>
>This yields 3.2 Ohms input impedance. The coil can be made from PVC and
>12 gage wire, the rod, wire, can be 1 inch copper tubing.
>
>>> Reg's c_poise
>>> program predicts a reasonable set of parameters, a 10 foot 'wire tube',
>>> one meter up, and a coil in the range of 50 uH. The program predicts a
>>> 'ground' in the range of 5 Ohms.
>>>
>>> How oversimplified is this?

Hi Dan,

By Reggie's own warning, it will suffer for being so close in
proximity to earth. He does, however, offer the advice (probably for
any construction) to allow enough surplus material to permit tuning.

I should point out that with any tool, its utility is comparing its
forecast with your results. If you do enough constructions against
that tool, and you look at the range of forecasts and compare to
results, you will build your own correction factors that will make
future constructions easier to accomplish.

This lesson was more what Reggie was trying to teach. Those who use
his tools without examination would be eaten alive by the Sewer Rats
of Rio.

73's
Richard Clark, KB7QHC

3542. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 16:43:01 UTC
From: richardharrison@webtv.net
Message-ID: <28568-46113295-276@storefull-3257.bay.webtv.net>
Source record: 43709

Art wrote:
"Earlier I explained that Gaussian law can be expanded to provide a link to a radiator."

I am one who missed Art`s explanation. I am curious as Gauss and antennas have not been directly related in my mind.

Wikipedia says:
"The total of electric flux out of a closed surface is equal to the charge divided by the permittivity."

J.C. Maxwell may have found Gauss useful, but why do I need him in amateur antenna wotk?

Best regards, Richard Harrison, KB5WZI

3543. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 17:20:56 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175534456.581705.146240@q75g2000hsh.googlegroups.com>
Source record: 43710

On 2 Apr, 09:43, richardharri...@webtv.net (Richard Harrison) wrote:
> Art wrote:
>
> "Earlier I explained that Gaussian law can be expanded to provide a link
> to a radiator."
>
> I am one who missed Art`s explanation. I am curious as Gauss and
> antennas have not been directly related in my mind.
>
> Wikipedia says:
> "The total of electric flux out of a closed surface is equal to the
> charge divided by the permittivity."
>
> J.C. Maxwell may have found Gauss useful, but why do I need him in
> amateur antenna wotk?
>
> Best regards, Richard Harrison, KB5WZI

If you add time to both sides of the Gaussian law you have the
connection
which is more specific than that stated in Maxwell laws .Specific
means the shape of the radiating cluster in question upto and
including resulting radiation desirables. A quick search on "Gaussian"
will bring you upto date
All have been extensively stated.
Art
Art

3544. Re: What is the purpose of a DC injector?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 17:29:15 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1175534955.415851.32620@y80g2000hsf.googlegroups.com>
Source record: 43711

On Apr 2, 8:09 am, "MRW" <mr.whate...@gmail.com> wrote:
> Good day!
>
> In some of the articles that I'm reading, I keep seeing references to
> a DC injector use in RF ports. I really don't know what this means and
> what the DC injectors are used for. The only think that I can think of
> is for some DC voltage control for a voltage controlled oscillator
> (VCO).
>
> Thank you!

Besides the use Philo mentioned, such beasts are also used with network analyzers to inject a DC voltage (or current) to bias a device that's being tested. For example, if you want to use a network analyzer to look at the impedance of a varicap diode, or just to characterize the capacitance versus reverse voltage of an ordinary diode, you need a way to put a controlled DC bias on the diode. They typically consist of an RF choke to feed the DC onto the output connector, and a blocking capacitor to keep the RF input from shorting out the DC.

Cheers,
Tom

3545. Re: Best Yagi impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 17:45:11 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <%ibQh.32$yx2.2@newsfe12.lga>
Source record: 43712

"art" <aunwin@insightbb.com> wrote in message
news:1175526996.036089.26350@o5g2000hsb.googlegroups.com...
> On 2 Apr, 07:54, "Yuri Blanarovich" <K...@optonline.net> wrote:
>> > "art" <aun...@insightbb.com> wrote in message
>> >> Owen
>> >> I agree. Amateurs and probably some professionals place to much weight
>> >> on total antenna gain as opposed to maximum gain of the required
>> >> polarity and frankly polarity is always of primary importance for all
>> >> antennas. This rationality also include the attainment of less
>> >> required compromises with other factors when dealing with bandwidth
>> >> (per the above comments referncing matching.) Compromises with respect
>> >> to the design of yagi antennas is extensively described in most ARRL
>> >> publications and are best avoided.
>> >> Art
>>
>> OK, genius, what is POLARITY and how did we manage to ignore it over the
>> century plus of fiddling with antennas?
>> I promise to always use PLUS or POSITIVE polarity, never to engage any
>> NEGATIVE, which would be detrimental to Gaussian jambalaya.
>>
>> Yuri, K3BU
>
> Yuri, If you don't understand the foibles of polarization then the
> search
> for gain alone is pointless
>

Bunch of hooey! Have you heard of moonbounce and satellite antennas?

Art, if you can't read or you don't know what you write, then your
"communicating" here is pointless.

You wrote and queried POLARITY and you "don't understand me" with
POLARIZATION. Elementary my dear Watson!

I have doubts that you really understand antenna polarization, pattern
forming, ground effects and reality of RF signals propagating and antenna
role in their generation and interception.

Yuri, K3BU.us

3546. Re: a tuned counterpoise system question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 17:51:30 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <vig213paj6b6itqrq2ta9c8b4cge49vp2l@4ax.com>
Source record: 43693

On Sun, 01 Apr 2007 21:43:11 -0700, dansawyeror
<dansawyeror@comcast.net> wrote:

>Reg's c_poise
>program predicts a reasonable set of parameters, a 10 foot 'wire tube',
>one meter up, and a coil in the range of 50 uH. The program predicts a
>'ground' in the range of 5 Ohms.
>
>How oversimplified is this?

Hi Dan,

You don't include enough information to say. Certainly you can
provide us with the cogent details entered into Reggie's program,
couldn't you?

73's
Richard Clark, KB7QHC

3547. Re: Best Yagi impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 18:01:15 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175536875.608894.260610@p15g2000hsd.googlegroups.com>
Source record: 43713

On 2 Apr, 10:45, "Yuri Blanarovich" <K...@optonline.net> wrote:
> "art" <aun...@insightbb.com> wrote in message
>
> news:1175526996.036089.26350@o5g2000hsb.googlegroups.com...
>
>
>
>
>
> > On 2 Apr, 07:54, "Yuri Blanarovich" <K...@optonline.net> wrote:
> >> > "art" <aun...@insightbb.com> wrote in message
> >> >> Owen
> >> >> I agree. Amateurs and probably some professionals place to much weight
> >> >> on total antenna gain as opposed to maximum gain of the required
> >> >> polarity and frankly polarity is always of primary importance for all
> >> >> antennas. This rationality also include the attainment of less
> >> >> required compromises with other factors when dealing with bandwidth
> >> >> (per the above comments referncing matching.) Compromises with respect
> >> >> to the design of yagi antennas is extensively described in most ARRL
> >> >> publications and are best avoided.
> >> >> Art
>
> >> OK, genius, what is POLARITY and how did we manage to ignore it over the
> >> century plus of fiddling with antennas?
> >> I promise to always use PLUS or POSITIVE polarity, never to engage any
> >> NEGATIVE, which would be detrimental to Gaussian jambalaya.
>
> >> Yuri, K3BU
>
> > Yuri, If you don't understand the foibles of polarization then the
> > search
> > for gain alone is pointless
>
> Bunch of hooey! Have you heard of moonbounce and satellite antennas?
>
> Art, if you can't read or you don't know what you write, then your
> "communicating" here is pointless.
>
> You wrote and queried POLARITY and you "don't understand me" with
> POLARIZATION. Elementary my dear Watson!
>
> I have doubts that you really understand antenna polarization, pattern
> forming, ground effects and reality of RF signals propagating and antenna
> role in their generation and interception.

>
> Yuri, K3BU.us- Hide quoted text -
>
> - Show quoted text -

Fine, thus there is no need for you to ask questions of me. You can go back to the previous posting from which this question arose and ask your questions of Owen. He is one of the most knoweledgable persons in the bunch
and he responded to you.
Art

3548. I have both the R8 antenna and

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 20:14:22 UTC
From: garlicman <None>
Message-ID: <p8OdncttKp---YzbnZ2dnUVZ_o-knZ2d@comcast.com>
Source record: 43714

I am looking at buying a used Cushcraft R8 antenna that includes the "MN8 matching network." I can't find anything on the net about the matching network.

1. When I inspect the antenna, what specific things should I inspect for?
2. What good is the MN8 matching network. (I've got a Yaesu FT-990 if that makes a difference.)
3. Anything good to say about this antenna?

Thanks all!

3549. Re: Some thoughts relevant to measuring Tx eq src impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 20:37:19 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <3QdQh.5212$Kd3.4982@newssvr27.news.prodigy.net>
Source record: 43715

Owen Duffy wrote:
> These are not necessarily the same value. In fact, the dynamic source
> resistance is usually much higher than the required load resistance, and
> the ratio is usually higher for a pentode or tetrode than for a triode
> operating at the same voltage and current.
>
> So, immediately, there is an apparent conflict with the proposition that
> the dynamic source resistance and the load resistance are the same.

Does that take into account the step-down transformation?
The "source load" that results in the "source load line",
is not the physical load in the system. It is the physical
load in the system transformed by the transmission
line, the filters, the tank circuits, and the transformers.
In short, it is the transformed load seen directly
by the source - at the source.

For instance, a source may have a dynamic source
resistance of 1000 ohms. A 20:1 tank circuit
transformation takes it to 50 ohms. The load line
for that amp has a slope of 1000, not 50.
--
73, Cecil http://www.w5dxp.com

3550. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 20:40:35 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <46116A43.7070205@uci.edu>
Source record: 43716

Walter Maxwell wrote:
> On Wed, 28 Mar 2007 16:26:10 -0700, Jim Kelley <jwkelley@uci.edu> wrote:
>
>
>>Hi Cecil -
>>
>>We've been over this a hundred times already. The only way to get
>>past it is for you to try to understand that my comment and Eugene
>>Hecht's are both true. You need to find a way to understand that
>>there is no contradiction. You could start by noting that Hecht does
>>not contradict anything that I said. Nowhere does he claim that
>>interference redirects energy. That's your claim! And I haven't said
>>that energy isn't redirected. If redirection of energy takes place,
>>it takes place by reflection - not interference. It's just basic optics.
>>
>>73, ac6xg
>
>
> Sorry Jim, but I take exception to your statement, "If redirection of energy takes place,
> it takes place by reflection - not interference."
>
> It is the interference between the forward and reflected voltages and beween the forward
and reflected
> currents that yields the resultant voltage and current values of rho at the matching
point which produces
> either a virtual short or a virtual open circuit that causes the re-reflection. I have
shown this to be true
> in my QEX article of Mar/Apr 1998, entitled, "Examining the Mechanics of Wave
Interference in Impedance
> Matching. It is also Chapter 23 in Reflections 2.
>
> Using the complex values of rho I have shown the magnitude and phase relationships of the
aforementioned
> voltages and currents at the stub point that result in a virtual open circuit at the stub
point to waves
> reflected from a 3:1 mismatched load. The result is no reflections on the line between
the stub and the
> source, but a 3:1 SWR on the line between the mismatched load and the stub. If you don't
have a copy of this
> article please let me know and I'll send you one via email.
>
> Walt, W2DU

Hello Walt,

Please know that all of my comments are offered with all due respect, and there is a lot of respect due, and sincerely felt. However, though the numbers work out as one would expect given the effects that are observed, cause can only be attributed to phenomenon which is observed in nature. Electromagnetic waves can reflect only from real media. Though I admire the procedure you have devised for describing the complex effects of these reflections, the attempts to extend those ideas to describe real (not virtual) physical phenomena are unsupported from a scientific standpoint. Inference is insufficient proof.

Specifically: The nature of reflective surfaces does not depend on whether or not steady state has been reached. Their reflectivity does not change as a function voltage. Their nature does not depend on things which lie at the other end of the transmission line - even though the overall performance of the system certainly does. The nature of reflective surfaces does not depend on how many times the wave has bounced back and forth since the signal was initiated. These things are implied by your claim, unfortunately.

In the case of optical media, reflectivity is determined by the relative indices of refraction of the optical media comprising the reflective surface. Neither the indices, nor their ratio changes in response to illumination. Likewise, the reflective nature of impedance discontinuities on a transmission line depend entirely on physical constants analogous to optical indices of refraction. These attributes do not tend to change when illuminated by RF.

I thought we had covered this ground back a couple of years ago when the topic of reflections from virtual shorts and opens came up on this newsgroup. At that time it became clear that certain of the predictions made under the model did not match well with reality. For example, the virtual short circuit which can appear at the entrance to a stub on a transmission line would, according to the model, prevent the very currents necessary for creating the virtual condition from entering the stub in the first place. Reflections can occur only at physical discontinuities, not at a voltage to current ratio.

I was encouraged by the work we did on your transmission line impedance matching transformer diagram. In that, it seemed we agreed that the reflective coefficients were constant, were determined by the characteristic impedance's of the transmission lines, and that steady state was in fact comprised of the summation of a long series of multiple partial reflections. And, it correlates exactly with the descriptions and drawings of the analogous optical phenomena in the physics texts.

I really admire your work, Walt, but I feel this one point is clearly inconsistent with nature. Let me hasten to add that I see nothing at all wrong with making calculations based on this model. Its utility and beauty lies in its accuracy at the macroscopic level. I also think that your treatise on interference as it applies to the

reflections found in RF systems is well done. The error I find is in your notion of interference as a cause of reflection, which I assume is extrapolated from your notion that virtual shorts and opens cause reflections, and, that real reflective coefficients may be calculated from virtual impedance's.

Best Regards,

Jim Kelley

3551. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 20:52:01 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <R1eQh.5218$Kd3.2186@newssvr27.news.prodigy.net>
Source record: 43717

Jim Kelley wrote:
> On Mar 29, 7:33 pm, Cecil Moore <nos...@w5dxp.com> wrote:
>> Unless it is located at a
>> physical impedance discontinuity, absolutely nothing happens
>> because of the V/I ratio.
>
> The last half of the sentence is absolute correct. The V/I ratio is a
> result, not a cause.

Yep, I didn't say that very well. Let me try again.
EM wave energy in a transmission line can only change
directions at a physical impedance discontinuity.
--
73, Cecil http://www.w5dxp.com

3552. Re: I have both the R8 antenna and

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 21:04:17 UTC
From: Jim - NN7K <NN7K@NOWAY.NET>
Message-ID: <mdeQh.2361$H_5.981@newssvr23.news.prodigy.net>
Source record: 43718

Try this : http://www.iol.ie/~bravo/r7-vertical.htm

http://www.telusplanet.net/public/telwest/r7/cushcraft-trap.htm

Tho, this is for the R7 , these are quite similar
except the R-8 also works on 6 meters. - the r7
can be easily modified to work on 6 meters. useing
a Hustler 2 meter 5/8 (or 6 meter 1/4 wave) to
3-48 mount, and bolt to the top part of the r/7.
These appear frequently on Ebay, tho are obsolete
from hustler! Cushcraft manuals are also
availible at Cuscraft's website in pdf format.
As info, Jim NN7K

garlicman wrote:
> I am looking at buying a used Cushcraft R8 antenna that includes the "MN8
> matching network." I can't find anything on the net about the matching
> network.
>
> 1. When I inspect the antenna, what specific things should I inspect for?
> 2. What good is the MN8 matching network. (I've got a Yaesu FT-990 if that
> makes a difference.)
> 3. Anything good to say about this antenna?
>
> Thanks all!
>
>

3553. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 21:04:51 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <TdeQh.5221$Kd3.2978@newssvr27.news.prodigy.net>
Source record: 43719

walt wrote:
> Richard, it's very uncommon, but on this issue I'm having a difficult
> time following you. The only reason that I can conclude for my lack of
> understanding is that our definition of 'interference' must be
> divergent. So I'll just drop the discussion--OK?

I am ignorant of any technical words (if they exist)
for what I am about to describe so bear with me.

Interference can have totally different outcomes so I
have to ask, are there different kinds of interference?

For instance, the interference between the forward wave
and reflected wave that causes standing waves has no
effect on either the forward wave or the reflected wave.
In an unchanging Z0 environment, the forward wave and
reflected wave pass like ships in the night. For want
of a better term, I will call this type of interference
"temporary interference".

The other type of interference occurs when reflections
are eliminated at a Z0-match or a non-reflective thin-
film. This is *wave cancellation* between two coherent
waves of equal magnitude and opposite phase traveling
in the same path in the direction. For want of a better
term, I will call that type of interference "permanent
interference" since the two waves are canceled and
disappear. Their energy components are redistributed.

Are there any technical words to differentiate between
the two types of interference?
--
73, Cecil http://www.w5dxp.com

3554. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 21:10:31 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <bjeQh.5223$Kd3.2554@newssvr27.news.prodigy.net>
Source record: 43720

Jim Kelley wrote:
> Cecil Moore <nos...@w5dxp.com> wrote:
>> Note that I is "irradiance", not current.
>
> Also note that 'Watt' isn't a unit of irradiance or current.

Close enough for a laser beam. The unit of irradiance is
watts/unit-area. The square of the radius of the laser
beam times pi can be considered to be the unit area. Thus
the unit area is implied and fixed but not specified.
The same is true for a coaxial transmission line. Given the
line, the unit area term can be dropped without error.
--
73, Cecil http://www.w5dxp.com

3555. Re: Antenna Theory Question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 21:13:37 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <46117204$0$36438$4fafbaef@reader5.news.tin.it>
Source record: 43721

> The current that flows into the antenna structure (two bars) radiate.
> So part of the incident field is reradiated by the dipole. It doesn't
> matter whether the antenna current is caused by a transmitter or
> incident field.

Win,

your explanation is very good and convincing. I believe that most of us would read with interest some further remarks on what happens in the case of a shorted element (e.g. a director or a reflector), instead of the driven element.

In those cases all received energy must be re-radiated, but more details on that mechanism would be welcome.

73

Tony I0JX

3556. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 21:14:59 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <nneQh.5225$Kd3.4936@newssvr27.news.prodigy.net>
Source record: 43722

Keith Dysart wrote:
> It would appear that you are confusing the possible complexities
> of a class C power amplifier with the simplicity of the generator
> in the experiment I proposed.

I am differentiating between what is possible in the
real world and what is possible in your mind. Presumably,
technical miracles are possible in your mind. The miracle
of rendering every circulator in the world obsolete by
adding a ten cent resistor is a miracle that you should
definitely pursue.

> - Will there be ghosts?
> If the answer is yes...
> - What is the magnitude of the first re-reflection?

The answer is yes, but you have not given enough
information to solve the problem. Again, please
furnish a math model of a real world source.
--
73, Cecil http://www.w5dxp.com

3557. Re: I have both the R8 antenna and

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 21:15:33 UTC
From: Jim - NN7K <NN7K@NOWAY.NET>
Message-ID: <VneQh.12873$Um6.1874@newssvr12.news.prodigy.net>
Source record: 43723

Correction Guess I cant type--
try
http://www.iol.ie/~bravo/r7_vertical.htm

and
http://www.telusplanet.net/public/telwest/R7/cushcraft_trap.htm

Jim

Jim - NN7K wrote:
> Try this : http://www.iol.ie/~bravo/r7-vertical.htm
>
> http://www.telusplanet.net/public/telwest/r7/cushcraft-trap.htm
>
> Tho, this is for the R7 , these are quite similar
> except the R-8 also works on 6 meters. - the r7 can be easily modified
> to work on 6 meters. useing
> a Hustler 2 meter 5/8 (or 6 meter 1/4 wave) to 3-48 mount, and bolt to
> the top part of the r/7.
> These appear frequently on Ebay, tho are obsolete
> from hustler! Cushcraft manuals are also
> availible at Cuscraft's website in pdf format.
> As info, Jim NN7K
>
>
> garlicman wrote:
>> I am looking at buying a used Cushcraft R8 antenna that includes the
>> "MN8 matching network." I can't find anything on the net about the
>> matching network.
>>
>> 1. When I inspect the antenna, what specific things should I inspect for?
>> 2. What good is the MN8 matching network. (I've got a Yaesu FT-990 if
>> that makes a difference.)
>> 3. Anything good to say about this antenna?
>>
>> Thanks all!
>>
>>

3558. Re: Some thoughts relevant to measuring Tx eq src impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 21:17:23 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99074A235A77Fnonenowhere@61.9.191.5>
Source record: 43724

Cecil Moore <nospam@w5dxp.com> wrote in
news:3QdQh.5212$Kd3.4982@newssvr27.news.prodigy.net:

> Owen Duffy wrote:
>> These are not necessarily the same value. In fact, the dynamic source
>> resistance is usually much higher than the required load resistance,
>> and the ratio is usually higher for a pentode or tetrode than for a
>> triode operating at the same voltage and current.
>>
>> So, immediately, there is an apparent conflict with the proposition
>> that the dynamic source resistance and the load resistance are the
>> same.
>
> Does that take into account the step-down transformation?

Cecil,

The two previous paragraphs that you have omitted in your quote provide the context for the paragraphs that you did quote. The context is in the anode circuit of the PA being discussed.

> The "source load" that results in the "source load line",

I don't really understand the concepts of a "source load" or "source load line". Perhaps your meaning is the load in the anode circuit of the PA, I will read on with that interpretation.

> is not the physical load in the system. It is the physical
> load in the system transformed by the transmission
> line, the filters, the tank circuits, and the transformers.
> In short, it is the transformed load seen directly
> *by the source - at the source*.

Ok...

>
> For instance, a source may have a dynamic source
> resistance of 1000 ohms. A 20:1 tank circuit
> transformation takes it to 50 ohms. The load line
> for that amp has a slope of 1000, not 50.

I am not comparing apples with oranges, not comparing impedances on different sides of the pi network.

To expand the first example with the details:
-if Ql is 10 and Ra is 1400 ohms, a 1% decrease in the extenal 50 ohm load results in a 0.26% decrease in the anode load impedance

Rl=50, |Za|=1400.0;
Rl=49.5, |Za|=1396.4, a 0.26% decrease in |Za| for a 1% decrease in Rl.

You cannot think of a PI coupler (and the original post was discussing a PI coupler) in this application as an idealised symmetric n:1 transformer, whilst this coupler has an apparent ratio of 28:1 (1400/50), incremental impedance changes are in a quite different ratio.

A PI network is not in the general case symmetric, your example of a 20:1 "tank" circuit (and I would argue that "tank" is usually used to mean a parallel tuned anode circuit, typically link coupled) is not symmetric and the point of my post was to say that Zin/Zout is not a straight line, and general analyses based on a fixed ratio are likely to be flawed.

Owen

3559. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 21:19:42 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <OreQh.5226$Kd3.968@newssvr27.news.prodigy.net>
Source record: 43725

Keith Dysart wrote:
> This means that reflecting back into the generator from the
> left end of the 75 Ohm line will be the same Pref2 = 229.6 W
> that exists on the right side of the 75 Ohm line section.

Since ZERO reflected energy exists anywhere on the
75 ohm line, your assertion doesn't make any sense.

Now consider that the 75 ohm line can be one foot
long and everything is the same as the 1WL of 75
ohm line (except the delays).

If adding one foot of 75 ohm line inside the source
completely eliminates reflections, then the source
impedance doesn't matter at all because all it is
delivering is a voltage.
--
73, Cecil http://www.w5dxp.com

3560. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 21:23:06 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <_ueQh.5227$Kd3.676@newssvr27.news.prodigy.net>
Source record: 43726

Richard Clark wrote:
> So, are you still sleeping with Hecht?

As a matter of fact, I often fall asleep with
"Optics" clutched between my hands. You really
should try reading it sometime.
--
73, Cecil http://www.w5dxp.com

3561. Re: Some thoughts relevant to measuring Tx eq src impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 21:35:57 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <1HeQh.5231$Kd3.4548@newssvr27.news.prodigy.net>
Source record: 43727

Owen Duffy wrote:
> Cecil Moore <nospam@w5dxp.com> wrote:
>> Does that take into account the step-down transformation?
>
> The two previous paragraphs that you have omitted in your quote provide
> the context for the paragraphs that you did quote. The context is in the
> anode circuit of the PA being discussed.

I'm in the process of moving and am having a hard time
keeping up.

If the amplifier were a class-A amp with a 50 ohm
load resistor driving a 50 ohm load, would what
you say still be true?
--
73, Cecil http://www.w5dxp.com

3562. Re: Some thoughts relevant to measuring Tx eq src impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 22:03:05 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990751E2E8F60nonenowhere@61.9.191.5>
Source record: 43728

Cecil Moore <nospam@w5dxp.com> wrote in
news:1HeQh.5231$Kd3.4548@newssvr27.news.prodigy.net:

> Owen Duffy wrote:
>> Cecil Moore <nospam@w5dxp.com> wrote:
>>> Does that take into account the step-down transformation?
>>
>> The two previous paragraphs that you have omitted in your quote
>> provide the context for the paragraphs that you did quote. The
>> context is in the anode circuit of the PA being discussed.
>
> I'm in the process of moving and am having a hard time
> keeping up.
>
> If the amplifier were a class-A amp with a 50 ohm
> load resistor driving a 50 ohm load, would what
> you say still be true?

I don't understand "a 50 ohm load resistor driving a 50 ohm load".

The transformation issue pertains to the PI coupler, you cannot treat a
PI coupler in the general case as an idealised symmetric n:1 transformer.
It certainly isn't in a typical single ended RF linear amplifier.

Owen

3563. Re: Antenna Theory Question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 22:13:31 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131300emmmetkcb@corp.supernews.com>
Source record: 43729

Antonio Vernucci wrote:
> Win,
>
> your explanation is very good and convincing. I believe that most of us
> would read with interest some further remarks on what happens in the
> case of a shorted element (e.g. a director or a reflector), instead of
> the driven element.
>
> In those cases all received energy must be re-radiated, but more details
> on that mechanism would be welcome.

The impinging field induces a current on the element. The current produces a field which radiates. An AC current flowing on a conductor creates a field regardless of how that current is produced. It doesn't matter whether the current is due to conduction from a source, by induction from a field, or any combination of the two -- the field resulting from the current is exactly the same. Yagis and other "parasitic" arrays depend entirely on this phenomenon for their operation.

Roy Lewallen, W7EL

3564. Re: Some thoughts relevant to measuring Tx eq src impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 22:18:53 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1175552333.358445.68350@d57g2000hsg.googlegroups.com>
Source record: 43730

On Apr 1, 3:38 pm, Owen Duffy <n...@no.where> wrote:
> I am intrigued that many people have attempted to measure the equivalent
> source impedance of a transmitter with such varying results.
>
> On the one hand is the assertion that a transmitter adjusted for optimum
> operation is comparable with a linear source, and the source impedance
> must therefore be the conjugate of the load.
>
> On the other hand is the analysis usually used to engineer a PA that
> should reveal the sensitivity of output power to small changes in load
> impedance and therefore an equivalent dynamic source impedance.
>
> Taking a valve amplifier as an example for discussion...
>
> On first glance, the change in peak anode voltage and current is
> indicated on the anode I/V characteristics by laying an incrementally
> different load line on the chart and observing the change with peak grid
> voltage held constant. The deltas then could be used to calculate a
> dynamic source resistance at the anode. Essentially, the value calculated
> will be the inverse of the slope of the constant grid voltage line.
>
> The required anode load resistance is the resistance calculated from the
> fundamental anode RMS voltage divided by the fundament anode RMS current.
>
> These are not necessarily the same value. In fact, the dynamic source
> resistance is usually much higher than the required load resistance, and
> the ratio is usually higher for a pentode or tetrode than for a triode
> operating at the same voltage and current.
>
> So, immediately, there is an apparent conflict with the proposition that
> the dynamic source resistance and the load resistance are the same.
>
> Many of the experiments to try to prove that the PA is "conjugate
> matched" have used a valve transmitter with a PI coupler, so let us
> examine the behaviour of a PI coupler.
>
> I have designed PI couplers for a 7MHz transmitter using the formulas
> given in Eimac's "Care and Feeding of Power Tubes". The formulas seem to
> assume that the intrinsic Q of the components is infinite, ie that the
> components themselves are lossless. This assumption introduces error, but
> my supposition is that for very small changes in load resistance, the
> assumption that Qi is very large will not seriously impact the models.
>
> Models were constructed with loaded Q ranging from 8 to 21, and for a

> range of anode load impedances, the the sensitivity of the impedance
> presented to the anode to small changes in the nominal 50 ohm external
> load.
>
> The interesting observation is that a very small decrease in the nominal
> 50 ohms load can result in a different relative change in the anode load,
> indeed, it can result in an increase in anode load impedance, and the
> sensitivity depends on loaded Q and the required anode load resistance.
>
> For example:
> -if Ql is 10 and Ra is 1400 ohms, a 1% decrease in the extenal 50 ohm
> load results in a 0.26% decrease in the anode load impedance; and
> -if Ql is 12 and Ra is 1400 ohms, a 1% decrease in the extenal 50 ohm
> load results in a 0.48% decrease in the anode load impedance.
>
> For this very small change in operating Q, the effect of a small change
> in external load resistance is quite different on the anode load
> impedance.
>
> A further set of examples:
> -if Ql is 10 and Ra is 1260 ohms, a 1% decrease in the extenal 50 ohm
> load results in a 0.32% decrease in the anode load impedance; and
> -if Ql is 12 and Ra is 1260 ohms, a 1% decrease in the extenal 50 ohm
> load results in a 0.52% decrease in the anode load impedance.
>
> So, if the PA is "tuned up" to deliver a slightly different anode load
> resistance (in this case 10% lower), the sensitivity of anode load
> impedance to small changes in the external 50 ohm load is different.
>
> The modelling suggests that conventional circuit theory can explain some
> of the experimental results that are otherwise ascribed to some magical
> behaviour of the PI network.
>
> Owen

(Yes, I was well aware that you were taking issue with the usually assumed use of "optimal." Sorry if my previous posting might have suggested you agreed with it.)

More on how things reflect through a pi network: consider a pi network at 5MHz designed to present a 1400 ohm load to the plates of an amplifier, given a 50 ohm output load. One such network is 215pF at the plates (including plate capacitance), 5.397uH, and 950pF at the output. If the plate resistance--the net resistance you see looking back into the plates, excluding the capacitance at that node (since it's included in the pi network), is 2000 ohms, the impedance seen looking back into the pi output terminals is 50+j18: the resistive change at one end resulted in an almost purely reactive change at the other. If Rplate = 4000 ohms, the impedance looking back into the pi output is about 36+j45. Rplate = 6000 ohms ---> 26+j53.

At least in theory, it's possible to use a 1/4 wave transmission line to match the 50 ohm load so it presents 1400 ohms to the plates: a 264.57 ohm line will do the trick. But then plate resistances of 2000, 4000 and 6000 ohms reflect pure source resistances of 35, 17.5 and 11-2/3 ohms, respectively.

You can make a lower Q matching network that still has good attenuation of harmonics by using more L-C sections. If you simply add an inductor to the output of a pi network, you can again match a 50 ohm load so it presents 1400 ohms to the plates, by using (still at 5MHz) 3.1uH to the output, 258pF shunt to ground, 16.74uH in series to the plates, and net 50pF from plates to ground. Now plate resistances of 2000, 4000 and 6000 ohms reflect the following source impedances at the output which is designed to be loaded with 50 ohms: 43.32+j15.33, 26.19+j31.88 and 18.16+j35.73.

Adding another L-C "L" section to the output (3 inductors in series, three capacitors shunt to ground) you can end up with a network that yields, with the same 1400 ohm load to the plates with a 50 ohm output load, and the same 2000, 4000 and 6000 ohm plate resistances, 65.18+j13.81, 85.88+j62.5 and 82.11+j96.58 ohms source impedance.

In summary, the output network can -- does -- have a big effect on exactly what a given effective plate resistance will reflect to the output port. There's a huge variety of possible output matching networks, and an infinite set of part values, that will yield the "proper" plate (or collector or drain...) load, for good power output with reasonable efficiency and reasonably low distortion. There usually isn't much reason to CARE what the source impedance is, looking back into the output port, but if you do care, make sure that you understand what your output network is doing to transform the plate impedance as seen at the output port.

Cheers,
Tom

3565. Re: Comparing Tuner Match to EZNEC Impedance Prediction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 22:21:29 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <13130fd31j6qad8@corp.supernews.com>
Source record: 43731

dykesc wrote:
> I'm fairly new here so if this post is not appropriate for this group,
> direct me elsewhere.
>
> I am using the EZNEC demo to analyze an Off Center Fed sloper I am
> using on 75m. The antenna is being fed with 85 feet of 450 ohm ladder
> line which runs all the way to my operating location. At 3.9405 Mhz,
> EZNEC shows an impedance of 28.11 -j102.2 at the transmission line
> input (Alt Z0 of 450 ohms). My MFJ auto tuner (L-Network) is actually
> matching the sloper at a 1.1 SWR with an inductor value of 5.34 uH and
> a capacitor value of 605 pf. The capacitor is shunted on the
> transmitter side of the inductor.

I'm afraid that your model isn't adequate for the antenna. In an off center fed antenna, there will be considerable common mode feedline current -- in other words, the currents on the two feedline conductors won't be equal and opposite, so the feedline will radiate and is an integral part of the antenna. A model has to include the feedline (as two wires, not as a transmission line model which doesn't radiate) in the correct orientation relative to the antenna, plus the entire path to ground from the transmitter. This path is seldom known. A simpler model which ignores the very significant contribution of the radiating feedline won't give meaningful results.

> I am using a formula I found in the L-Network section of Chapter 25 of
> the ARRL Antenna Book to take the MFJ tuner values above and calculate
> the impedance the tuner is matching. There are a couple of statements
> in this section of the Antenna Book which lead me to believe that L-
> Networks are used for matching purely resistive loads.

This is not at all true. I'm guessing you're misinterpreting what's written there. If not, and it really says that, it's an error which should be corrected.

> It also states
> that loads containing "reactance" can be accounted for in the L-
> Network inductor or capacitor values. Do I need to eliminate the
> portion of the tuner inductor value being used to bring the system to
> resonance before I calculate the impedance transform? If so is there a
> way to do this or is my whole approach here off base?

L network values for matching are best done by beginning with the required impedances at both ports, then directly calculating the necessary component values. A number of programs are available to do this calculation for you, or if you prefer, it can be done quite easily graphically with a Smith chart.

Roy Lewallen, W7EL

3566. Re: Some thoughts relevant to measuring Tx eq src impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 22:50:43 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1175554243.364112.151510@b75g2000hsg.googlegroups.com>
Source record: 43732

On Apr 2, 3:03 pm, Owen Duffy <n...@no.where> wrote:
> Cecil Moore <nos...@w5dxp.com> wrote
innews:1HeQh.5231$Kd3.4548@newssvr27.news.prodigy.net:
>
> > Owen Duffy wrote:
> >> Cecil Moore <nos...@w5dxp.com> wrote:
> >>> Does that take into account the step-down transformation?
>
> >> The two previous paragraphs that you have omitted in your quote
> >> provide the context for the paragraphs that you did quote. The
> >> context is in the anode circuit of the PA being discussed.
>
> > I'm in the process of moving and am having a hard time
> > keeping up.
>
> > If the amplifier were a class-A amp with a 50 ohm
> > load resistor driving a 50 ohm load, would what
> > you say still be true?
>
> I don't understand "a 50 ohm load resistor driving a 50 ohm load".
>
> The transformation issue pertains to the PI coupler, you cannot treat a
> PI coupler in the general case as an idealised symmetric n:1 transformer.
> It certainly isn't in a typical single ended RF linear amplifier.
>
> Owen

A class A RF amplifier can certainly be fed its DC through an RF
choke, just as is done with other classes. There's no need to limit
the discussion to class A.

If you put a resistance Rshunt in parallel with the plates (or
collectors or drains), at the plates, such that the plate resistance,
Rplate, in parallel with Rshunt equals the load presented by the
output network to the plate circuit, then the source impedance seen at
the output terminals will be the same as the load impedance. That may
be a little confusing...let me put it differently. Consider an output
passive, linear network with two ports, the Plate port and the Load
port. When the Load port is loaded with Zload, the rated load
impedance, the Plate port presents an impedance to the plates, call it
Zpnetwork. If you put an additional load at the plates such that the
Plate port of the network "sees" an impedance equal to Zpnetwork
looking toward the plates, then when the network is connected to the
plates and that additional load, you will "see" a source impedance
equal to the conjugate of Zload looking back into the network's Load

port.

For example, let's say that we have a 6000 ohm plate resistance, and a 4000 ohm resistor we put in parallel with the plates (put it shunt across the plate DC feed RF choke which is considered to be essentially infinite impedance). The net resistance looking into that is 2400 ohms. Assume a load of 50+j50 ohms. Assume an output network that, when loaded with 50+j50 ohms, transforms that to 2400 ohms, resistive. Then the impedance looking back into the output port of the output network will be 50-j50 ohms. It doesn't matter if it's a pi network, a filter, or a 81.52 degree long piece of 342.73 ohm "lossless" transmission line.

But if the goal is to deliver as much clean RF power to the external load as you can, why would you put an RF-dissipating resistor into your amplifier?

Cheers,
Tom

3567. Re: Some thoughts relevant to measuring Tx eq src impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 22:58:48 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <IUfQh.24090$uo3.16335@newssvr14.news.prodigy.net>
Source record: 43733

K7ITM wrote:
> But if the goal is to deliver as much clean RF power to the external
> load as you can, why would you put an RF-dissipating resistor into
> your amplifier?

That's the first amplifier that is taught in EE 202.
--
73, Cecil http://www.w5dxp.com

3568. Re: Some thoughts relevant to measuring Tx eq src impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-02 23:52:32 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99076471D630nonenowhere@61.9.191.5>
Source record: 43734

Cecil Moore <nospam@w5dxp.com> wrote in news:IUfQh.24090$uo3.16335
@newssvr14.news.prodigy.net:

> That's the first amplifier that is taught in EE 202.

I missed the relevance of the class A amplifier.

The example that I worked up in the original post was for a design anode load of 1400 ohms, using a practical PI coupler to a 50 ohm external load. It is theoretical treatment of the kind of coupler circuit that you would expect to be in the transmitter for which Walt reported his detailed measurements.

Owen

3569. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 00:01:53 UTC
From: walt <walt@w2du.com>
Message-ID: <1175558513.772894.216870@e65g2000hsc.googlegroups.com>
Source record: 43735

On Apr 2, 9:40 pm, Jim Kelley <jwkel...@uci.edu> wrote:
> Walter Maxwell wrote:
> > On Wed, 28 Mar 2007 16:26:10 -0700, Jim Kelley <jwkel...@uci.edu> wrote:
>
> >>Hi Cecil -
>
> >>We've been over this a hundred times already. The only way to get
> >>past it is for you to try to understand that my comment and Eugene
> >>Hecht's are both true. You need to find a way to understand that
> >>there is no contradiction. You could start by noting that Hecht does
> >>not contradict anything that I said. Nowhere does he claim that
> >>interference redirects energy. That's your claim! And I haven't said
> >>that energy isn't redirected. If redirection of energy takes place,
> >>it takes place by reflection - not interference. It's just basic optics.
>
> >>73, ac6xg
>
> > Sorry Jim, but I take exception to your statement, "If redirection of energy takes
place,
> > it takes place by reflection - not interference."
>
> > It is the interference between the forward and reflected voltages and beween the
forward and reflected
> > currents that yields the resultant voltage and current values of rho at the matching
point which produces
> > either a virtual short or a virtual open circuit that causes the re-reflection. I have
shown this to be true
> > in my QEX article of Mar/Apr 1998, entitled, "Examining the Mechanics of Wave
Interference in Impedance
> > Matching. It is also Chapter 23 in Reflections 2.
>
> > Using the complex values of rho I have shown the magnitude and phase relationships of
the aforementioned
> > voltages and currents at the stub point that result in a virtual open circuit at the
stub point to waves
> > reflected from a 3:1 mismatched load. The result is no reflections on the line between
the stub and the
> > source, but a 3:1 SWR on the line between the mismatched load and the stub. If you
don't have a copy of this
> > article please let me know and I'll send you one via email.
>
> > Walt, W2DU
>
> Hello Walt,

>
> Please know that all of my comments are offered with all due respect,
> and there is a lot of respect due, and sincerely felt. However,
> though the numbers work out as one would expect given the effects
> that are observed, cause can only be attributed to
> phenomenon which is observed in nature. Electromagnetic
> waves can reflect only from real media. Though I admire the procedure
> you have devised for describing the complex effects of these
> reflections, the attempts to extend those ideas to describe real (not
> virtual) physical phenomena are unsupported from a scientific
> standpoint. Inference is insufficient proof.
>
> Specifically: The nature of reflective surfaces does not depend on
> whether or not steady state has been reached. Their reflectivity does
> not change as a function voltage. Their nature does not depend on
> things which lie at the other end of the transmission line - even
> though the overall performance of the system certainly does. The
> nature of reflective surfaces does not depend on how many times the
> wave has bounced back and forth since the signal was initiated. These
> things are implied by your claim, unfortunately.
>
> In the case of optical media, reflectivity is determined by the
> relative indices of refraction of the optical media comprising the
> reflective surface. Neither the
> indices, nor their ratio changes in response to illumination.
> Likewise, the reflective nature of impedance discontinuities on a
> transmission line depend entirely on physical constants analogous to
> optical indices of refraction. These attributes do not tend to change
> when illuminated by RF.
>
> I thought we had covered this ground back a couple of years ago when
> the topic of reflections from virtual shorts and opens came up on this
> newsgroup. At that time it became clear that certain of the
> predictions made under the model did not match well with reality.
> For example, the virtual short circuit which can appear at the
> entrance to a stub on a transmission line would, according to the
> model, prevent the very currents necessary for creating the virtual
> condition from entering the stub in the first place. Reflections can
> occur only at physical discontinuities, not at a voltage to current ratio.
>
> I was encouraged by the work we did on your transmission line
> impedance matching transformer diagram. In that, it seemed we agreed
> that the reflective coefficients were constant, were determined by the
> characteristic impedance's of the transmission lines, and that steady
> state was in fact comprised of the summation of a long series of
> multiple partial reflections. And, it correlates exactly with the
> descriptions and drawings of the analogous optical phenomena in the
> physics texts.
>
> I really admire your work, Walt, but I feel this one point is clearly

> inconsistent with nature. Let me hasten to add that I see nothing at
> all wrong with making calculations based on this model. Its utility
> and beauty lies in its accuracy at the macroscopic level. I also
> think that your treatise on interference as it applies to the
> reflections found in RF systems is well done. The error I find is in
> your notion of interference as a cause of reflection, which I assume
> is extrapolated from your notion that virtual shorts and opens cause
> reflections, and, that real reflective coefficients may be calculated
> from virtual impedance's.
>
> Best Regards,
>
> Jim Kelley- Hide quoted text -
>
> - Show quoted text -

Hi Jim,

Thanks for taking the time to write such an insightful response--I
was
expecting it.

At the moment I'm in a hotel in Jacksonville, going through pre-op for
spinal
surgery. I'll be home Wednesday, and that will be the earliest I'll
have the
opportunity to review your comments. So I'll get back with you after
having the
time to review it.

Thanks again, Jim,

3570. Re: Best Yagi impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 00:22:55 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <T7hQh.54$EJ7.12@newsfe12.lga>
Source record: 43736

"art" <aunwin@insightbb.com> wrote in message
news:1175536875.608894.260610@p15g2000hsd.googlegroups.com...
> On 2 Apr, 10:45, "Yuri Blanarovich" <K...@optonline.net> wrote:
>> "art" <aun...@insightbb.com> wrote in message
>>
>> news:1175526996.036089.26350@o5g2000hsb.googlegroups.com...
>>
>>
>>
>>
>>
>> > On 2 Apr, 07:54, "Yuri Blanarovich" <K...@optonline.net> wrote:
>> >> > "art" <aun...@insightbb.com> wrote in message
>> >> >> Owen
>> >> >> I agree. Amateurs and probably some professionals place to much
>> >> >> weight
>> >> >> on total antenna gain as opposed to maximum gain of the required
>> >> >> polarity and frankly polarity is always of primary importance for
>> >> >> all
>> >> >> antennas. This rationality also include the attainment of less
>> >> >> required compromises with other factors when dealing with bandwidth
>> >> >> (per the above comments referncing matching.) Compromises with
>> >> >> respect
>> >> >> to the design of yagi antennas is extensively described in most
>> >> >> ARRL
>> >> >> publications and are best avoided.
>> >> >> Art
>>
>> >> OK, genius, what is POLARITY and how did we manage to ignore it over
>> >> the
>> >> century plus of fiddling with antennas?
>> >> I promise to always use PLUS or POSITIVE polarity, never to engage any
>> >> NEGATIVE, which would be detrimental to Gaussian jambalaya.
>>
>> >> Yuri, K3BU
>>
>> > Yuri, If you don't understand the foibles of polarization then the
>> > search
>> > for gain alone is pointless
>>
>> Bunch of hooey! Have you heard of moonbounce and satellite antennas?
>>
>> Art, if you can't read or you don't know what you write, then your
>> "communicating" here is pointless.

>>
>> You wrote and queried POLARITY and you "don't understand me" with
>> POLARIZATION. Elementary my dear Watson!
>>
>> I have doubts that you really understand antenna polarization, pattern
>> forming, ground effects and reality of RF signals propagating and antenna
>> role in their generation and interception.
>>
>> Yuri, K3BU.us- Hide quoted text -
>>
>> - Show quoted text -
>
> Fine, thus there is no need for you to ask questions of me. You can go
> back to the previous posting from which this question arose and ask
> your questions of Owen. He is one of the most knoweledgable persons in
> the bunch
> and he responded to you.
> Art
>

I asked about POLARITY you mentioned and you answer with crapola.
If you don't know difference between polarity and polarization, or between
reflector and director, then your confusing ramblings are just that.

Sayonara!

We sorted out Owens comments in case you are behind reading.

73 Yuri, K3BU

3571. Re: Some thoughts relevant to measuring Tx eq src impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 00:28:04 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1175560084.744636.323770@d57g2000hsg.googlegroups.com>
Source record: 43737

On Apr 2, 3:58 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> K7ITM wrote:
> > But if the goal is to deliver as much clean RF power to the external
> > load as you can, why would you put an RF-dissipating resistor into
> > your amplifier?
>
> That's the first amplifier that is taught in EE 202.
> --
> 73, Cecil http://www.w5dxp.com

You haven't moved beyond that "first amplifier that is taught in EE 202"?

If your goal is to deliver as much clean RF power to the external load as you can, why would you put an RF-dissipating resistor into your amplifier?

Cheers,
Tom

3572. Re: Some thoughts relevant to measuring Tx eq src impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 00:52:58 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <KzhQh.11856$JZ3.4772@newssvr13.news.prodigy.net>
Source record: 43738

K7ITM wrote:
> You haven't moved beyond that "first amplifier that is taught in EE
> 202"?

If one can understand the simple amplifier then one
can move on to a more complicated amplifier.

> If your goal is to deliver as much clean RF power to the external load
> as you can, why would you put an RF-dissipating resistor into your
> amplifier?

My goal is not to deliver as much power as possible.
My goal is to understand the nature of the source
starting with the simplest one.
--
73, Cecil http://www.w5dxp.com

3573. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 01:51:28 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eusbuucts1@news.service.uci.edu>
Source record: 43739

Cecil Moore wrote:
> Jim Kelley wrote:
>
>> On Mar 29, 7:33 pm, Cecil Moore <nos...@w5dxp.com> wrote:
>>
>>> Unless it is located at a
>>> physical impedance discontinuity, absolutely nothing happens
>>> because of the V/I ratio.
>>
>>
>> The last half of the sentence is absolute correct. The V/I ratio is a
>> result, not a cause.
>
>
> Yep, I didn't say that very well. Let me try again.
> EM wave energy in a transmission line can only change
> directions at a physical impedance discontinuity.

Accordingly, the fraction of energy that changes direction at a
physical discontinuity is dictated by the physical constants of the
physical discontinuity; index of refraction in the case of optics;
impedance in the case of transmission lines.

73, Jim AC6XG

3574. Ellipticity to axial ratio transformation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 02:05:27 UTC
From: Bobby <originalbobjones@aim.com>
Message-ID: <1175565927.696496.116970@n59g2000hsh.googlegroups.com>
Source record: 43740

All,

A little bit of help...

If you have an antenna with an ellipticity of x dB, how do you find
the axial ratio of this antenna?

Any help is useful and is greatly appreciated...

Bobby.

3575. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 02:11:17 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eusd44dsb1@news.service.uci.edu>
Source record: 43741

Cecil Moore wrote:

> Jim Kelley wrote:
>
>> Cecil Moore <nos...@w5dxp.com> wrote:
>>
>>> Note that I is "irradiance", not current.
>>
>>
>> Also note that 'Watt' isn't a unit of irradiance or current.

> Given the
> line, the unit area term can be dropped without error.

In the engineering profession, it would probably mean without job; in
science, without publication.

ac6xg

3576. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 02:23:39 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175567019.881938.302220@y80g2000hsf.googlegroups.com>
Source record: 43742

On Apr 2, 5:14 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > It would appear that you are confusing the possible complexities
> > of a class C power amplifier with the simplicity of the generator
> > in the experiment I proposed.
>
> The miracle
> of rendering every circulator in the world obsolete by
> adding a ten cent resistor is a miracle that you should
> definitely pursue.

You raise an interesting question. What are the design tradeoffs
that drive choosing between a ten cent resistor and a circulator?
I suspect it relates mostly to the powers involved. The ten cent
resistor seems to see application in signal generators where the
extra power it dissipates is not of concern and it really is a
ten cent resistor. In high power applications, it definitely
would not be a ten cent resistor and having an amplifier which
can provide twice the normally required output voltage would be
far from efficient. It is perhaps here that a circulator finds
application driven by simple engineering cost-benefit tradeoffs.

> > - Will there be ghosts?
> > If the answer is yes...
> > - What is the magnitude of the first re-reflection?
>
> The answer is yes, but you have not given enough
> information to solve the problem. Again, please
> furnish a math model of a real world source.

So why don't you prove my contention that the impedance
encountered by the reflected wave is 450 Ohms incorrect.

Here is how. Using my 450 Ohm value for the impedance
compute the reflection coefficient at the generator
using RC = (Z2-Z1)/(Z2_Z1). Using the various equations
for Vthrough, Vreflected, Ithrough and Ireflected, along
with superposition compute the various currents and
voltages within the system.

Then using Kirchoff's voltage and current laws, validate
all the nodal voltages and loop currents. If 450 Ohms is
not the appropriate impedance, then the validity check
will fail.

The beauty of this approach is that you do not need to know what the actual value is, you merely need to prove that it is not 450 Ohms.

I await the analysis.

...Keith

3577. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 02:35:25 UTC
From: richardharrison@webtv.net
Message-ID: <22397-4611BD6D-409@storefull-3255.bay.webtv.net>
Source record: 43744

Jim Kelley wrote:
"The error I find is in your notation that virtual shorts and opens cause reflections, and that real reflection coefficients may be calculated from virtual impedances."

Impedance is a voltage to current ratio. A low impedance allows much current from a low impressed voltage. A high impedance only allows a low current from a high impressed voltage.

A transmission line with a mismatched load, has a reverse or reflected wave traveling back from the load in addition to the incident wave traveling toward and impressed on the load. Both waves, incident and reflected, have the same voltage to current ratio. It equals the Zo of the line and is enforced by the construction of the assumed uniform line.

Superposition of the forward or incident wave and the reverse or reflected wave produces periodic variations in the combined volts and amps along the line. The rms values of the constituent volts and amps are likely very steady. It`s their combination which varies.

High voltage points are high impedance points. Low voltage points are low impedance points.

Severity of voltage and impedance variations along the line depends on how different the load impedance is from Zo.

A short or an open on the line can produce segments analogous with series and parallel resonant LC circuits (which behave as shorts and opens with respect to impedance for example).

Input impedance of an open circuited line of length less than a quarter wavelength is capacitive. Input impedance of an open line of length greater than a quarter wavelength but less than a half wavelength is inductive.

An open-circuited quarter wavelength of line is practically a short circuit at its input.

A quarter wavelength back from a line short, its impedance is is an open circuit, and as above, a quarter wavelength back from an open circuit, the line impedance is a short circuit.

At a line short circuit, incident and reflected current phasors are in-phase while the incident and reflected voltage phasors are out-of-phase.

A quarter wave back from the short, the incident and reflected current phasors are out-of-phase while the the incident and reflected voltage phasors are in-phase.

A quarter wave back from a hard short on a good line, the reflected voltage is equal to and of the same phase as the incident voltage. Therefore there is no potential difference between the incident and reflected voltages at this point and the current is zero. This is analogous to connecting identical battery cells in parallel. No current flows between them. The same can be said of connecting correctly phased identical transformer windings in parallel.

High voltage and almost zero net current means the impedance is nearly infinite. This is similar to a good parallel resonant circuit. It is almost an open circuit. Quarter wave shorted stubs have been used as "metal insulators" for line support and other purposes.

I have no problem with "virtual shorts and opens". We so called them and used them in school when I was there over a half century ago.

Examine RADAR TR and anti-TR circuits for examples of virtual shorts and opens which automatically route the energy to the right places and keep it out of the wrong places.

Best regards. Richard Harrison, KB5WZI

3578. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 02:36:56 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175567816.213572.11520@y80g2000hsf.googlegroups.com>
Source record: 43743

On Apr 2, 5:19 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > This means that reflecting back into the generator from the
> > left end of the 75 Ohm line will be the same Pref2 = 229.6 W
> > that exists on the right side of the 75 Ohm line section.
>
> Since ZERO reflected energy exists anywhere on the
> 75 ohm line, your assertion doesn't make any sense.

Please try again after adding 1 more wavelength of 450
Ohm line between the generator and the 75 Ohm line you
added. Kindly explain where the 'reflected power' on
this new section of 450 Ohm line goes.

> Now consider that the 75 ohm line can be one foot
> long and everything is the same as the 1WL of 75
> ohm line (except the delays).

This would be quite incorrect. The impedance presented to
the generator is quite different. Do recall that by design
the generator has a 450 Ohm output impedance so there is
a physical discontinuity at the connection to the 75 Ohm
line. In this case the 75 Ohm line is acting as an impedance
transformer and its length is very relevent. Make it a
multiple half wavelength and the transformation is unity.
I had assumed that this was why in your first analysis
you chose to add one wavelength of line and state that
this would not alter the steady state response, to which,
of course, I agree, though it quite alters the transient
response.

...Keith

3579. Re: Some thoughts relevant to measuring Tx eq src impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 02:43:52 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175568232.722647.212590@n59g2000hsh.googlegroups.com>
Source record: 43745

On Apr 2, 8:52 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> My goal is to understand the nature of the source
> starting with the simplest one.

Are you sure? In other threads you consistently refuse
to analyse the simplest of sources on the basis (as far
as I can tell) that it is not the 'real world'.

In light of your new approach, which I wholeheartedly
endorse, perhaps you will reconsider your response in the
other threads and try to "understand the nature of the
source starting with the simplest one".

...Keith

3580. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 02:55:36 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eusfn8fth1@news.service.uci.edu>
Source record: 43747

Cecil Moore wrote:
> walt wrote:
>
>> Richard, it's very uncommon, but on this issue I'm having a difficult
>> time following you. The only reason that I can conclude for my lack of
>> understanding is that our definition of 'interference' must be
>> divergent. So I'll just drop the discussion--OK?
>
>
> I am ignorant of any technical words (if they exist)
> for what I am about to describe so bear with me.
>
> Interference can have totally different outcomes so I
> have to ask, are there different kinds of interference?
>
> For instance, the interference between the forward wave
> and reflected wave that causes standing waves has no
> effect on either the forward wave or the reflected wave.
> In an unchanging Z0 environment, the forward wave and
> reflected wave pass like ships in the night. For want
> of a better term, I will call this type of interference
> "temporary interference".
>
> The other type of interference occurs when reflections
> are eliminated at a Z0-match or a non-reflective thin-
> film. This is *wave cancellation* between two coherent
> waves of equal magnitude and opposite phase traveling
> in the same path in the direction. For want of a better
> term, I will call that type of interference "permanent
> interference" since the two waves are canceled and
> disappear. Their energy components are redistributed.
>
> Are there any technical words to differentiate between
> the two types of interference?

When you think of interference as being the instantaneous sum of waves
at a given position and time, then there is really only one kind of
interference to be had - though there are a variety of results which
can be obtained from it. It is useful to bear in mind that fields,
voltages, and currents are what give physical form to the waves in
transmission lines. Whether in a transmission line, or free space it
is the fields which interfere - not power, or energy.

73, Jim AC6XG

3581. help with hp 8418a ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 02:56:00 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <_-mdnVjf2uryX4zbnZ2dnUVZ_oupnZ2d@comcast.com>
Source record: 43746

All,

I have an 8418a with a liner/phase display and an 8418a with a polar display. Does anyone know how to connect the 8418a to the 8407a.

The 8418a has three inputs, amplitude, phase, and reference.

The 8407 has two outputs, phase+amplitude and reference.

The reference would connect to reference.

Is it as simple as connecting the 8407a phase+amplitude to both 8418a phase and amplitude?

- Dan

3582. Re: What is the purpose of a DC injector?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 04:16:22 UTC
From: Alfred Lorona <w6wqc@dslextreme.com>
Message-ID: <1313ljfkp58fh9f@corp.supernews.com>
Source record: 43748

"MRW" <mr.whatever@gmail.com> wrote in message
news:1175526547.018205.147130@p15g2000hsd.googlegroups.com...
> Good day!
>
> In some of the articles that I'm reading, I keep seeing references to
> a DC injector use in RF ports

They are often referred to as Bias Tee's and are usually found under that
name in manufacturers catalogs.

3583. Re: Some thoughts relevant to measuring Tx eq src impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 04:34:56 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1175574896.245112.244360@y80g2000hsf.googlegroups.com>
Source record: 43749

On Apr 2, 4:52 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> K7ITM wrote:
> > You haven't moved beyond that "first amplifier that is taught in EE
> > 202"?
>
> If one can understand the simple amplifier then one
> can move on to a more complicated amplifier.
>
> > If your goal is to deliver as much clean RF power to the external load
> > as you can, why would you put an RF-dissipating resistor into your
> > amplifier?
>
> My goal is not to deliver as much power as possible.
> My goal is to understand the nature of the source
> starting with the simplest one.
> --
> 73, Cecil http://www.w5dxp.com

If your goal "is to understand the nature of the source starting with the simplest one," why would you add resistors you don't need and make it more complicated than the simplest one? What if "the simplest one" turns out to lead you into believing generalities that are not true, when considering a more general one will avoid that?

My goal, in the context of Owen's basenote, remains to deliver as much clean RF power to the external load as I can. Unnecessary resistors need not apply. Matching networks better pass muster with respect to their performance not only at fundamental frequencies, but also at others, especially at harmonics. Not all the networks I've posted about in this thread do pass muster, but are enlightening with respect to Owen's observations, I believe. Simplest doesn't remain interesting for very long.

FWIW, I don't see anything in Owen's postings in this thread that _precludes_ a source impedance that's equal to some particular load impedance, or to its conjugate. Rather, I see a suggestion that the source impedance does not necessarily have to be equal to any particular value, and in the general case does not have to be equal to the conjugate of the design load impedance. With that I agree. I've seen a great many examples of it. I gave a few of them earlier. I've also worked on the design of broadband RF amplifiers which are designed specifically to be 50 ohm resistive sources, through the use of feedback to set that impedance. You don't need brute-force resistors to do it; most of the time, you don't need to do it anyway, but in the case of instruments used for measurement, it can be

important. In the case of video amplifiers where ghost-causing reflections are to be kept to a minimum, it can be important. In the case of a ham narrow-band SSB, CW, FSK, FM or AM transmitter, I question whether the source impedance is ever important, or is ever accurately known. Perhaps someone can convince me otherwise, though a well-thought-out, well-presented example.

Cheers,
Tom

3584. Re: Ellipticity to axial ratio transformation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 04:37:34 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1175575054.608339.103790@e65g2000hsc.googlegroups.com>
Source record: 43750

On Apr 2, 6:05 pm, "Bobby" <originalbobjo...@aim.com> wrote:
> All,
>
> A little bit of help...
>
> If you have an antenna with an ellipticity of x dB, how do you find
> the axial ratio of this antenna?
>
> Any help is useful and is greatly appreciated...
>
> Bobby.

They're the different names for the same thing, no? See, for example,
http://www.astronwireless.com/polarization.html. Amazing what a bit
of Googling will do for you.

Cheers,
Tom

3585. Re: Some thoughts relevant to measuring Tx eq src impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 05:20:56 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99079C1EC8ECnonenowhere@61.9.191.5>
Source record: 43751

"K7ITM" <k7itm@msn.com> wrote in news:1175574896.245112.244360
@y80g2000hsf.googlegroups.com:

> On Apr 2, 4:52 pm, Cecil Moore <nos...@w5dxp.com> wrote:
>> K7ITM wrote:
...
> seen a great many examples of it. I gave a few of them earlier. I've
> also worked on the design of broadband RF amplifiers which are
> designed specifically to be 50 ohm resistive sources, through the use
> of feedback to set that impedance. You don't need brute-force

Tom, I suggest that amplifiers with a specific equivalent source impedance to low tolerance don't happen by accident or by magic of a PI coupler, they require design measures that are not usually applied to amplifiers for SSB telephony.

The assertions here that "conjugate matching" occurs naturally as a by-product of peaking the PA is not consistent with the realities of design of amplifiers with specific equivalent source impedance.

The amplifier configuration I used as an example was a single ended class B valve RF linear with PI coupler for SSB telephony for comparison with Walt's test. A push pull class B bipolar transistor amplifier with broadband transformer coupling and high pass filter will behave differently, and some of those designs include negative feedback which reduces the equivalent source impedance. (I am not talking ALC here, ALC is in the form of dynamic power control rather than reducing the equivalent source impedance, though you could be fooled by some steady state tests into thinking it has reduced the equivalent source impedance.)

Owen

3586. Re: Some thoughts relevant to measuring Tx eq src impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 06:07:18 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1175580438.497530.60450@n76g2000hsh.googlegroups.com>
Source record: 43752

On Apr 2, 9:20 pm, Owen Duffy <n...@no.where> wrote:
> "K7ITM" <k...@msn.com> wrote in news:1175574896.245112.244360
> @y80g2000hsf.googlegroups.com:
>
>
>
> > On Apr 2, 4:52 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> >> K7ITM wrote:
> > ...
> > > seen a great many examples of it. I gave a few of them earlier. I've
> > > also worked on the design of broadband RF amplifiers which are
> > > designed specifically to be 50 ohm resistive sources, through the use
> > > of feedback to set that impedance. You don't need brute-force
>
> Tom, I suggest that amplifiers with a specific equivalent source
> impedance to low tolerance don't happen by accident or by magic of a PI
> coupler, they require design measures that are not usually applied to
> amplifiers for SSB telephony.

Absolutely. The amplifier designs I referred to took some work to get
"right."
>
> The assertions here that "conjugate matching" occurs naturally as a by-
> product of peaking the PA is not consistent with the realities of design
> of amplifiers with specific equivalent source impedance.

If I understand you correctly, I again fully agree. The design goals
of ham, and for that matter most commercial, RF power amplifiers put
things like decent efficiency, low distortion and stable operation
well ahead of any consideration to design to a particular output port
source impedance. Rarely is that ever even considered, since it
doesn't matter.
>
> The amplifier configuration I used as an example was a single ended class
> B valve RF linear with PI coupler for SSB telephony for comparison with
> Walt's test. A push pull class B bipolar transistor amplifier with
> broadband transformer coupling and high pass filter will behave
> differently, and some of those designs include negative feedback which
> reduces the equivalent source impedance. (I am not talking ALC here, ALC
> is in the form of dynamic power control rather than reducing the
> equivalent source impedance, though you could be fooled by some steady
> state tests into thinking it has reduced the equivalent source
> impedance.)
>
> Owen

I would point out that negative feedback does not necessarily reduce the output impedance. Voltage-derived negative feedback does, but current-derived negative feedback increases output impedance. If you analyze the difference between a grounded-cathode and a grounded-grid amplifier from the point of view of negative feedback, you will see that the grounded grid amplifier has higher source impedance, viewed at the plates. The driver source impedance in the cathode circuit effectively monitors the cathode current (which is very nearly equal to the plate current), and generates negative feedback to the grid-cathode voltage as a result. Adding a small cathode resistance to a grounded-cathode amplifier will have a similar effect; the effect on the impedance seen at the plates is much greater than the resistance placed in the cathode circuit. What you see through a pi or other coupling network depends on that network, as shown in the examples I posted earlier today, and generally will be much different than what happens at the plates.

Actually, the comparison of a grounded-cathode and a grounded-grid amplifier is a good illustration of how the plate source impedance and the optimal load impedance are unrelated. The change between those two types, for a given tube and given plate voltage, has a minor effect on optimal load impedance, and a major effect on plate source impedance.

Cheers,
Tom

3587. Re: Some thoughts relevant to measuring Tx eq src impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 06:25:05 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9907A6FF0DBD0nonenowhere@61.9.191.5>
Source record: 43753

"K7ITM" <k7itm@msn.com> wrote in
news:1175580438.497530.60450@n76g2000hsh.googlegroups.com:

> Actually, the comparison of a grounded-cathode and a grounded-grid
> amplifier is a good illustration of how the plate source impedance and
> the optimal load impedance are unrelated. The change between those
> two types, for a given tube and given plate voltage, has a minor
> effect on optimal load impedance, and a major effect on plate source
> impedance.

Tom,

A good point!

I am playing around with a model of 4 x 811A in GG followed by a PI coupler into a nominal 50 ohm load to explore the small delta dynamic source resistance, and the common cathode configuration would be an interesting contrast. The interesting thing in modelling the GG triode class B config is that the changing driver load as Ia changes (ie the feedback) will vary in effect depending on the equivalent source impedance of the driver. Again another variable that mitigates against the accidental "conjugate match".

Owen

3588. Re: Antenna Theory Question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 11:12:55 UTC
From: wood@itd.nrl.navy.mil
Message-ID: <wood-0304070712550001@jbw-mac.itd.nrl.navy.mil>
Source record: 43754

In article <131300emmmetkcb@corp.supernews.com>, Roy Lewallen
<w7el@eznec.com> wrote:

> Antonio Vernucci wrote:
> > Win,
> >
> > your explanation is very good and convincing. I believe that most of us
> > would read with interest some further remarks on what happens in the
> > case of a shorted element (e.g. a director or a reflector), instead of
> > the driven element.
> >
> > In those cases all received energy must be re-radiated, but more details
> > on that mechanism would be welcome.
>
> The impinging field induces a current on the element. The current
> produces a field which radiates. An AC current flowing on a conductor
> creates a field regardless of how that current is produced. It doesn't
> matter whether the current is due to conduction from a source, by
> induction from a field, or any combination of the two -- the field
> resulting from the current is exactly the same. Yagis and other
> "parasitic" arrays depend entirely on this phenomenon for their operation.
>
> Roy Lewallen, W7EL

Yes, and with the corollary that you can never extract more than half of
the power/energy transported by an EM wave. That maximum (available
power) is given by Voc^2/(4 * Ra) where Voc and Ra are the open circuit
voltage magnitude and real part of the extractor (receive antenna)
impedance, respectively, measured at the antenna terminals at the
frequency of interest. The remaining energy is scattered (reradiated)
from the antenna. Sincerely, and 73s from N4GGO,

John Wood (Code 5550) e-mail: wood@itd.nrl.navy.mil
Naval Research Laboratory
4555 Overlook Avenue, SW
Washington, DC 20375-5337

3589. Re: Antenna Theory Question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 11:17:20 UTC
From: AndyS <andysharpe@juno.com>
Message-ID: <1175599040.048960.155350@l77g2000hsb.googlegroups.com>
Source record: 43755

Roy Lewallen wrote:
>
> The impinging field induces a current on the element. The current
> produces a field which radiates. An AC current flowing on a conductor
> creates a field regardless of how that current is produced. It doesn't
> matter whether the current is due to conduction from a source, by
> induction from a field, or any combination of the two -- the field
> resulting from the current is exactly the same. Yagis and other
> "parasitic" arrays depend entirely on this phenomenon for their operation.
>
> Roy Lewallen, W7EL

Andy asks:
Roy, is the field radiated by the parasitic element shifted in phase
relative to the incident field. If not, what determines the phase
shift ?

Andy W4OAH

3590. Re: What is the purpose of a DC injector?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 14:10:37 UTC
From: MRW <mr.whatever@gmail.com>
Message-ID: <1175609437.015382.254250@l77g2000hsb.googlegroups.com>
Source record: 43756
Body handling: HTML body converted to readable text

On Apr 2, 11:23 am, "Philo" wrote:
> Supplying DC power for a preamplifier or transverter trough the antenna
> cable for instance.

I see. Does this mean that the AC signal going thru the antenna cable
is biased with a DC source?

Thanks!

3591. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 14:14:01 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <JitQh.11286$VU4.10890@bgtnsc05-news.ops.worldnet.att.net>
Source record: 43757

Richard Harrison wrote:

[snip]
>
> Terman says on page 883:
> "For purposes of calculation, it is convenient to consider

Richard,

Great quote!

If people listened to the words of the master, there would be far fewer arguments on RRAA.

73,
Gene
W4SZ

3592. Phase and Gain for Directional Antenna Needed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 14:15:44 UTC
From: junoexpress <MTBrenneman@gmail.com>
Message-ID: <1175609744.249340.164390@b75g2000hsg.googlegroups.com>
Source record: 43758

Hi,

I am wondering if anyone has data for a directional gain antenna (DGA). What I would need are the gains and the phase of the antenna as a function of (phi,theta). I am working with a group that has such an antenna, but I think that their work is not very good. I am not looking for anything fancy or even that good in terms of performance: I am doing some performance analysis using beamforming algorithms for GPS signal acquisition, and I want to incorporate DGA into my analysis and get some basic results as to how much the DGA improves performance. (Of course, any work I do, I would cite the use of your data).

You can reply either on the ng or to my e-mail address.

Thank you very much,

Matt Brenneman

3593. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 14:28:45 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1175610525.063574.152670@d57g2000hsg.googlegroups.com>
Source record: 43759

On Apr 2, 7:35 pm, richardharri...@webtv.net (Richard Harrison) wrote:
> Jim Kelley wrote:
>
> "The error I find is in your notion that virtual shorts and opens
> cause reflections, and that real reflection coefficients may be
> calculated from virtual impedances."

> I have no problem with "virtual shorts and opens". We so called them and
> used them in school when I was there over a half century ago.

> Examine RADAR TR and anti-TR circuits for examples of virtual shorts and
> opens which automatically route the energy to the right places and keep
> it out of the wrong places.
>
> Best regards. Richard Harrison, KB5WZI

Hi Richard,

If I gave the impression that I have a problem with virtual, or
effective impedances then I apollogize. I tried to make it clear that
the only problem is in improperly attributing cause and effect. While
I am not familiar with RADAR TR or anti-TR, I am quite sure that it is
subject to the same physical laws as any other technology.
Electromagnetic waves reflect only from real physical boundaries. JC
Maxwell took great care to describe exactly how that works. If you
feel that RADAR is somehow exempt from these physical laws, then this
might be an opportunity for us both to review our understanding of the
technology.

Best Regards,
Jim AC6XG

3594. Re: What is the purpose of a DC injector?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 14:36:42 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <1314pp4rsrmnl82@corp.supernews.com>
Source record: 43760
Body handling: HTML body converted to readable text

MRW wrote:
> On Apr 2, 11:23 am, "Philo" wrote:
>> Supplying DC power for a preamplifier or transverter trough the antenna
>> cable for instance.
>
> I see. Does this mean that the AC signal going thru the antenna cable
> is biased with a DC source?
>
> Thanks!
>

No. It is just two power sources using the same conductor. That is why there are capacitors at each end of the conductor. They permit the rf/ac signal to pass but block the dc from passing. The satellite tv systems use this to tune the block down converters out at the dish antenna.

Dave WD9BDZ

3595. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 15:25:18 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <yluQh.238109$5j1.152987@bgtnsc04-news.ops.worldnet.att.net>
Source record: 43761

Cecil Moore wrote:

>
> You seem to have forgotten the definition and rules of
> superposition. Superposition applies to fields and waves.
> Superposition doesn't apply to scalars. Power is a scalar.

Cecil,

Superposition has nothing whatsoever to do with scalars vs. vectors.
Superposition has everything to do with linearity.

73,
Gene
W4SZ

3596. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 15:27:48 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ths413t84fi6eq1qjng0m03hurh43jtj41@4ax.com>
Source record: 43762

On 3 Apr 2007 07:28:45 -0700, "Jim Kelley" <jwkelley@uci.edu> wrote:

>Electromagnetic waves reflect only from real physical boundaries.

TR/ATR tubes (by their very description and certainly operation)
fulfill that condition.

73's
Richard Clark, KB7QHC

3597. Re: What is the purpose of a DC injector?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 17:17:39 UTC
From: Bruce in Alaska <bruceg@btpost.net>
Message-ID: <bruceg-E2BB9D.09174403042007@netnews.worldnet.att.net>
Source record: 43763

In article <1314pp4rsrmnl82@corp.supernews.com>,
"David G. Nagel" <nagel@core.com> wrote:

> The satellite tv systems
> use this to tune the block down converters out at the dish antenna.

Well not quite, Block DownConverters are not "Tuned". They take a
Fixed Bandwidth from the Input Frequency, and DownConvert it to
an equal Fixed Bandwidth at a lower IF Frequency. Back in the LONG
Past era, there were First Generation SAT Receivers that did have
the Frequency Selecting Mixer out at the dish, and used an IF of 70Mhz
to bring a Single Channel of Wideband FM Tv to the DeModulator in
the SetTop Box. This system was universally designed out of the
Consumer SAT systems due to Temperature Insability and other problems.
The system used today, which is basically Standardized now, have a Low
Noise Preamp, feeding a Block Downconverter, (LNB) and feed the total
Fixed Bandwidth of the SAT Segment, (500 Mhz) to the SetTop Box at a
lower IF Frequency. (900 Mhz - 1400 Mhz approx) They still use DC Bias
on Coax Feeds to the LNB's, and these both power the LNB's, and also
select the Polarization of the FeedHorn.

Bruce in alaska
--
add a <2> before @

3598. Re: Phase and Gain for Directional Antenna Needed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 17:55:47 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <euu4f3$1tl$1@nntp1.jpl.nasa.gov>
Source record: 43766

junoexpress wrote:
> Hi,
>
> I am wondering if anyone has data for a directional gain antenna
> (DGA). What I would need are the gains and the phase of the antenna as
> a function of (phi,theta). I am working with a group that has such an
> antenna, but I think that their work is not very good. I am not
> looking for anything fancy or even that good in terms of performance:
> I am doing some performance analysis using beamforming algorithms for
> GPS signal acquisition, and I want to incorporate DGA into my analysis
> and get some basic results as to how much the DGA improves
> performance. (Of course, any work I do, I would cite the use of your
> data).
>
> You can reply either on the ng or to my e-mail address.
>
> Thank you very much,
>
> Matt Brenneman
>
depends on the specific directional antenna.
Are you looking for approximations?

3599. Re: Antenna Theory Question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 18:31:57 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <13157d16l6c8878@corp.supernews.com>
Source record: 43764

AndyS wrote:
>
> Andy asks:
> Roy, is the field radiated by the parasitic element shifted in phase
> relative to the incident field. If not, what determines the phase
> shift ?

Yes, it can be different in both phase and magnitude, determined by the length and diameter of the parasitic element. That's what you're doing when you adjust the lengths of the elements of a Yagi -- adjusting the phase and amplitude of the re-radiated fields from the elements.

Roy Lewallen, W7EL

3600. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 18:47:52 UTC
From: Thomas Horne <hornetd@mindspring.com>
Message-ID: <sjxQh.20692$JI.1939@newsread3.news.pas.earthlink.net>
Source record: 43765

Roger wrote:
> On Mon, 02 Apr 2007 04:08:47 GMT, Thomas Horne
> <hornetd@mindspring.com> wrote:
>
>> Jimmie D wrote:
>>> "Dave" <noone@nowhere.com> wrote in message
>>> news:r42dnQKD8rIImATYnZ2dnUVZ_rGinZ2d@crocker.com...
>>>> <wizard12342002@yahoo.com> wrote in message
>>>> news:1167655229.508078.212740@h40g2000cwb.googlegroups.com...
>>>>> I would like to propose a grounding arrangement for my [hypothetical]
>>>>> antenna and get some feedback on it. I have access to the solid-copper
>>>>> cold-water pipe that enters my home through the basement wall close to
>>>>> the basement floor.
>>>> bad start
>>>>
>>>>> This pipe is used [in addition to cold water] for
>>>>> the service entrance [circuit breaker box] ground.
>>>> thats bad news
>>>>
>>>>> I was thinking of putting an antenna outside on a pole and running the
>>>>> coax into the
>>>>> basement.
>>>> nope, not the way to do it right.
>>>>
>>>>> Then I would strip back several inches of the outer jacket
>>>>> of the coax [axposing the braided shield] and connect the coax braid to
>>>>> the cold water pipe using several hose clamps. This should ground the
>>>>> coax directly to the service ground - the single point ground for the
>>>>> house.
>>>> except the single point shouldn't be 'inside' the house.
>>>>
>>>>> I would add an arrester near the ground point. I would then run
>>>>> the coax upstairs [about 10 feet] to the radio, where it would [via the
>>>>> PL-259] connect to the transceiver chassis. The radio chassis will be
>>>>> electrically bonded to peripheral equipment chassis'.
>>>> the radio chassis should be connected to the same single point ground, and
>>>> not via just the coax shield.
>>>>
>>>>> It seems that in the unlikely event [low altitude, semi-urban area]
>>>>> that the antenna were struck by lightning, the energy [albeit
>>>>> significant] would have no reason to propagate up to my station. Even
>>>>> though it may elevate my house ground by thousands of volts [with
>>>>> respect to some other ground point], the station should ride up with it
>>>>> - and little current should flow in the coax at the station.

>>>>>
>>>>> Am I whistling Dixie?
>>>>
>>>>
>>> Hopefully you are not really using the water pipe for a ground for your
>>> electrical service. Hopefully your plumbing is just bonded to the electrical
>>> ground. Dont even think about using this for lightning protection. Nothing
>>> like having lightning run in on your plumbing while taking a bath or have it
>>> run in on yor ground and eat about $7K worth of test equipment(my bad).
>>>
>>> Jimmie
>>>
>> Jimmie
>>
>> DE KB3OPR
>>
>> I am an electrician by craft. The US National Electric Code Requires
>> that underground metal water piping on the premise be used as a
>> grounding electrode for the electrical system. There is no way around
>
> Ahhh...The water pipe must be bonded to the electrical system, but the
> main ground must be at the entrance. Here, we have plastic water pipe
> all the way to the main from the meter, yet we have to bond the meters
> which are metal with plastic running in and plastic running out.
>
>> it. No matter how fast people talk you cannot avoid using an
>> underground metal piping system as a grounding electrode unless the
>> electrical inspector is incompetent.
>
> It's really easy to avoid here. We do not have metal piping available
> for grounding.
> Roger Halstead (K8RI & ARRL life member)
> (N833R, S# CD-2 Worlds oldest Debonair)
> www.rogerhalstead.com

That has nothing to do with not using an underground metal water pipe
that is present on the premises.
--
Tom Horne

3601. Re: What is the purpose of a DC injector?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 19:06:58 UTC
From: Philo <philo@nospampse.be>
Message-ID: <mBxQh.101198$8s3.748584@phobos.telenet-ops.be>
Source record: 43767

"Bruce in Alaska" <bruceg@btpost.net> wrote in message
news:bruceg-E2BB9D.09174403042007@netnews.worldnet.att.net...
> In article <1314pp4rsrmnl82@corp.supernews.com>,
> "David G. Nagel" <nagel@core.com> wrote:
>
>> The satellite tv systems
>> use this to tune the block down converters out at the dish antenna.
>
> Well not quite, Block DownConverters are not "Tuned". They take a
> Fixed Bandwidth from the Input Frequency, and DownConvert it to
> an equal Fixed Bandwidth at a lower IF Frequency. Back in the LONG
> Past era, there were First Generation SAT Receivers that did have
> the Frequency Selecting Mixer out at the dish, and used an IF of 70Mhz
> to bring a Single Channel of Wideband FM Tv to the DeModulator in
> the SetTop Box. This system was universally designed out of the
> Consumer SAT systems due to Temperature Insability and other problems.
> The system used today, which is basically Standardized now, have a Low
> Noise Preamp, feeding a Block Downconverter, (LNB) and feed the total
> Fixed Bandwidth of the SAT Segment, (500 Mhz) to the SetTop Box at a
> lower IF Frequency. (900 Mhz - 1400 Mhz approx) They still use DC Bias
> on Coax Feeds to the LNB's, and these both power the LNB's, and also
> select the Polarization of the FeedHorn.
>
> Bruce in alaska
> --
> add a <2> before @

Some satellite dish sets also use a 22 kHz signal to switch between 2 local
oscillators in a "dual band" LNB.

3602. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 20:26:44 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <euuda4$6sv$1@nntp1.jpl.nasa.gov>
Source record: 43768

Thomas Horne wrote:

>>>
>>> I am an electrician by craft. The US National Electric Code Requires
>>> that underground metal water piping on the premise be used as a
>>> grounding electrode for the electrical system. There is no way around
>>
>>
>> Ahhh...The water pipe must be bonded to the electrical system, but the
>> main ground must be at the entrance. Here, we have plastic water pipe
>> all the way to the main from the meter, yet we have to bond the meters
>> which are metal with plastic running in and plastic running out.
>>
>>> it. No matter how fast people talk you cannot avoid using an
>>> underground metal piping system as a grounding electrode unless the
>>> electrical inspector is incompetent.
>>
>>
>> It's really easy to avoid here. We do not have metal piping available
>> for grounding.
>> Roger Halstead (K8RI & ARRL life member)
>> (N833R, S# CD-2 Worlds oldest Debonair)
>> www.rogerhalstead.com
>
>
> That has nothing to do with not using an underground metal water pipe
> that is present on the premises.
> --
> Tom Horne

that would really depend on the local AHJ (Authority Having Jurisdiction).. For instance, in the City of Thousand Oaks, CA, only Concrete Encased Grounding Electrodes (aka Ufer grounds) are allowed in new construction. (other grounding electrodes are permitted, but you better have the Ufer ground, and, of course, they would need to be bonded together, per NEC). With respect to my house, built in 1998, I don't think there is a bonding jumper from water pipe to the system ground at the service entrance (which is a Ufer ground). Obviously, there IS a jumper from the telco drop, the cable TV drop, etc. to the ground at the service entrance (and all the "drops" are actually underground services in plastic conduit). Partly this is because the water service comes in on the opposite of the house from all the "wired" utilities. I'll have to go take a look, though.

I believe the new code (which I don't have here to hand) does require that metallic water piping, if any, be bonded to the electrical system ground (presumably to eliminate "touch voltage").

I believe also, that the code prohibits use of a water pipe as the sole grounding electrode (NEC 250-(a)(2) in 1999 code, 250.53(D)(2) 2002,2005 codes). As always in code matters, what the AHJ says takes precedence.

As a practical matter, a properly constructed Ufer ground is probably lower impedance and more reliable than rods, wires, and pipes.

Jim Lux, P.E.
W6RMK

3603. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 21:37:57 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <23h513lvvkqonv4dhidor5fh2aqk1lcql2@4ax.com>
Source record: 43769

On 3 Apr 2007 07:28:45 -0700, "Jim Kelley" <jwkelley@uci.edu> wrote:

>I am not familiar with RADAR TR or anti-TR

Hi Jim, and others similarly unfamiliar,

Radar transmission systems have a wide and diverse design topology
that reveals all of the characteristics in an easy and accessibly
small space. Among these diverse applications are the already
mentioned TRansmit and AntiTRansmit tubes. Also are mode shifters,
polarization shifters, choke joints, directional couplers (classic,
not Bruene), isolators, circulators, and separators - a class that
includes what I alluded to, the "Magic T." This last is something
like the classic Hybrid Coupler.

Within these lines you can add either resistive, conductive or
dielectric windows, steps, vanes, and other configurations to create
tuned sections or transitions between sections. Each and all of such
elements readily reduce to wavelength and transmission line mechanics.
Their scale makes them "hands-on."

Returning to the TR/ATR tubes, they simply reside within the path of
the transmission line at a critical harmonic dimension. They consist
of a glass envelope, much like an acorn tube, and it contains a gas
and a simple spark gap and possibly a third exciter electrode. When a
sufficient electric field causes the gap to discharge, this creates
the short that is reflected to a nearby junction. The exciter
electrode is used with a bias to create a very low threshold for
firing. Needless to say, received signals are of insufficient
amplitude to fire the tube, hence the duplexing action.

This, then, creates a different topology between transmit and receive,
and it keeps the MW peak amplitudes out of the receiver front end as
the receive and transmit signal paths are identical otherwise.

Choke joints are passive in nature, but they also exhibit the use of a
tuned cavity that creates a conductive bridge across an otherwise open
gap between transmission line elements (this is a classic mechanism in
the rotary joint of the turning radar antenna).

The RADAR Transmission line systems offers the student vastly more
about transmission line concepts than the rather boring Lecher lines.

73's
Richard Clark, KB7QHC

3604. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 22:35:54 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9908577347B92nonenowhere@61.9.191.5>
Source record: 43770

Jim Lux <james.p.lux@jpl.nasa.gov> wrote in
news:euuda4$6sv$1@nntp1.jpl.nasa.gov:

...
> As a practical matter, a properly constructed Ufer ground is probably
> lower impedance and more reliable than rods, wires, and pipes.

In this part of the world (Australia) an LV transformer usually serves many more premises (commonly 50 to 100), and the neutral wire (centre of the 3 phase 240/415 wye) is bonded to the premises earth electrode at each main switchboard (known as Multiple Earth Neutral or MEN), so premises earth systems are effectively paralleled using the neutral wire. The transformer neutral is connected to an earth electrode at the substation. The regulatory requirement for a MEN premises ground electrode here is just a 1.2m copper clad driven electrode, with no real performance requirement. Of course the earth system must be equipotential bonded to the metallic water service, and plumbers are at risk when they open up a metallic water pipe (they are supposed to jumper the gap to prevent electric shock).

This approach is probably less suited to 110VAC distribution.

Owen

3605. Non technical antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 23:07:47 UTC
From: Pete <pete@nospam.net>
Message-ID: <euumo60bdc@enews2.newsguy.com>
Source record: 43771

Hi everyone,

I am new here, so please excuse my ignorance about antennas, or if I am in the wrong ng. I could not find any help getting the answer to my question by googling.

I have a cheap boom box radio that I recently bought at Walmart and it plays great music, and cd's, and cassettes. Unfortunately it will not play my favorite FM oldies station (97.5 MHz) either in my workshop, or my house (it plays several other stations fine). My other boom box will play the station (and its 20 years old), and they are both of relatively equal value (the older one is a brand name - Panasonic). If anything, I would think the new one should have 20 year newer technology in it, and it should play at least as good - dunno.

They both have a telescopic whip antenna (I hope that is the right terminology), and the new one will not play the station I want by either rotating the antenna, or moving the radio to different positions. I have tried everything. The only way it will play the station I want, is to put my hand on the antenna (or even around the antenna - ie I don't even have to touch it - interesting - I guess my body makes a real good antenna - I have always wondered about this phenomena). I tried touching it with other metallic devices (eg, wire, coat hanger etc), and it has no effect. The only way it will play the station is by getting near the antenna with my hand.

I see no way of mounting an FM antenna to the receiver (ie the antenna is factory mounted to the back of the radio.

I have a couple of questions if you will allow me :

- Is there anything I can do to the existing telescopic whip antenna (such as wrap it in aluminum foil or something else weird like that) that will enable the radio to pick up the station I want. And also, please explain why it plays the station I want when I put my hand on or around the antenna.

- I thought AM and FM antennas were different technologies (so to speak - eg amplitude modulation versus frequency modulation). How come portable AM/FM radios only have a single telescopic whip antenna (please excuse me if that is the wrong terminology). Is the whip for FM, and the AM is inside the radio, or it uses the cord (just a guess).

Any comments would be greatly appreciated. Thanks...Pete

3606. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 23:14:08 UTC
From: Thomas Horne <hornetd@mindspring.com>
Message-ID: <4dBQh.134057$_73.93850@newsread2.news.pas.earthlink.net>
Source record: 43772

Jim Lux wrote:
> Thomas Horne wrote:
>
>>>>
>>>> I am an electrician by craft. The US National Electric Code
>>>> Requires that underground metal water piping on the premise be used
>>>> as a grounding electrode for the electrical system. There is no way
>>>> around
>>>
>>>
>>> Ahhh...The water pipe must be bonded to the electrical system, but the
>>> main ground must be at the entrance. Here, we have plastic water pipe
>>> all the way to the main from the meter, yet we have to bond the meters
>>> which are metal with plastic running in and plastic running out.
>>>
>>>> it. No matter how fast people talk you cannot avoid using an
>>>> underground metal piping system as a grounding electrode unless the
>>>> electrical inspector is incompetent.
>>>
>>>
>>> It's really easy to avoid here. We do not have metal piping available
>>> for grounding.
>>> Roger Halstead (K8RI & ARRL life member)
>>> (N833R, S# CD-2 Worlds oldest Debonair)
>>> www.rogerhalstead.com
>>
>>
>> That has nothing to do with not using an underground metal water pipe
>> that is present on the premises.
>> --
>> Tom Horne
>
> that would really depend on the local AHJ (Authority Having
> Jurisdiction).. For instance, in the City of Thousand Oaks, CA, only
> Concrete Encased Grounding Electrodes (aka Ufer grounds) are allowed in
> new construction. (other grounding electrodes are permitted, but you
> better have the Ufer ground, and, of course, they would need to be
> bonded together, per NEC). With respect to my house, built in 1998, I
> don't think there is a bonding jumper from water pipe to the system
> ground at the service entrance (which is a Ufer ground). Obviously,
> there IS a jumper from the telco drop, the cable TV drop, etc. to the
> ground at the service entrance (and all the "drops" are actually
> underground services in plastic conduit). Partly this is because the
> water service comes in on the opposite of the house from all the "wired"

> utilities. I'll have to go take a look, though.
>
> I believe the new code (which I don't have here to hand) does require
> that metallic water piping, if any, be bonded to the electrical system
> ground (presumably to eliminate "touch voltage").
>
> I believe also, that the code prohibits use of a water pipe as the sole
> grounding electrode (NEC 250-(a)(2) in 1999 code, 250.53(D)(2) 2002,2005
> codes). As always in code matters, what the AHJ says takes precedence.
>
> As a practical matter, a properly constructed Ufer ground is probably
> lower impedance and more reliable than rods, wires, and pipes.
>
> Jim Lux, P.E.
> W6RMK

Jim
I would hope you are aware that most concrete encased electrodes are not, in fact, a true UFER. In spite of that it is undoubtedly the most reliable electrode; which is not to say lowest impedance; commonly installed in homes. You are correct that an underground metal water piping electrode must always be supplemented with another electrode but the code still requires it to be used as an electrode were it is present on the premise. In my location the public water utility is entirely metallic, including the service laterals to buildings. It covers about fifty miles from north to south and more than thirty five miles east to west at it's widest point. That large an underground metal piping system has the lowest obtainable impedance to ground of any electrode on a premise served by the water system.
--
Tom Horne

3607. Re: Phase and Gain for Directional Antenna Needed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 23:53:30 UTC
From: junoexpress <MTBrenneman@gmail.com>
Message-ID: <1175644410.017352.138390@e65g2000hsc.googlegroups.com>
Source record: 43773

On Apr 3, 1:55 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> junoexpress wrote:
> > Hi,
>
> > I am wondering if anyone has data for a directional gain antenna
> > (DGA). What I would need are the gains and the phase of the antenna as
> > a function of (phi,theta). I am working with a group that has such an
> > antenna, but I think that their work is not very good. I am not
> > looking for anything fancy or even that good in terms of performance:
> > I am doing some performance analysis using beamforming algorithms for
> > GPS signal acquisition, and I want to incorporate DGA into my analysis
> > and get some basic results as to how much the DGA improves
> > performance. (Of course, any work I do, I would cite the use of your
> > data).
>
> > You can reply either on the ng or to my e-mail address.
>
> > Thank you very much,
>
> > Matt Brenneman
>
> depends on the specific directional antenna.
> Are you looking for approximations?

Hi,

I would say that the specifics are not that important. The DGA we
worked with had a cylindrically symmetric gain pattern that resembled
a "skinny" cardiod. The gain at the zenith was about roughly 12 Bic,
which fell to roughly 1 Bic at about 60 degrees (where the angle
measured is not the elevation, but the spherical coord theta). In
fact, you just made me realize that I fit the theta dependence very
well via the equation
0.00002399q^3 - 0.0031083q^2 - 0.025008q+11.0153
and that the phase as a function of theta was very linear, and that
the phase as a function of phi was "about" constant.

Matt

3608. Re: Non technical antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-03 23:55:33 UTC
From: Neil Barrowman <neil.barrowman@ntlworld.com>
Message-ID: <VPBQh.62$xm4.36@newsfe3-win.ntli.net>
Source record: 43774

take it back to wallmart its a bummer nmb>
> I have a cheap boom box radio that I recently bought at Walmart and it
> plays great music, and cd's, and cassettes. Unfortunately it will not
> play my favorite FM oldies station (97.5 MHz) either in my workshop, or my
> house (it plays several other stations fine). My other boom box will play
> the station (and its 20 years old), and they are both of relatively equal
> value (the older one is a brand name - Panasonic). If anything, I would
> think the new one should have 20 year newer technology in it, and it
> should play at least as good - dunno.
>
> They both have a telescopic whip antenna (I hope that is the right
> terminology), and the new one will not play the station I want by either
> rotating the antenna, or moving the radio to different positions. I have
> tried everything. The only way it will play the station I want, is to put
> my hand on the antenna (or even around the antenna - ie I don't even have
> to touch it - interesting - I guess my body makes a real good antenna - I
> have always wondered about this phenomena). I tried touching it with
> other metallic devices (eg, wire, coat hanger etc), and it has no effect.
> The only way it will play the station is by getting near the antenna with
> my hand.
>
> I see no way of mounting an FM antenna to the receiver (ie the antenna is
> factory mounted to the back of the radio.
>
> I have a couple of questions if you will allow me :
>
> - Is there anything I can do to the existing telescopic whip antenna
> (such as wrap it in aluminum foil or something else weird like that) that
> will enable the radio to pick up the station I want. And also, please
> explain why it plays the station I want when I put my hand on or around
> the antenna.
>
> - I thought AM and FM antennas were different technologies (so to speak -
> eg amplitude modulation versus frequency modulation). How come portable
> AM/FM radios only have a single telescopic whip antenna (please excuse me
> if that is the wrong terminology). Is the whip for FM, and the AM is
> inside the radio, or it uses the cord (just a guess).
>
> Any comments would be greatly appreciated. Thanks...Pete
>

3609. Re: Non technical antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 00:14:42 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <pcr5131japjbrecmh2dfn9n88uq3nknb5u@4ax.com>
Source record: 43775

On Tue, 3 Apr 2007 19:07:47 -0400, "Pete" <pete@nospam.net> wrote:

>- Is there anything I can do to the existing telescopic whip antenna (such
>as wrap it in aluminum foil or something else weird like that) that will
>enable the radio to pick up the station I want. And also, please explain
>why it plays the station I want when I put my hand on or around the antenna.

Hi Pete,

Neil's terse comment of taking back may ulitmately prove beneficial.

On the other hand you can just string up a lot of wire (higher is
always better) and simply wrap one end around the telescoping antenna.
Insulated wire or not shouldn't matter.

73's
Richard Clark, KB7QHC

3610. Re: Non technical antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 01:23:23 UTC
From: "Larry Gauthier (K8UT)" <MyCallsign@ARRL.NET>
Message-ID: <o6DQh.803$JI2.641@newsfe02.lga>
Source record: 43776

Pete,

The real difference between antennas and receiving FM stations versus AM stations has nothing to do with the modulation, but with the frequency on which these signals are transmitted. For optimal reception, you need an antenna that corresponds to the wavelength of the transmitted station. For AM radios, that is usually a real long length of wire wrapped around a magnetic rod within the radio. For FM, it is usually a telescoping whip antenna.

If you find yourself with two radios that are similarly-equipped in terms of antennas, but one gets your favorite stations while the other does not, then the one that does not is either broken or has designed-in lousy sensitivity.

How can you compensate for lousy sensitivity? If the low-sensitivity radio is _close_ to working (evidenced by its being able to hear your favorite station by putting your hand near the antenna) then you may be able to substitute a slighter better, directional antenna for the telescopic whip and get the stations you want. A cheap-and-dirty experiment would be to purchase a Radio Shack "Dipole FM Antenna [$3.00] and connect one lead to the whip (fully collapsed) and the other lead to a nearby ground connection in your workshop (center pin of a 3-prong electric outlet). Elevate the antenna as high as possible, and stretch the "T" sections horizontally. The best signal reception will be from the sides of the "T" -- so if you know the location of your favorite station's transmitter, you can rotate the ends of the T for best signal capture.

THEN AGAIN... you may just want to take it back to Wal-Mart for an exchange. Experiment with the available radios by collapsing the whip antennas and seeing which one gets the most stations and has the least "buzz" from the store's fluorescent lights.

-larry
K8UT
"Pete" <pete@nospam.net> wrote in message
news:euumo60bdc@enews2.newsguy.com...
> Hi everyone,
>
> I am new here, so please excuse my ignorance about antennas, or if I am in
> the wrong ng. I could not find any help getting the answer to my question
> by googling.
>
> I have a cheap boom box radio that I recently bought at Walmart and it
> plays great music, and cd's, and cassettes. Unfortunately it will not
> play my favorite FM oldies station (97.5 MHz) either in my workshop, or my
> house (it plays several other stations fine). My other boom box will play

> the station (and its 20 years old), and they are both of relatively equal
> value (the older one is a brand name - Panasonic). If anything, I would
> think the new one should have 20 year newer technology in it, and it
> should play at least as good - dunno.
>
> They both have a telescopic whip antenna (I hope that is the right
> terminology), and the new one will not play the station I want by either
> rotating the antenna, or moving the radio to different positions. I have
> tried everything. The only way it will play the station I want, is to put
> my hand on the antenna (or even around the antenna - ie I don't even have
> to touch it - interesting - I guess my body makes a real good antenna - I
> have always wondered about this phenomena). I tried touching it with
> other metallic devices (eg, wire, coat hanger etc), and it has no effect.
> The only way it will play the station is by getting near the antenna with
> my hand.
>
> I see no way of mounting an FM antenna to the receiver (ie the antenna is
> factory mounted to the back of the radio.
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> I have a couple of questions if you will allow me :
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> - Is there anything I can do to the existing telescopic whip antenna
> (such as wrap it in aluminum foil or something else weird like that) that
> will enable the radio to pick up the station I want. And also, please
> explain why it plays the station I want when I put my hand on or around
> the antenna.
>
> - I thought AM and FM antennas were different technologies (so to speak -
> eg amplitude modulation versus frequency modulation). How come portable
> AM/FM radios only have a single telescopic whip antenna (please excuse me
> if that is the wrong terminology). Is the whip for FM, and the AM is
> inside the radio, or it uses the cord (just a guess).
>
> Any comments would be greatly appreciated. Thanks...Pete
>

3611. Re: Non technical antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 02:17:38 UTC
From: Bob Miller <NOSPAM@neosoft.com>
Message-ID: <of2613l57sd2q6i6coc7oh7e6qefghta3u@4ax.com>
Source record: 43627

On Tue, 3 Apr 2007 19:07:47 -0400, "Pete" <pete@nospam.net> wrote:

>Hi everyone,
>
>I am new here, so please excuse my ignorance about antennas, or if I am in
>the wrong ng. I could not find any help getting the answer to my question
>by googling.
>
>I have a cheap boom box radio that I recently bought at Walmart and it plays
>great music, and cd's, and cassettes. Unfortunately it will not play my
>favorite FM oldies station (97.5 MHz) either in my workshop, or my house (it
>plays several other stations fine). My other boom box will play the station
>(and its 20 years old), and they are both of relatively equal value (the
>older one is a brand name - Panasonic). If anything, I would think the new
>one should have 20 year newer technology in it, and it should play at least
>as good - dunno.
>
>They both have a telescopic whip antenna (I hope that is the right
>terminology), and the new one will not play the station I want by either
>rotating the antenna, or moving the radio to different positions. I have
>tried everything. The only way it will play the station I want, is to put
>my hand on the antenna (or even around the antenna - ie I don't even have to
>touch it - interesting - I guess my body makes a real good antenna - I have
>always wondered about this phenomena). I tried touching it with other
>metallic devices (eg, wire, coat hanger etc), and it has no effect. The
>only way it will play the station is by getting near the antenna with my
>hand.
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>I see no way of mounting an FM antenna to the receiver (ie the antenna is
>factory mounted to the back of the radio.
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>enable the radio to pick up the station I want. And also, please explain
>why it plays the station I want when I put my hand on or around the antenna.
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>- I thought AM and FM antennas were different technologies (so to speak - eg
>amplitude modulation versus frequency modulation). How come portable AM/FM
>radios only have a single telescopic whip antenna (please excuse me if that
>is the wrong terminology). Is the whip for FM, and the AM is inside the
>radio, or it uses the cord (just a guess).
>

>Any comments would be greatly appreciated. Thanks...Pete
>

You could look around for a GE SuperRadio III -- it runs about $40-50
nowadays, and has a separate FM antenna terminal you can hook up a
decent antenna to. This radio also has two speakers, a woofer and
tweeter, and sounds pretty nice, tho' it is mono.

bob
k5qwg

3612. Re: Non technical antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 02:36:13 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <euv2u3$pi8$1@nnrp.linuxfan.it>
Source record: 43628

Pete wrote:

...

Pete:

I use a cheap (purchased at a flea market) TV-VHF-UHF-FM amplified
antenna--can be line powered or operated from batteries.

Funky, I know, but it does what I need.

JS

3613. Re: Non technical antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 03:06:19 UTC
From: Pete <pete@nospam.net>
Message-ID: <euv662019nq@enews1.newsguy.com>
Source record: 43630

Richard Clark wrote:
> On Tue, 3 Apr 2007 19:07:47 -0400, "Pete" <pete@nospam.net> wrote:
>
>> - Is there anything I can do to the existing telescopic whip
>> antenna (such as wrap it in aluminum foil or something else weird
>> like that) that will enable the radio to pick up the station I want.
>> And also, please explain why it plays the station I want when I put
>> my hand on or around the antenna.
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> Hi Pete,
>
> Neil's terse comment of taking back may ulitmately prove beneficial.
>
> On the other hand you can just string up a lot of wire (higher is
> always better) and simply wrap one end around the telescoping antenna.
> Insulated wire or not shouldn't matter.
>
> 73's
> Richard Clark, KB7QHC

Thank you Richard...that is the kind of comment I was looking for (I took Neil's with a grain of salt-there is absolutely nothing wrong with the radio). I was trying to be polite in my post, but I am way smarter than that.

I will try wrapping the wire around the antenna tomorrow and let you know what happens (is it okay to use phone wire which has several individually insulated wires in it). BTW could you please tell me why the reception comes in when I put my hand around the antenna (ie what is my body doing to the signal), and also answer my second question about one antenna for both AM and FM. Thanks again...Pete

3614. Re: What is the purpose of a DC injector?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 03:19:32 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <9PEQh.78439$JN6.11942@newsfe17.phx>
Source record: 43629

"Philo" <philo@nospampse.be> wrote in message
news:mBxQh.101198$8s3.748584@phobos.telenet-ops.be...

>
> Some satellite dish sets also use a 22 kHz signal to switch between 2
local
> oscillators in a "dual band" LNB.
>
>

... and some of them vary the DC voltage between two low voltages (like
14V and 18V) to switch between polarizations. The electronic package uses
12V and regulates it down from whatever it gets; the variable voltage is
strictly a control signal.

There's a lot of clever stuff running up that coax even if the
programming coming back down is sometimes gawd-awful.

3615. Re: What is the purpose of a DC injector?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 03:36:49 UTC
From: Jim - NN7K <NN7K@NOWAY.NET>
Message-ID: <m3FQh.1175$zC.485@newssvr22.news.prodigy.net>
Source record: 43631

Also, at VHF, these may be used to feed power to
Low Noise Preamps, for overcomming feedline loss.
And used with sequencers, to switch the preamp in
and out. Jim NN7K

Sal M. Onella wrote:
> "Philo" <philo@nospampse.be> wrote in message
> news:mBxQh.101198$8s3.748584@phobos.telenet-ops.be...
>
>

3616. Re: What is the purpose of a DC injector?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 03:41:03 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <j7FQh.114555$Ko5.14947@newsfe08.phx>
Source record: 43632

"Alfred Lorona" <w6wqc@dslextreme.com> wrote in message
news:1313ljfkp58fh9f@corp.supernews.com...
>
> "MRW" <mr.whatever@gmail.com> wrote in message
> news:1175526547.018205.147130@p15g2000hsd.googlegroups.com...
> > Good day!
> >
> > In some of the articles that I'm reading, I keep seeing references to
> > a DC injector use in RF ports
>
> They are often referred to as Bias Tee's and are usually found under that
> name in manufacturers catalogs.

OFF TRACK:
Funny ... I'm 64 and I have heard about bias tee's numerous times but did not know what they were. I just called them power adders. In fact, years ago I made one for a microwave transverter somebody gave me.

Now, I kid you not, I was reading a tech manual *today* and it included a diagram/purpose of a bias tee.

What are the odds of getting the same tech fact twice in the same day from two independent sources after 50 years of playing with 'trons?

3617. Re: Non technical antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 03:47:18 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <d87613ln6snkik1ksr4fc419eaah0vem7r@4ax.com>
Source record: 43633

On Tue, 3 Apr 2007 23:06:19 -0400, "Pete" <pete@nospam.net> wrote:

>Thank you Richard...that is the kind of comment I was looking for (I took
>Neil's with a grain of salt-there is absolutely nothing wrong with the
>radio). I was trying to be polite in my post, but I am way smarter than
>that.

Hi Pete,

No, it is still advice to consider. Your new radio does have the
performance of a lemon in comparison to your old set.

>I will try wrapping the wire around the antenna tomorrow and let you know
>what happens (is it okay to use phone wire which has several individually
>insulated wires in it). BTW could you please tell me why the reception
>comes in when I put my hand around the antenna (ie what is my body doing to
>the signal), and also answer my second question about one antenna for both
>AM and FM. Thanks again...Pete

Yes, it is a mystery still....

Your body is a conductor, admittedly a very poor one, but the power
levels we are talking about, and the currents involved don't ask very
much. The wavelengths involved for FM are about your height. If we
shift to AM, you would have to be the Jolly Green Giant (hence hand
waving usually doesn't do much good). That you don't even have to
touch the antenna is also an indication in the small power necessary,
it is more about your height and proximity.

Multi wire, such as you have, will make little difference. However,
this is not to say that things won't remain marginal. You do have the
experience with another radio that works in the identical environment,
so that suggests some hope. There are "magic" lengths of wire, but
you can escape that discussion by crafting various different lengths
by bending, trimming, but still keeping things high (all of this is
predicated on putting the antenna into the sight of the transmitter).

The same antenna is NOT for both bands. The AM antenna is undoubtedly
the old stand by we call the loopstick. This is a long rod of ferrite
material with a coil or wrapping of wire - you've probably seen these
before. A car antenna certainly does double duty, but this is not
generally found in portable radios. This is because the car radio
sits inside a metal cage that demands an external sky hook.

73's
Richard Clark, KB7QHC

3618. Re: Non technical antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 03:48:33 UTC
From: Pete <pete@nospam.net>
Message-ID: <euv76m01ai9@enews1.newsguy.com>
Source record: 43634

Thanks Larry...You top posted, so I will to. I really am a technical person and know a little bit about this stuff, and there is no doubt that the tuner/antenna circuitry in the older Panasonic is more sensitive (ie better). I will try Richards comments and let you guys know what happens. And if that doesn't help than maybe I will try your suggestion. Thanks for taking the time to comment. Have you ever been to Walmarts. You are lucky if you are able to plug anything in. Believe it or not I did plug the display of the one I bought in. Most of them are all a mess and you can't plug anything in :-) .

Pete

Larry Gauthier (K8UT) wrote:
> Pete,
>
> The real difference between antennas and receiving FM stations versus
> AM stations has nothing to do with the modulation, but with the
> frequency on which these signals are transmitted. For optimal
> reception, you need an antenna that corresponds to the wavelength of
> the transmitted station. For AM radios, that is usually a real long
> length of wire wrapped around a magnetic rod within the radio. For
> FM, it is usually a telescoping whip antenna.
>
> If you find yourself with two radios that are similarly-equipped in
> terms of antennas, but one gets your favorite stations while the
> other does not, then the one that does not is either broken or has
> designed-in lousy sensitivity.
> How can you compensate for lousy sensitivity? If the low-sensitivity
> radio is _close_ to working (evidenced by its being able to hear your
> favorite station by putting your hand near the antenna) then you may
> be able to substitute a slighter better, directional antenna for the
> telescopic whip and get the stations you want. A cheap-and-dirty
> experiment would be to purchase a Radio Shack "Dipole FM Antenna
> [$3.00] and connect one lead to the whip (fully collapsed) and the
> other lead to a nearby ground connection in your workshop (center pin
> of a 3-prong electric outlet). Elevate the antenna as high as
> possible, and stretch the "T" sections horizontally. The best signal
> reception will be from the sides of the "T" -- so if you know the
> location of your favorite station's transmitter, you can rotate the
> ends of the T for best signal capture.
> THEN AGAIN... you may just want to take it back to Wal-Mart for an
> exchange. Experiment with the available radios by collapsing the whip
> antennas and seeing which one gets the most stations and has the
> least "buzz" from the store's fluorescent lights.
>

> -larry
> K8UT
> "Pete" <pete@nospam.net> wrote in message
> news:euumo60bdc@enews2.newsguy.com...
>> Hi everyone,
>>
>> I am new here, so please excuse my ignorance about antennas, or if I
>> am in the wrong ng. I could not find any help getting the answer to
>> my question by googling.
>>
>> I have a cheap boom box radio that I recently bought at Walmart and
>> it plays great music, and cd's, and cassettes. Unfortunately it
>> will not play my favorite FM oldies station (97.5 MHz) either in my
>> workshop, or my house (it plays several other stations fine). My
>> other boom box will play the station (and its 20 years old), and
>> they are both of relatively equal value (the older one is a brand
>> name - Panasonic). If anything, I would think the new one should
>> have 20 year newer technology in it, and it should play at least as
>> good - dunno. They both have a telescopic whip antenna (I hope that is
>> the right
>> terminology), and the new one will not play the station I want by
>> either rotating the antenna, or moving the radio to different
>> positions. I have tried everything. The only way it will play the
>> station I want, is to put my hand on the antenna (or even around the
>> antenna - ie I don't even have to touch it - interesting - I guess
>> my body makes a real good antenna - I have always wondered about
>> this phenomena). I tried touching it with other metallic devices
>> (eg, wire, coat hanger etc), and it has no effect. The only way it
>> will play the station is by getting near the antenna with my hand.
>>
>> I see no way of mounting an FM antenna to the receiver (ie the
>> antenna is factory mounted to the back of the radio.
>>
>> I have a couple of questions if you will allow me :
>>
>> - Is there anything I can do to the existing telescopic whip antenna
>> (such as wrap it in aluminum foil or something else weird like that)
>> that will enable the radio to pick up the station I want. And also,
>> please explain why it plays the station I want when I put my hand on
>> or around the antenna.
>>
>> - I thought AM and FM antennas were different technologies (so to
>> speak - eg amplitude modulation versus frequency modulation). How
>> come portable AM/FM radios only have a single telescopic whip
>> antenna (please excuse me if that is the wrong terminology). Is the
>> whip for FM, and the AM is inside the radio, or it uses the cord
>> (just a guess). Any comments would be greatly appreciated. Thanks...Pete

3619. Re: Comparing Tuner Match to EZNEC Impedance Prediction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 06:08:33 UTC
From: dykesc <cupstidd@bellsouth.net>
Message-ID: <1175666913.298149.146250@b75g2000hsg.googlegroups.com>
Source record: 43635

On Apr 2, 5:21 pm, Roy Lewallen <w...@eznec.com> wrote:
> dykesc wrote:
> > I'm fairly new here so if this post is not appropriate for this group,
> > direct me elsewhere.
>
> > I am using the EZNEC demo to analyze an Off Center Fed sloper I am
> > using on 75m. The antenna is being fed with 85 feet of 450 ohm ladder
> > line which runs all the way to my operating location. At 3.9405 Mhz,
> > EZNEC shows an impedance of 28.11 -j102.2 at the transmission line
> > input (Alt Z0 of 450 ohms). My MFJ auto tuner (L-Network) is actually
> > matching the sloper at a 1.1 SWR with an inductor value of 5.34 uH and
> > a capacitor value of 605 pf. The capacitor is shunted on the
> > transmitter side of the inductor.
>
> I'm afraid that your model isn't adequate for the antenna. In an off
> center fed antenna, there will be considerable common mode feedline
> current -- in other words, the currents on the two feedline conductors
> won't be equal and opposite, so the feedline will radiate and is an
> integral part of the antenna. A model has to include the feedline (as
> two wires, not as a transmission line model which doesn't radiate) in
> the correct orientation relative to the antenna, plus the entire path to
> ground from the transmitter. This path is seldom known. A simpler model
> which ignores the very significant contribution of the radiating
> feedline won't give meaningful results.
>
> > I am using a formula I found in the L-Network section of Chapter 25 of
> > the ARRL Antenna Book to take the MFJ tuner values above and calculate
> > the impedance the tuner is matching. There are a couple of statements
> > in this section of the Antenna Book which lead me to believe that L-
> > Networks are used for matching purely resistive loads.
>
> This is not at all true. I'm guessing you're misinterpreting what's
> written there. If not, and it really says that, it's an error which
> should be corrected.
>
> > It also states
> > that loads containing "reactance" can be accounted for in the L-
> > Network inductor or capacitor values. Do I need to eliminate the
> > portion of the tuner inductor value being used to bring the system to
> > resonance before I calculate the impedance transform? If so is there a
> > way to do this or is my whole approach here off base?
>
> L network values for matching are best done by beginning with the
> required impedances at both ports, then directly calculating the

> necessary component values. A number of programs are available to do
> this calculation for you, or if you prefer, it can be done quite easily
> graphically with a Smith chart.
>
> Roy Lewallen, W7EL

Thanks for your reply Roy and, while I'm at it, thanks for your continued contribution to Amateur Radio.

I didn't mention that I have a homebrew 1:1 current balun installed at the antenna feedpoint to eliminate common mode currents which would otherwise result from the off center feed. Would my EZNEC model still not be adequate? (I also didn't mention the 4:1 balun in my antenna tuner which I am accounting for in my comparison.) Also there is probably some coupling of the feedline to the antenna field due to geometry, but I tried to keep the feedline perpendicular to the feedpoint as much as possible. I believe I read in the HELP file that EZNEC does not model this type of coupling. Am I correct on this point? I am not experiencing any issues with radiation off the feedline at my operating location, so I believe I've done a pretty good job with the balun and feedline routing.

Would you still recommend I don't pursue modeling of my OFC with EZNEC at least as far as transmission line and feedpoint parameters go. How about radiation patterns given the additional info in this post?

If I model the antenna feed with two additional wires will the limit on segments in the demo version of EZNEC start having an appreciable impact on the quality of results? I'm probably going to get the full version anyway but I am curious about the affect that segment limits has.

One more question. Is there a way to set antenna orientation in EZNEC so that it coincides with my actual antenna end to end compass bearings? This would allow me to use the "bearings" option in EZNEC directly. It appears I have to measure X - Y offsets to do this and can't use a simple circular (degrees) input in EZNEC to do this.

All of this is just an outfall of my interest in RF antenna technology. The antenna is operating fairly well for stateside operation.

Thanks again.

Dykes Cupstid AD5VS

3620. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 07:20:47 UTC
From: w_tom <w_tom1@usa.net>
Message-ID: <1175671246.955792.297920@b75g2000hsg.googlegroups.com>
Source record: 43636

On Apr 2, 8:07 am, Roger <GetValidAddr...@my.com> wrote:
> Ahhh...The water pipe must be bonded to the electrical system, but the
> main ground must be at the entrance. Here, we have plastic water pipe
> all the way to the main from the meter, yet we have to bond the meters
> which are metal with plastic running in and plastic running out.
> ...
>
> It's really easy to avoid here. We do not have metal piping available
> for grounding.
> Roger Halstead (K8RI & ARRL life member)
> (N833R, S# CD-2 Worlds oldest Debonair)www.rogerhalstead.com

Roger is correct here. Underground water pipe electrode is no
longer sufficient as the earth ground in most locations for a long
list of reasons. Yes, that water pipe must be bonded to the AC
electric so that plumbing is electrically same voltages as everything
else inside the house - human safety. Public utility water system may
have voltages different from AC electric if the two are not bonded -
as has been observed when a fault was created outside the building.
Destructive currents entering on that water system must be eliminated
by being bonded to AC electric.

Many other reasons why AC breaker box must be bonded to the cold
water pipe. Yes cold water pipe may act as an earthing electrode.
But it is no longer sufficient as the earthing electrode.

An earthing electrode - one that all utilities must use - is not the
water pipe. All utilities must connect to a separate and dedicated
earthing electrode defined by code (as defined in Article 250.52 A -
paragraphs 2 through 7). The code defines 7 types of earthing
electrodes. The only electrode not sufficient is cold water pipe -
paragraph 1.

For lightning, an antenna (or satellite dish) is typically treated
as if a separate structure as demonstrated in this application note:
http://www.erico.com/public/library/fep/technotes/tncr002.pdf
Antenna wire must connect to the same building 'single point' earthing
electrode. IOW any wire in any cable going to the station must first
connect to that single point earthing electrode (either by hardwire or
protector) before entering the building. Best is to have the antenna
earthing also connected, by underground wire, to that same single
point ground.

This for lightning protection is beyond what is called for by
National Electrical Code for numerous reasons. First, NEC only
addresses human safety. The OP is asking about transistor safety.

Second, the code does little to address impedance. Grounding for human safety is mostly about resistance - not impedance. Third, any grounding system dependent on some other trade (ie plumber) is no longer considered safe or sufficient.

A ground system must meet NEC requirements. Then it must exceed those requirements. For lightning protection, a cold water pipe is not longer considered a good solution because that earthing electrode is just not sufficient.

Also better is to earth lightning rods and antennas before that ground wire connects to a building's single point ground. Notice the underground wire connection between antenna earth ground and building earth ground.

And finally a purpose of earthing that is beyond what the NEC requires. A station needs earthing that provided both equipotential and conductivity. Code concentrates on conductivity. But for equipotential, we do things beyond what is normally sufficient for human safety. We install Ufer grounds or halo grounds that completely surround the protected facility. We relocate all utilities so that each wire in each cable makes a 'less than 10 foot' connection to that common earth electrode. Any exception to the single point earth ground (as defined in code) is not permitted when also earthing for transistor safety. Route earthing wires to be separate from all other wires, no splices, no sharp bends, not inside metallic conduit, etc. All earthing wires remain electrically separate until all meet at the single point ground. Conditions beyond what code demands or permits.

Consider with care information in that figure in:
http://www.erico.com/public/library/fep/technotes/tncr002.pdf
Things recommended are not immediately obvious. Reasons for this involve both equipotential and conductivity. Both are required for station protection.

3621. gamma match 70cm handheld

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 10:40:12 UTC
From: Kurt <ksaves2@sbcglobal.net>
Message-ID: <%FPQh.1209$zC.237@newssvr22.news.prodigy.net>
Source record: 43638

Hi,

Am trying a homemade 7 element handheld beam I'm making for 70cm with .25" brass stock. Have a little junction box I have mounted on the beam with a male socket so I can use a BNC cable for the radio connection. Does it matter what size/type wire I use to connect the socket to the brass element and the Gamma match element inside the junction box? I want to use a socket so I can use different lengths of cable as opposed to hardwiring the cable to the antenna.

Thanks loads,
Kurt

3622. Re: Non technical antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 15:23:03 UTC
From: et472@FreeNet.Carleton.CA
Message-ID: <ev0fsn$97m$1@theodyn.ncf.ca>
Source record: 43637

"Larry Gauthier \" (MyCallsign@ARRL.NET) writes:

> If you find yourself with two radios that are similarly-equipped in terms of
> antennas, but one gets your favorite stations while the other does not, then
> the one that does not is either broken or has designed-in lousy sensitivity.
>
Actually, it might be the reverse, depending on what exactly is happening.

I have a all in one stereo I got at a garage sale. It had lousy reception of
a non-local station that is always receivable here on other radios, even lousy
ones. I naturally thought the antenna was the problem. But I did something
and realized I likely was attenuating the signal, and the issue wasn't
"not enough antenna" but too much. I took off the whip antenna, and that
thing gets perfect reception on that non-local station, whereas before it
was noisy.

Clearly, the stereo was being overloaded by local signals, which impacted
on it's ability to receive the strong but comparatively weaker non-local
station. Removing the antenna attenuated the local station(s) enough that
the stereo didn't overload, but the non-local station was still strong
enough to be received fine.

Most consumer broadcast receivers are too sensitive if anything, because
they don't handle strong signals that well, yet the strong signals
overloading them make them useless for receiving distant signals. A
less sensitive receiver wouldn't be as good for distant reception, but
the local signals wouldn't mask those distant signals with overload.

I don't know if this is the case here, but it is worth looking into
since it's the last thing people generally expect. I notice when I
got a Grundig portable sw receiver at a rummage sale in September, the
manual specifically states to keep the whip antenna shorter when on
the FM broadcast band (the antenna being longer for the shortwave
bands), and having been prompted by the manual and experience, I do
notice that not so great reception on the FM band is improved when
I shorten the whip antenna.

Michael VE2BVW

3623. Re: gamma match 70cm handheld

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 16:12:46 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1175703166.242836.241020@b75g2000hsg.googlegroups.com>
Source record: 43639

On Apr 4, 6:40 am, Kurt <ksav...@sbcglobal.net> wrote:
> Hi,
>
> Am trying a homemade 7 element handheld beam I'm making for 70cm
> with .25" brass stock. Have a little junction box I have mounted on
> the beam with a male socket so I can use a BNC cable for the radio
> connection. Does it matter what size/type wire I use to connect the
> socket to the brass element and the Gamma match element inside the
> junction box? I want to use a socket so I can use different lengths of
> cable as opposed to hardwiring the cable to the antenna.
>
> Thanks loads,
> Kurt

I havent had good results using a gamma match on 70cm. Im not sure if
its something I am doing wrong or maybe everyone else has problems
with gamma matches on this band too. I have become a quagi fan for
this band.

Jimmie

3624. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 17:11:52 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <s%QQh.24502$uo3.5405@newssvr14.news.prodigy.net>
Source record: 43640

Jim Kelley wrote:
> Accordingly, the fraction of energy that changes direction at a physical
> discontinuity is dictated by the physical constants of the physical
> discontinuity; index of refraction in the case of optics; impedance in
> the case of transmission lines.

Yes, all explained in my energy analysis article.
Personally, I wish whoever introduced virtual
reflection coefficients had not done so.
--
73, Cecil http://www.w5dxp.com

3625. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 17:20:20 UTC
From: Bud-- <remove.BudNews@isp.com>
Message-ID: <d18a3$4613de26$4213ea1b$4319@DIALUPUSA.NET>
Source record: 43641

w_tom wrote:

> On Apr 2, 8:07 am, Roger <GetValidAddr...@my.com> wrote:
>
>>Ahhh...The water pipe must be bonded to the electrical system, but the
>>main ground must be at the entrance. Here, we have plastic water pipe
>>all the way to the main from the meter, yet we have to bond the meters
>>which are metal with plastic running in and plastic running out.
>>...
>>
>>It's really easy to avoid here. We do not have metal piping available
>>for grounding.
>>Roger Halstead (K8RI & ARRL life member)
>>(N833R, S# CD-2 Worlds oldest Debonair)www.rogerhalstead.com
>
>
> Roger is correct here. Underground water pipe electrode is no
> longer sufficient as the earth ground in most locations for a long
> list of reasons.

As Thomas said, Roger is correct if the underground water service pipe
is plastic.
Missing is any of the ï¿½long list of reasonsï¿½.

>
> Many other reasons why AC breaker box must be bonded to the cold
> water pipe. Yes cold water pipe may act as an earthing electrode.
> But it is no longer sufficient as the earthing electrode.
>
> An earthing electrode - one that all utilities must use - is not the
> water pipe. All utilities must connect to a separate and dedicated
> earthing electrode defined by code (as defined in Article 250.52 A -
> paragraphs 2 through 7). The code defines 7 types of earthing
> electrodes. The only electrode not sufficient is cold water pipe -
> paragraph 1.

The code says (250.50) all electrodes listed in 250.52-A-1 through 6
MUST (where present) be connected together to form the earth electrode
system. 250.52ï¿½A-1, which is conveniently missing from w_ï¿½s list, is
metal underground water pipe (at least 10 feet metal underground).

ONLY if the pipe is not 10 feet long underground is bonding used instead.

Water pipe requires a ï¿½supplementalï¿½ electrode. That is because the
metal pipe may in the future be replaced by plastic.
From the National Electrical Code Handbook - same publisher as the NEC

ï¿½The requirement to supplement the metal water pipe is based on the practice of using plastic pipe for replacement when the original metal water pipe fails. This leaves the system without a grounding electrode unless a supplementary electrode is provided.ï¿½

Requiring a supplemental electrode does not indicate there is any defect in metal pipe as an electrode. As Thomas indicates, it is likely by far the best electrode available in urban areas with metal supply.

Earthing connection of other services, like the phone NID, may be made to the water pipe within 5 feet of the entrance to the building (the connection of the power earthing conductor is in the same 5 foot span).

> We install Ufer grounds or halo grounds that completely
> surround the protected facility.

From
http://www.lightningsafety.com/nlsi_lhm/grounding_definitions.html
ï¿½Halo Grounded Ring: A grounded No. 2 wire, installed around all four walls inside a small building, at an elevation of approx. six inches below the ceiling. There are drops installed from the halo to the equipment cabinets and to waveguide ports, interior cable trays etc. Halo rings serve as connector points to achieve ground references of interior metallic objects. These, in turn, are connected to the main ground bus bar.ï¿½

Perhaps you mean ï¿½ground ringï¿½?

The code now requires a Ufer electrode in new construction with concrete foundations or footings.

--
bud--

3626. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 17:29:47 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ugRQh.1221$zC.483@newssvr22.news.prodigy.net>
Source record: 43642

Jim Kelley wrote:
>
> Cecil Moore wrote:
>> Given the
>> line, the unit area term can be dropped without error.
>
> In the engineering profession, it would probably mean without job; in
> science, without publication.

The number of watts inside a coaxial transmission line
is understood by any any rational person to be distributed
over the area of the coax. With a fixed-given unit-area,
the Poynting Vector is customarily given in watts, not
watts/unit-area. The same thing applies to watts within
a laser beam.

You are probably right about published white papers. You
are wrong about the engineering profession. All engineers
need to do is get close enough.
--
73, Cecil http://www.w5dxp.com

3627. Re: Is the Superposition Principle invalid?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 17:35:26 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ylRQh.1222$zC.581@newssvr22.news.prodigy.net>
Source record: 43643

Keith Dysart wrote:
> On Apr 2, 5:14 pm, Cecil Moore <nos...@w5dxp.com> wrote:
>> Keith Dysart wrote:
>>> It would appear that you are confusing the possible complexities
>>> of a class C power amplifier with the simplicity of the generator
>>> in the experiment I proposed.
>> The miracle
>> of rendering every circulator in the world obsolete by
>> adding a ten cent resistor is a miracle that you should
>> definitely pursue.
>
> You raise an interesting question. What are the design tradeoffs
> that drive choosing between a ten cent resistor and a circulator?

The design tradeoff is that the ten cent resistor will
not work.

> So why don't you prove my contention that the impedance
> encountered by the reflected wave is 450 Ohms incorrect.

Walter Maxwell did it for me.

> Here is how. Using my 450 Ohm value for the impedance
> compute the reflection coefficient at the generator
> using RC = (Z2-Z1)/(Z2_Z1).

Invalid! If it were that easy my ten year old grandson
would already be an RF engineer.

> I await the analysis.

http://www.w2du.com/r3ch19a.pdf
--
73, Cecil http://www.w5dxp.com

3628. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 17:45:07 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <DuRQh.24504$uo3.18154@newssvr14.news.prodigy.net>
Source record: 43644

Keith Dysart wrote:
> Please try again after adding 1 more wavelength of 450
> Ohm line between the generator and the 75 Ohm line you
> added. Kindly explain where the 'reflected power' on
> this new section of 450 Ohm line goes.

It doesn't leave the 450 ohm line as long as the generator
sees 75 ohms as a load. Here is a similar example:

source---75 ohm line--+--1/2WL 450 ohm line---75 ohm load

Where does the reflected energy on the 450 ohm line go?
Since there is a 75 ohm Z0-match at point '+', it circulates
between the load and point '+'. Decrease the length of the
75 ohm line by one inch until it doesn't exist anymore.
The same conditions continue to exist all during that time.
The reflections at point '+' disappear in the process of
wave cancellation which is a type of permanent interference.

>> Now consider that the 75 ohm line can be one foot
>> long and everything is the same as the 1WL of 75
>> ohm line (except the delays).
>
> This would be quite incorrect.

No, this would be 100% correct. One foot of 75 ohm coax
is enough to establish a 75 ohm environment. A 75 ohm
load on the source is enough to establish a 75 ohm
environment. Please see:

http://www.w2du.com/r3ch19a.pdf
--
73, Cecil http://www.w5dxp.com

3629. Re: Some thoughts relevant to measuring Tx eq src impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 17:48:01 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <lxRQh.24505$uo3.136@newssvr14.news.prodigy.net>
Source record: 43645

Keith Dysart wrote:
> In light of your new approach, which I wholeheartedly
> endorse, perhaps you will reconsider your response in the
> other threads and try to "understand the nature of the
> source starting with the simplest one".

I have pointed out the error in your calculation of the
reflection coefficient but you have ignored it. I don't
know what more I can do. You seem to be allowing output
and blocking input.
--
73, Cecil http://www.w5dxp.com

3630. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 17:52:03 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <7BRQh.1225$zC.871@newssvr22.news.prodigy.net>
Source record: 43646

Jim Kelley wrote:
> When you think of interference as being the instantaneous sum of waves
> at a given position and time, then there is really only one kind of
> interference to be had - though there are a variety of results which can
> be obtained from it.

If, as you say, interference is only a result and
not a cause, how can there possibly be "a variety
of results which can be obtained from (interference)"?
--
73, Cecil http://www.w5dxp.com

3631. Re: Some thoughts relevant to measuring Tx eq src impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 18:00:06 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <GIRQh.1226$zC.537@newssvr22.news.prodigy.net>
Source record: 43647

K7ITM wrote:
> If your goal "is to understand the nature of the source starting with
> the simplest one," why would you add resistors you don't need and make
> it more complicated than the simplest one?

There is no simpler amplifier than a single transistor
with a resistor in the collector circuit. That's the one
everyone starts out with in Electronics 101. Replacing
the collector resistor with an RF choke is a complication
that comes later.

> Rather, I see a suggestion that the
> source impedance does not necessarily have to be equal to any
> particular value, and in the general case does not have to be equal to
> the conjugate of the design load impedance.

I agree 100% and have said so in the past. If a source
delivers 70.7 volts to a 50 ohm load, the source impedance
doesn't matter except for efficiency.
--
73, Cecil http://www.w5dxp.com

3632. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 18:06:04 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <gORQh.1227$zC.139@newssvr22.news.prodigy.net>
Source record: 43648

Jim Kelley wrote:
> Electromagnetic waves reflect only from real physical boundaries.

Is the V/I ratio at the heart of a source a "real
physical boundary"? If not, why not?
--
73, Cecil http://www.w5dxp.com

3633. Re: Phase and Gain for Directional Antenna Needed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 18:15:36 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1175710536.131033.235850@e65g2000hsc.googlegroups.com>
Source record: 43649

High Matt,

For most antennas, the phase versus angle w.r.t. main lobe is not given. The same is valid for the phase center. When they give it, you should have a means to verify it.

As long as you make your array from same antennas, phase variation for each antenna will be the same and will cancel. Of course this is not true when you want to make time of arrival measurements for satellites under different elevation angle.

Another thing that might be of importance is the polarization. This also varies with antenna orientation.

If it really matters, I would suggest that you use a EM-field solver to find the full radiation pattern (phase, magnitude and polarization) for your antenna. If you consider patch like antennas, a NEC based simulator is not the best choice, probably you have to divert to expensive commercial packages. If money is available, you may hire somebody. The learning curve can be lengthy to get trustful results from simulation.

Technically spoken, it can be measured also, but you need a combination of good measuring equipment and a person that is very well into wave propagation. I'm not deep into GPS but is it possible to calibrate the antennas with the GPS system?

Of course this does not answer your question, but I hope it will help you a bit in finding an answer.

Wim
PA3DJS.

3634. Re: Non technical antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 18:15:42 UTC
From: Pete <pete@nospam.net>
Message-ID: <ev0q0k0mon@enews5.newsguy.com>
Source record: 43650

Michael Black wrote:
> "Larry Gauthier \" (MyCallsign@ARRL.NET) writes:
>
>> If you find yourself with two radios that are similarly-equipped in
>> terms of antennas, but one gets your favorite stations while the
>> other does not, then the one that does not is either broken or has
>> designed-in lousy sensitivity.
>>
> Actually, it might be the reverse, depending on what exactly is
> happening.
>
> I have a all in one stereo I got at a garage sale. It had lousy
> reception of a non-local station that is always receivable here on
> other radios, even lousy ones. I naturally thought the antenna was
> the problem. But I did something and realized I likely was
> attenuating the signal, and the issue wasn't "not enough antenna" but
> too much. I took off the whip antenna, and that thing gets perfect
> reception on that non-local station, whereas before it
> was noisy.
>
> Clearly, the stereo was being overloaded by local signals, which
> impacted
> on it's ability to receive the strong but comparatively weaker
> non-local station. Removing the antenna attenuated the local
> station(s) enough that the stereo didn't overload, but the non-local
> station was still strong
> enough to be received fine.
>
> Most consumer broadcast receivers are too sensitive if anything,
> because
> they don't handle strong signals that well, yet the strong signals
> overloading them make them useless for receiving distant signals. A
> less sensitive receiver wouldn't be as good for distant reception, but
> the local signals wouldn't mask those distant signals with overload.
>
> I don't know if this is the case here, but it is worth looking into
> since it's the last thing people generally expect. I notice when I
> got a Grundig portable sw receiver at a rummage sale in September, the
> manual specifically states to keep the whip antenna shorter when on
> the FM broadcast band (the antenna being longer for the shortwave
> bands), and having been prompted by the manual and experience, I do
> notice that not so great reception on the FM band is improved when
> I shorten the whip antenna.
>

> Michael VE2BVW

Thanks a lot for the great info Michael...I love technical stuff, and I find your comments very interesting. You guys have been very helpful. Thanks again to all of you...Pete

3635. Re: gamma match 70cm handheld

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 18:54:32 UTC
From: Kurt <ksaves2@sbcglobal.net>
Message-ID: <IvSQh.2880$5e2.548@newssvr11.news.prodigy.net>
Source record: 43651

JIMMIE wrote:
> On Apr 4, 6:40 am, Kurt <ksav...@sbcglobal.net> wrote:
>
>>Hi,
>>
>> Am trying a homemade 7 element handheld beam I'm making for 70cm
>>with .25" brass stock. Have a little junction box I have mounted on
>>the beam with a male socket so I can use a BNC cable for the radio
>>connection. Does it matter what size/type wire I use to connect the
>>socket to the brass element and the Gamma match element inside the
>>junction box? I want to use a socket so I can use different lengths of
>>cable as opposed to hardwiring the cable to the antenna.
>>
>> Thanks loads,
>> Kurt
>
>
> I havent had good results using a gamma match on 70cm. Im not sure if
> its something I am doing wrong or maybe everyone else has problems
> with gamma matches on this band too. I have become a quagi fan for
> this band.
>
> Jimmie
>
Thanks

3636. Re: Non technical antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 19:06:05 UTC
From: Pete <pete@nospam.net>
Message-ID: <ev0sv30oi5@enews5.newsguy.com>
Source record: 43652

Richard Clark wrote:
> On Tue, 3 Apr 2007 23:06:19 -0400, "Pete" <pete@nospam.net> wrote:
>
>> Thank you Richard...that is the kind of comment I was looking for (I
>> took Neil's with a grain of salt-there is absolutely nothing wrong
>> with the radio). I was trying to be polite in my post, but I am way
>> smarter than that.
>
> Hi Pete,
>
> No, it is still advice to consider. Your new radio does have the
> performance of a lemon in comparison to your old set.

Hi Richard...Make sure to read Michael Black's interesting info in this thread. I definitely believe the radio (cheap as it may be) is doing exactly what it is designed to do. I do not believe it is a lemon, and there is no doubt in my mind the older Panasonic has better circuitry in it (it is a better set and has a graphic equalizer also - the newer one doesn't even have bass/treble controls but it sounds good), but they are roughly comparable.

Actually, the old one probably costs quite a bit more (on a relative basis) considering how cheap you can buy this stuff these days compared to the price twenty years ago. Just for your info, I have an old Electrovoice stereo receiver downstairs (with dials/knobs) and it still works fine after 36 years.

Also FYI, I have a new Sherwood stereo receiver upstairs (with the fm antenna that came with it installed), and it also picks up the station I am talking about weaker than the other stations, but I was able to tweak the antenna and it comes in acceptable. It is interesting that the old Panasonic boombox has no trouble. Sorry if I am going off on a tangent. I have more comments below :-) ....Pete

>
>> I will try wrapping the wire around the antenna tomorrow and let you
>> know what happens (is it okay to use phone wire which has several
>> individually insulated wires in it). BTW could you please tell me
>> why the reception comes in when I put my hand around the antenna (ie
>> what is my body doing to the signal), and also answer my second
>> question about one antenna for both AM and FM. Thanks again...Pete
>
> Yes, it is a mystery still....
>
> Your body is a conductor, admittedly a very poor one, but the power

> levels we are talking about, and the currents involved don't ask very
> much. The wavelengths involved for FM are about your height. If we
> shift to AM, you would have to be the Jolly Green Giant (hence hand
> waving usually doesn't do much good). That you don't even have to
> touch the antenna is also an indication in the small power necessary,
> it is more about your height and proximity.
>
> Multi wire, such as you have, will make little difference. However,
> this is not to say that things won't remain marginal. You do have the
> experience with another radio that works in the identical environment,
> so that suggests some hope. There are "magic" lengths of wire, but
> you can escape that discussion by crafting various different lengths
> by bending, trimming, but still keeping things high (all of this is
> predicated on putting the antenna into the sight of the transmitter).
>
> The same antenna is NOT for both bands. The AM antenna is undoubtedly
> the old stand by we call the loopstick. This is a long rod of ferrite
> material with a coil or wrapping of wire - you've probably seen these
> before. A car antenna certainly does double duty, but this is not
> generally found in portable radios. This is because the car radio
> sits inside a metal cage that demands an external sky hook.
>
> 73's
> Richard Clark, KB7QHC

Thanks again Richard for all the good info. I kind of knew about the loopstick stuff but just wanted to make sure. You guys have been great...Pete

3637. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 19:25:26 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <ev0u36$93c$1@news.service.uci.edu>
Source record: 43653

Cecil Moore wrote:

> Jim Kelley wrote:
>
>> Electromagnetic waves reflect only from real physical boundaries.
>
> Is the V/I ratio at the heart of a source a "real
> physical boundary"? If not, why not?

Exactly two reasons: mu, and epsilon.

A physical boundary is neither defined by, nor affected by voltage, current, irradiance, luminosity, power, wealth, energy, phase of the moon, sun spots, kharma, or even gravitas.

Has this become a new point of contention, Cecil? You've said that you always claimed that waves only reflect from physical boundaries. And that's all I'm saying.

73, ac6xg

3638. Lightning 'liability' ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 19:50:45 UTC
From: KE5MMJZ <spam@artair.com>
Message-ID: <slrnf180co.7j9.spam-collector@k6.artair.com>
Source record: 43654

As a new ham, I am considering erecting a tower for
my antenna(s). As part of my research, I've been
reading about lightning protection, and now feel
I have a fair understanding of what I need to do
in order to protect both my radio gear and my home.
However, the thought occurred to me that if I
ercted a tower it would probably increase the odds
of lightning striking either it or a nearby object,
and while my house might be protected (or at least
I would be the one choosing to take the risk), what
about the neighbors? Even if the strike would be
directly on my tower, from what I've read there
could be enough induced voltage/current to damage
the 'unprotected' appliances of my neighbors, and
they might blame me for their losses (or even if
it doesn't hit the tower, they may still see it
as the cause of a nearby strike).
Has anyone heard of any such cases or am I
just worrying about the highly improbable?

Thanks,
Frank
KE5MJZ

3639. Re: Lightning 'liability' ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 20:24:26 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99094128B1470nonenowhere@61.9.191.5>
Source record: 43656

KE5MMJZ <spam@artair.com> wrote in news:slrnf180co.7j9.spam-collector@k6.artair.com:

...
> ercted a tower it would probably increase the odds
> of lightning striking either it or a nearby object,
> and while my house might be protected (or at least
> I would be the one choosing to take the risk), what
> about the neighbors? Even if the strike would be
> directly on my tower, from what I've read there
> could be enough induced voltage/current to damage
> the 'unprotected' appliances of my neighbors, and
> they might blame me for their losses (or even if
> it doesn't hit the tower, they may still see it
> as the cause of a nearby strike).
> Has anyone heard of any such cases or am I
> just worrying about the highly improbable?

Frank,

The existence of a tall conductor provides a measure of protection to nearby structures. The zone is often defined by a "ball" of radius equal to the height of the tall structure that is rolled on the ground to rest against the tall structure, and structures between the contact with the ground and tower, and under the ball are considered protected by the tall structure, ie that lightning is much more likely to strike the tall object. In this way, a tower often protects the nearby equipment hut from direct strikes.

Having said that, there are two other effects you must consider:
- the way in which the discharge current on the tower is dealth with; and
- the fields in the nearby area from the discharge current.

The usual approach is to try to shunt as much of the discharge current to ground. Nevertheless, some will enter your premises and you should pay attention to equipotential bonding and single point earthing techniques to minimise the voltages impressed across equipment interfaces, voltage that may cause damage.

It is not just about equipment, personal safety is more important, but provided you use earthing conductors sufficient to survive the lightning discharges (and people of do not) and equipotential bonding, then personal protection is fairly easily achieved.

Even if you have dealt with minimising interface voltages in your own premises, the discharge current may give rise to a surge on the power

lines or metallic water services that couple to your neighbours relative to each other or telecommunications services. It is conceivable that a discharge to your tower might not cause damage to your installation but could damage appliance in neighbouring premises... so I wouldn't call your tower as protecting neighbours.

Owen

3640. Re: Comparing Tuner Match to EZNEC Impedance Prediction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 20:24:33 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <13182c6jlftr25b@corp.supernews.com>
Source record: 43655

dykesc wrote:
>
> I didn't mention that I have a homebrew 1:1 current balun installed at
> the antenna feedpoint to eliminate common mode currents which would
> otherwise result from the off center feed. Would my EZNEC model still
> not be adequate? (I also didn't mention the 4:1 balun in my antenna
> tuner which I am accounting for in my comparison.) Also there is
> probably some coupling of the feedline to the antenna field due to
> geometry, but I tried to keep the feedline perpendicular to the
> feedpoint as much as possible. I believe I read in the HELP file that
> EZNEC does not model this type of coupling. Am I correct on this
> point? I am not experiencing any issues with radiation off the
> feedline at my operating location, so I believe I've done a pretty
> good job with the balun and feedline routing.

EZNEC does model this type of coupling from wire to wire, but no coupling to a transmission line model. So the coupling will be accounted for only if you model the transmission line as wires.

Keeping the feedline perpendicular to the antenna isn't sufficient to eliminate coupling when the feedpoint is offset, since the line will still get unequal coupling from the two antenna sides. About the only way to positively reduce it to a small value is to use multiple current baluns spaced about a quarter wavelength or closer. The common mode current might otherwise be high or low depending on the feedline length and the length of the path to ground. Without modeling the entire path, the accuracy of the EZNEC model will depend on how successful you've been in reducing the common mode current to a low value. It's often difficult with an off-center fed antenna.

> Would you still recommend I don't pursue modeling of my OFC with EZNEC
> at least as far as transmission line and feedpoint parameters go. How
> about radiation patterns given the additional info in this post?

I'd always be suspicious of the result unless I verified that the common mode current on the line is low. You can, of course, measure it with a simple transformer made from a clamp-on ferrite core clamped over both feedline wires. Use about 10 turns for the secondary, and terminate the secondary with 50 ohms. That also allows you to put the detector at a distance, connected to the transformer with 50 ohm line, with the termination at the detector end.

> If I model the antenna feed with two additional wires will the limit
> on segments in the demo version of EZNEC start having an appreciable
> impact on the quality of results? I'm probably going to get the full
> version anyway but I am curious about the affect that segment limits

> has.

You'll probably start getting a noticeable change in results when the segment lengths exceed about 0.1 wavelength.

> One more question. Is there a way to set antenna orientation in EZNEC
> so that it coincides with my actual antenna end to end compass
> bearings? This would allow me to use the "bearings" option in EZNEC
> directly. It appears I have to measure X - Y offsets to do this and
> can't use a simple circular (degrees) input in EZNEC to do this.

You can either define the antenna wires to be in the correct orientation to begin with, or you can define them in a convenient way then use the Rotate Wire feature to rotate them to the desired orientation. If you prefer to work with compass direction rather than degrees CCW from the X axis, you can chose this in the Options Menu (Angle Convention selection).

Roy Lewallen, W7EL

3641. Re: gamma match 70cm handheld

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 20:29:40 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9909420C818D8nonenowhere@61.9.191.5>
Source record: 43657

Kurt <ksaves2@sbcglobal.net> wrote in news:%FPQh.1209$zC.237
@newssvr22.news.prodigy.net:

> Hi,
>
> Am trying a homemade 7 element handheld beam I'm making for 70cm
> with .25" brass stock. Have a little junction box I have mounted on
> the beam with a male socket so I can use a BNC cable for the radio
> connection. Does it matter what size/type wire I use to connect the
> socket to the brass element and the Gamma match element inside the
> junction box? I want to use a socket so I can use different lengths of
> cable as opposed to hardwiring the cable to the antenna.
>

Kurt, if the connection is real short, it won't matter much and will be compensated by the gamma trimming. Keep in mind that the diameter of the gamma arm and spacing relative to the driven element itself are very important, and to the extent your connection is an extension of that, it will become important if it has appreciable length.

Gamma matches are very sensitive to dimensions around the gamma arm, so they are not a very good match for an antenna that might get knocked around.

Owen

3642. Re: Lightning 'liability' ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 20:53:11 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ev137o$r9b$1@nntp1.jpl.nasa.gov>
Source record: 43659

Owen Duffy wrote:

> Frank,
>
> The existence of a tall conductor provides a measure of protection to
> nearby structures. The zone is often defined by a "ball" of radius equal
> to the height of the tall structure that is rolled on the ground to rest
> against the tall structure, and structures between the contact with the
> ground and tower, and under the ball are considered protected by the tall
> structure, ie that lightning is much more likely to strike the tall
> object. In this way, a tower often protects the nearby equipment hut from
> direct strikes.

I believe that the latest research indicates that the "rolling ball"
isn't as accurate as once believed (or necessarily better than the older
"cone of protection"). But the difference might be in the noise floor
for most ham installations.
>

3643. Re: Non technical antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 20:56:30 UTC
From: Pete <pete@nospam.net>
Message-ID: <ev13e30a5l@enews4.newsguy.com>
Source record: 43658

Michael Black wrote:
> "Larry Gauthier \" (MyCallsign@ARRL.NET) writes:
>
>> If you find yourself with two radios that are similarly-equipped in
>> terms of antennas, but one gets your favorite stations while the
>> other does not, then the one that does not is either broken or has
>> designed-in lousy sensitivity.
>>
> Actually, it might be the reverse, depending on what exactly is
> happening.
>
> I have a all in one stereo I got at a garage sale. It had lousy
> reception of a non-local station that is always receivable here on
> other radios, even lousy ones. I naturally thought the antenna was
> the problem. But I did something and realized I likely was
> attenuating the signal, and the issue wasn't "not enough antenna" but
> too much. I took off the whip antenna, and that thing gets perfect
> reception on that non-local station, whereas before it
> was noisy.
>
> Clearly, the stereo was being overloaded by local signals, which
> impacted
> on it's ability to receive the strong but comparatively weaker
> non-local station. Removing the antenna attenuated the local
> station(s) enough that the stereo didn't overload, but the non-local
> station was still strong
> enough to be received fine.
>
> Most consumer broadcast receivers are too sensitive if anything,
> because
> they don't handle strong signals that well, yet the strong signals
> overloading them make them useless for receiving distant signals. A
> less sensitive receiver wouldn't be as good for distant reception, but
> the local signals wouldn't mask those distant signals with overload.
>
> I don't know if this is the case here, but it is worth looking into
> since it's the last thing people generally expect. I notice when I
> got a Grundig portable sw receiver at a rummage sale in September, the
> manual specifically states to keep the whip antenna shorter when on
> the FM broadcast band (the antenna being longer for the shortwave
> bands), and having been prompted by the manual and experience, I do
> notice that not so great reception on the FM band is improved when
> I shorten the whip antenna.
>

> Michael VE2BVW

Michael...you were absolutely correct (100%) about shortening the whip for FM broadcasts. I shortened the whip to its fully collapsed position and it worked, and the station I wanted came in at an acceptable level. Great info. So now my logical question is why are the FM whip antennas even extendible if they play better fully collapsed. I guess it depends on a bunch of variables such as power of the transmitter and location of where the signal is being transmitted from. I know from past experience that extending the antenna can help sometimes.

But shortening it worked - what is the quick logic if you don't mind. I know that everything is frequency and wavelength and they are inversely proportional. I would have never thought that shortening the antenna would have solved the problem - I even thought I tried that before, but I must not have stayed with it long enough. Thanks again to you and everyone else for all your help :-) .

Pete

3644. Re: Lightning 'liability' ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 21:36:01 UTC
From: Dave <noone@nowhere.com>
Message-ID: <5TUQh.4367$k%2.2130@trndny01>
Source record: 43660

"KE5MMJZ" <spam@artair.com> wrote in message
news:slrnf180co.7j9.spam-collector@k6.artair.com...
> As a new ham, I am considering erecting a tower for
> my antenna(s). As part of my research, I've been
> reading about lightning protection, and now feel
> I have a fair understanding of what I need to do
> in order to protect both my radio gear and my home.
> However, the thought occurred to me that if I
> ercted a tower it would probably increase the odds
> of lightning striking either it or a nearby object,
> and while my house might be protected (or at least
> I would be the one choosing to take the risk), what
> about the neighbors? Even if the strike would be
> directly on my tower, from what I've read there
> could be enough induced voltage/current to damage
> the 'unprotected' appliances of my neighbors, and
> they might blame me for their losses (or even if
> it doesn't hit the tower, they may still see it
> as the cause of a nearby strike).
> Has anyone heard of any such cases or am I
> just worrying about the highly improbable?
>
> Thanks,
> Frank
> KE5MJZ
>

if the lightning is close enough to strike your tower, it was going to hit
in that general area anyway. your tower has no effect once you get up to
the heights where lightning starts... it can only effect that last little
jump to connect to the ground where the 'cone' or 'ball' of protection area
is commonly considered.

3645. Re: Lightning 'liability' ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 21:41:11 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99094E2C4776Fnonenowhere@61.9.191.5>
Source record: 43661

Jim Lux <james.p.lux@jpl.nasa.gov> wrote in
news:ev137o$r9b$1@nntp1.jpl.nasa.gov:

> Owen Duffy wrote:
>
>> Frank,
>>
>> The existence of a tall conductor provides a measure of protection to
>> nearby structures. The zone is often defined by a "ball" of radius
>> equal to the height of the tall structure that is rolled on the
>> ground to rest against the tall structure, and structures between the
>> contact with the ground and tower, and under the ball are considered
>> protected by the tall structure, ie that lightning is much more
>> likely to strike the tall object. In this way, a tower often protects
>> the nearby equipment hut from direct strikes.
>
> I believe that the latest research indicates that the "rolling ball"
> isn't as accurate as once believed (or necessarily better than the
> older "cone of protection"). But the difference might be in the noise
> floor for most ham installations.
>>
>

Agreed Jim. The case is better for the nearby equipment hut than the
typical residential building near a 50' tower.

BTW, the "rolling ball" is the recommended approach in Australian
Standard 1768-1991 which I think is still current.

Owen

3646. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 23:38:23 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175729903.430084.124180@y80g2000hsf.googlegroups.com>
Source record: 43662

On 26 Mar, 19:27, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
> "art" <aun...@insightbb.com> wrote in message
>
> news:1174918889.954850.13600@p77g2000hsh.googlegroups.com...
>
>
>
>
>
> > Antennas seemed to have evolved into structures that
> > are parallel or at right angles to the earths surface
> > Why is this or is it asthetics that is driving this thinking?
> > My research on the subject evolves around the vector formation
> > of radiation and where the addition of the vectors involved
> > which creats radiation is at an angle to the radiator..
> > This suggests that for best radiative advantage it is
> > this vector that should be parallel to the earths surface
> > and not the physical radiator. This appears to be born out
> > by following my Gaussian approach to radiator design.
> > So the question of habitual arrangement of antenna arrays
> > parallel or at right angles to the earths surface as
> > being the best arrangement needs some sort of validation.
> > Any thoughts as to why it should be so and the scientific
> > facts that support it?
> > Art
>
> What angle did you derive was the best angle to mount an anenna? Please show
> experimental data to backup your conclusions.
>
> Jimmie- Hide quoted text -
>
> - Show quoted text -

I searched thru Google and I see there is a lot of work going on with
respect to tilting in the GHz area. Apparently some antennas come
equiped with remote mechanical as well as digital type switchers. I
found one commercial vertical antenna that was FIXED at a 3 degree
tilt which is about what I found with a high frequency version for max
vertical gain. Seems like the majority are going for mechanical
tilting as digital delay style tilting is having an adverse action on
the beam itself. I cannot find any literature that supplies technical
backup so I suspect they are the result of emperical work and not
mathematically as I have.It does seem that
many are using tilt angle for accuracy in TOA for various reasons.

By the way I have found that with cluster form this tilt angle is progressive with respect to close spaced elements in both horizontal and vertical forms. Seems like the commercials are spending a lot of money with repect to tipping for WiFI which requires extreme accurracy between nodes and where inaccurracy becomes progressive in deteriation. All very fascinating at least for non amateurs.
Art

3647. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-04 23:56:02 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <b7e813dj13i1jna7b8ke61esma00mbeo3q@4ax.com>
Source record: 43663

On 4 Apr 2007 16:38:23 -0700, "art" <aunwin@insightbb.com> wrote:

>All very fascinating at least for non amateurs.

We've been doing it for years on repeaters. It's called "down tilt"

eBay has kits for sale as does:
www.hotflashesatthetower.com (Andrew Antenna Down Tilt Mounting Kit
602030A. US $9.99)

Proving anything can be patented, that was done 10 years ago:
5798675 Continuously variable phase-shifter for electrically
down-tilting an antenna

and on and on and on....

73's
Richard Clark, KB7QHC

3648. Re: Lightning 'liability' ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 00:29:40 UTC
From: Jake Brodsky <ab3a@cNo0mScPaAsMt.net>
Message-ID: <DeCdnd78m5hr34nbnZ2dnUVZ_rKvnZ2d@comcast.com>
Source record: 43664

KE5MMJZ wrote:
> As a new ham, I am considering erecting a tower for
> my antenna(s). As part of my research, I've been
> reading about lightning protection, and now feel
> I have a fair understanding of what I need to do
> in order to protect both my radio gear and my home.
> However, the thought occurred to me that if I
> ercted a tower it would probably increase the odds
> of lightning striking either it or a nearby object,
> and while my house might be protected (or at least
> I would be the one choosing to take the risk), what
> about the neighbors? Even if the strike would be
> directly on my tower, from what I've read there
> could be enough induced voltage/current to damage
> the 'unprotected' appliances of my neighbors, and
> they might blame me for their losses (or even if
> it doesn't hit the tower, they may still see it
> as the cause of a nearby strike).
> Has anyone heard of any such cases or am I
> just worrying about the highly improbable?

I haven't heard of it. Just make sure that everything is grounded
according to the National Electric Code (NEC). There are sections
devoted especially for towers at residences.

I say this as one who works in an industrial environment with large
free-standing towers. Our gear must stay online with five nines of
reliability. We routinely take direct hits on our microwave gear and
nothing happens. It goes to ground. We may not notice a thing except
for a few connections which have been welded together ;-)

73,

Jake Brodsky, AB3A

3649. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 01:25:12 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <YdYQh.5133$u03.2136@newssvr21.news.prodigy.net>
Source record: 43665

Jim Kelley wrote:
> Has this become a new point of contention, Cecil? You've said that you
> always claimed that waves only reflect from physical boundaries. And
> that's all I'm saying.

When it comes to a source, I seem to have been wrong
about that. A source seems to create its own physical
boundary.
--
73, Cecil http://www.w5dxp.com

3650. Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 01:50:52 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <0CYQh.11100$P84.5052@trnddc07>
Source record: 43666

OK, I used to be able to do this years ago, but I can't seem to find the right references now.

If an antenna reflection coefficient is measured at, for example. 0.333 at -100 degrees, how is Z calculated? I think I can do this with a smith chart, but the result does not match my attempted calculations.

TIA
Wayne

3651. Reasonably-priced capacitors for traps

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 01:53:53 UTC
From: Rick <Nospam@reply.in.gp>
Message-ID: <pan.2007.04.05.01.53.53.248179@reply.in.gp>
Source record: 43667

Anybody know where I can get some halfways reasonably priced capacitors for making traps?

I don't need much power capability - 100 watts max.

I looked on rfparts.com and WOW, are they proud of them... can't find a'one that's suitable for under about 15 bucks EACH ...

3652. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 02:00:22 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <r9p813d70no76qgeusft1th85h4trv5c5c@4ax.com>
Source record: 43668

On Thu, 05 Apr 2007 01:50:52 GMT, "Wayne" <mygarbagecan@verizon.net> wrote:

>OK, I used to be able to do this years ago, but I can't seem to find the
>right references now.
>
>If an antenna reflection coefficient is measured at, for example. 0.333
>at -100 degrees, how is Z calculated? I think I can do this with a smith
>chart, but the result does not match my attempted calculations.
>
>TIA
>Wayne
>

Hello Wayne,

The first reference I can give you is in "Theory and Problems of Transmission Lines," by Robert Chipman, in
Schaum's Outline Series, Page 128, Eqs. 7.9a and 7.9b.

If you don't have access to Schaum, I'll reconstitute the equations for you in Word, and send them via email.

In addition, I ran across these equations a day or so ago on this NG--I'll try to find them and direct you to
them on this NG.

Walt,W2DU

3653. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 02:02:43 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175738563.038794.119780@q75g2000hsh.googlegroups.com>
Source record: 43669

On Apr 4, 9:25 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> When it comes to a source, I seem to have been wrong
> about that. A source seems to create its own physical
> boundary.

Truly, you have constructed a world view that is much more
complicated than necessary.

Consider the 75 Ohm resistor at the right hand end of a 75 Ohm
transmission line. The load is matched to the line and there
is no discontinuity and (dare I say it?) no reflection.

Want a generator at that end? Put an ideal current source
in parallel with the 75 Ohm resistor. What do you have but a
generator with a 75 Ohm output impedance. And no discontinuity.

Do all the above with a 50 Ohm resistor. As a load, the 50
Ohm resistor is a discontinuity with reflections. As a
generator it has a 50 Ohm output impedance and there is a
discontinuity.

Is not the symmetry rather enticing? And simple?

And using superposition, you can analyze the incident wave
and its reflection, and along with the generated wave, sum
them to obtain the total system response.

Truly elegant. And all so simple.

...Keith

3654. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 02:21:06 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99097DA18D708nonenowhere@61.9.191.5>
Source record: 43670

"Wayne" <mygarbagecan@verizon.net> wrote in
news:0CYQh.11100$P84.5052@trnddc07:

> OK, I used to be able to do this years ago, but I can't seem to find
> the right references now.
>
> If an antenna reflection coefficient is measured at, for example.
> 0.333 at -100 degrees, how is Z calculated? I think I can do this
> with a smith chart, but the result does not match my attempted
> calculations.
>
> TIA
> Wayne
>
>

The expression for Gamma that springs to mind is (Zl-Zo)/(Zl+Zo).

Rearranging the terms gives Zl=-Zo(Gamma+1)/(Gamma-1) doesn't it?

Owen

3655. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 02:22:51 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <jmq8139oli0ji3e2fpqnlpe134061s2f40@4ax.com>
Source record: 43671

On Thu, 05 Apr 2007 01:50:52 GMT, "Wayne" <mygarbagecan@verizon.net> wrote:

>OK, I used to be able to do this years ago, but I can't seem to find the
>right references now.
>
>If an antenna reflection coefficient is measured at, for example. 0.333
>at -100 degrees, how is Z calculated? I think I can do this with a smith
>chart, but the result does not match my attempted calculations.
>
>TIA
>Wayne
>

Wayne, I just put the pertinent equations into an email addressed to mygarbagecan@verizon.net, which I sent.
Is this your correct address? If not, please give me your correct address in an email to me at walt@w2du.com.

Walt, W2DU

3656. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 02:22:54 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99097DEF82140nonenowhere@61.9.191.5>
Source record: 43672

Owen Duffy <none@no.where> wrote in news:Xns99097DA18D708nonenowhere@
61.9.191.5:
>
> Rearranging the terms gives Zl=-Zo(Gamma+1)/(Gamma-1) doesn't it?

That probably looks better written as Zl=Zo(1+Gamma)/(1-Gamma)

Owen

3657. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 02:29:00 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <ktq813dcbvoq57permesdhpbia5alchrgr@4ax.com>
Source record: 43673

On Thu, 05 Apr 2007 02:21:06 GMT, Owen Duffy <none@no.where> wrote:

>"Wayne" <mygarbagecan@verizon.net> wrote in
>news:0CYQh.11100$P84.5052@trnddc07:
>
>> OK, I used to be able to do this years ago, but I can't seem to find
>> the right references now.
>>
>> If an antenna reflection coefficient is measured at, for example.
>> 0.333 at -100 degrees, how is Z calculated? I think I can do this
>> with a smith chart, but the result does not match my attempted
>> calculations.
>>
>> TIA
>> Wayne
>>
>>
>
>The expression for Gamma that springs to mind is (Zl-Zo)/(Zl+Zo).
>
>Rearranging the terms gives Zl=-Zo(Gamma+1)/(Gamma-1) doesn't it?
>
>Owen

Owen, l just now sent Wayne the equations from Chipman, using the eq editor in Word.

In case others would like the equations I'll try to format them here without the Word editor.

R/Zo = (1 - rho squared)/(1 + rho squared - 2 rho cos phi)

X/Zo = (2 rho sin phi)/(1 + rho squared - 2 rho cos phi)

Walt, W2DU

3658. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 02:42:27 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990981404E8CEnonenowhere@61.9.191.5>
Source record: 43674

Walter Maxwell <walt@w2du.com> wrote in
news:ktq813dcbvoq57permesdhpbia5alchrgr@4ax.com:

> On Thu, 05 Apr 2007 02:21:06 GMT, Owen Duffy <none@no.where> wrote:
>
>>"Wayne" <mygarbagecan@verizon.net> wrote in
>>news:0CYQh.11100$P84.5052@trnddc07:
>>
>>> OK, I used to be able to do this years ago, but I can't seem to find
>>> the right references now.
>>>
>>> If an antenna reflection coefficient is measured at, for example.
>>> 0.333 at -100 degrees, how is Z calculated? I think I can do this
>>> with a smith chart, but the result does not match my attempted
>>> calculations.
>>>
>>> TIA
>>> Wayne
>>>
>>>
>>
>>The expression for Gamma that springs to mind is (Zl-Zo)/(Zl+Zo).
>>
>>Rearranging the terms gives Zl=-Zo(Gamma+1)/(Gamma-1) doesn't it?
>>
>>Owen
>
> Owen, l just now sent Wayne the equations from Chipman, using the eq
> editor in Word.
>
> In case others would like the equations I'll try to format them here
> without the Word editor.
>
> R/Zo = (1 - rho squared)/(1 + rho squared - 2 rho cos phi)
>
> X/Zo = (2 rho sin phi)/(1 + rho squared - 2 rho cos phi)
>
> Walt, W2DU
>
Walt, I take that to use rho to mean to magnitude of the reflection
coefficient Gamma.

My formula appears correct for Gamma, and the answer to Wayne's example
is 36-j27.

There is an uglier formula with tanh terms in it that gives the impedance at a distance along a line with a given propagation constant... but it is much more complicated to calculate than my expression when the distance is zero.

Owen

3659. Re: Non technical antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 02:51:56 UTC
From: richardharrison@webtv.net
Message-ID: <23773-4614644C-103@storefull-3252.bay.webtv.net>
Source record: 43676

Pete wrote:
"So now my logical question is why are the FM whip antennas even extendible if they play better fully collapsed?"

Length is adjustable to tune the antenna to resonance so that excess reactance does not block too much signal from the receiver. Resonance depends on the station you want to receive.

Wavelength = 300 / MHz

At 100 MHz, wavelength = 3 meters

If the best antenna length were 1/4 wavelength, length would be about 0.75 meter = 75cm/2.54cm/in.= 29.53in. which may be shortened by 5% for "end effects" which calculates to about 28 inches for a 100 MHz station. Higher frequency stations may require shorter lengths and lower frequency stations may require longer lengths. We don`t know the design of the radio and what inherent reactance may reside inside. So, we really don`t know how long the adjustable antenna needs to be.
It is far better to experiment with the length of the antenna to get the best results.

Some radios use the same antenna for several bands of a multiband tadio. So adjust the antenna if necessary for best results.

Best regards, Richard Harrison, KB5WZI

3660. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 03:01:11 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9909846D4C984nonenowhere@61.9.191.5>
Source record: 43675

Walter Maxwell <walt@w2du.com> wrote in
news:ktq813dcbvoq57permesdhpbia5alchrgr@4ax.com:

...
> R/Zo = (1 - rho squared)/(1 + rho squared - 2 rho cos phi)
>
> X/Zo = (2 rho sin phi)/(1 + rho squared - 2 rho cos phi)
...

These appear to depend on Zo=Ro to be correct, perhaps they would be more correctly expressed using Ro instead of Zo.

Owen

3661. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 03:24:43 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <%ZZQh.5687$bM1.3295@trnddc03>
Source record: 43577

Owen and Walt--
Thanks for the info. Now things are working out right.
--Wayne

"Owen Duffy" <none@no.where> wrote in message
news:Xns9909846D4C984nonenowhere@61.9.191.5...
> Walter Maxwell <walt@w2du.com> wrote in
> news:ktq813dcbvoq57permesdhpbia5alchrgr@4ax.com:
>
> ...
>> R/Zo = (1 - rho squared)/(1 + rho squared - 2 rho cos phi)
>>
>> X/Zo = (2 rho sin phi)/(1 + rho squared - 2 rho cos phi)
> ...
>
> These appear to depend on Zo=Ro to be correct, perhaps they would be more
> correctly expressed using Ro instead of Zo.
>
> Owen

3662. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 03:27:09 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <h0_Qh.5689$bM1.5459@trnddc03>
Source record: 43578

Yes, that strange email address is correct. I received your word document.
Thanks very much.
Wayne
"Walter Maxwell" <walt@w2du.com> wrote in message
news:jmq8139oli0ji3e2fpqnlpe134061s2f40@4ax.com...
> On Thu, 05 Apr 2007 01:50:52 GMT, "Wayne" <mygarbagecan@verizon.net>
> wrote:
>
>>OK, I used to be able to do this years ago, but I can't seem to find the
>>right references now.
>>
>>If an antenna reflection coefficient is measured at, for example. 0.333
>>at -100 degrees, how is Z calculated? I think I can do this with a smith
>>chart, but the result does not match my attempted calculations.
>>
>>TIA
>>Wayne
>>
>
> Wayne, I just put the pertinent equations into an email addressed to
> mygarbagecan@verizon.net, which I sent.
> Is this your correct address? If not, please give me your correct address
> in an email to me at walt@w2du.com.
>
> Walt, W2DU

3663. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 03:38:58 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <fbr813da8sfd93ge022s6b8sn5vvp2hehk@4ax.com>
Source record: 43579

On Thu, 05 Apr 2007 03:01:11 GMT, Owen Duffy <none@no.where> wrote:

>Walter Maxwell <walt@w2du.com> wrote in
>news:ktq813dcbvoq57permesdhpbia5alchrgr@4ax.com:
>
>...
>> R/Zo = (1 - rho squared)/(1 + rho squared - 2 rho cos phi)
>>
>> X/Zo = (2 rho sin phi)/(1 + rho squared - 2 rho cos phi)
>...
>
>These appear to depend on Zo=Ro to be correct, perhaps they would be more
>correctly expressed using Ro instead of Zo.
>
>Owen

Owen, for historical accuracy, at least in the US, prior to 1950, rho, sigma, and S were used to represent
standing wave ratio. The symbol of choice used to represent reflection coefficient during that early era was
upper case lambda. However, in 1953 the American Standards Association (now NIST) announced in its publication
ASA Y10.9-1953, that rho is to replace upper case lambda as the standard symbol for reflection coefficient,
and SWR to represent standing wave ratio. Most of academia responded to the change, but a few have not. I
don't know about Australia, but in the US lambda is rarely seen as the symbol for reflection coefficient.

WRT Ro vs Zo, I was simply copying directly from Chipman, where Zo is routinely considered the characteristic
impedance of a transmission line, and where it's usually considered sufficiently low loss to the thought of as
Ro.

Walt

3664. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 03:57:22 UTC
From: richardharrison@webtv.net
Message-ID: <3824-461473A2-125@storefull-3253.bay.webtv.net>
Source record: 43581

Dave wrote:
"I would like to propose a grounding arrangement for my (hypothetical) antenna and get some feedback on it."

Assuming the tower is not base insulated, start by grounding each leg of the tower with a no. 6 AWG or larger cable directly to its own ground rod.

Best lightning protection comes from folded driven element antennas grounded directly at the tower top or other mounting point and connecting the antenna with coax which is grounded again at the tower base. If a folded driven element is not used, a short-circuited quarter-wave stub can be connected directly across the antenna drivepoint to supply the grounding to the tower that a folded element provides.

Standard practice requires a no. 6 AWG or larger cable directly connecting the base of the tower to the ground connection used by the electrical service to the site.

For enhanced protection, large RF chokes as used in tower lighting circuits in broadcast stations, are placed in each power wire, including the neutral, between the electrical service and the radio connected to the antenna. A-C capacitors are connected between each end of the high-current chokes and a common connection directly to the station ground. If there are 3 wires you need 6 caoacitors. Across each capacitor you need a metal oxide varistor appropriate for the line volts and the joules you may be called upon to dissipate when lightning strikes. We also shunted the capavcitors with conventional thyrite arrestors to back-up the MOV`s. This pi-filter with arresters worked like gang busters. It is not excessive but did prove necessary for solid-state equipment protection.

Best regards, Richard Harrison, KB5WZI

3665. Re: gamma match 70cm handheld

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 03:58:50 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <_t_Qh.136935$907.114739@newsfe13.phx>
Source record: 43580

"Kurt" <ksaves2@sbcglobal.net> wrote in message
news:%FPQh.1209$zC.237@newssvr22.news.prodigy.net...
> Hi,
>
> Am trying a homemade 7 element handheld beam I'm making for 70cm
> with .25" brass stock. Have a little junction box I have mounted on
> the beam with a male socket so I can use a BNC cable for the radio
> connection. Does it matter what size/type wire I use to connect the
> socket to the brass element and the Gamma match element inside the
> junction box? I want to use a socket so I can use different lengths of
> cable as opposed to hardwiring the cable to the antenna.

I read the other responses and have no quarrel with them. However,
I have seen a commercial uhf yagi with a gamma match. It was on
the side of a building and was probably cut for the 450 - 470 MHz
business band; it looked just a bit smaller than my 70 cm antennas.

My point: It can be done, assuming the antenna I saw wasn't a
total POS!

73
"Sal"
(KD6VKW)

3666. Re: Non technical antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 04:18:19 UTC
From: Pete <pete@nospam.net>
Message-ID: <ev1tag01f9e@enews4.newsguy.com>
Source record: 43582

Richard Harrison wrote:
> Pete wrote:
> "So now my logical question is why are the FM whip antennas even
> extendible if they play better fully collapsed?"
>
> Length is adjustable to tune the antenna to resonance so that excess
> reactance does not block too much signal from the receiver. Resonance
> depends on the station you want to receive.
>
> Wavelength = 300 / MHz
>
> At 100 MHz, wavelength = 3 meters
>
> If the best antenna length were 1/4 wavelength, length would be about
> 0.75 meter = 75cm/2.54cm/in.= 29.53in. which may be shortened by 5%
> for "end effects" which calculates to about 28 inches for a 100 MHz
> station. Higher frequency stations may require shorter lengths and
> lower frequency stations may require longer lengths. We don`t know
> the design of the radio and what inherent reactance may reside
> inside. So, we really don`t know how long the adjustable antenna
> needs to be.
> It is far better to experiment with the length of the antenna to get
> the best results.
>
> Some radios use the same antenna for several bands of a multiband
> tadio. So adjust the antenna if necessary for best results.
>
> Best regards, Richard Harrison, KB5WZI

Thank you Richard. I understand what you said. This was a lower to mid frequency station (97.5 MHz), and it required a shorter length, but other stations right next to it came in fine at a longer extension. This is weird stuff, and its obviously dependent on the radio guts and what is going on with that one station as far as location and power, etc. It is refreshing to be in a newsgroup where people are helpful, and not condescending and vulgar like so many others if you know what I mean. Thanks again to you all.

Pete

3667. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 04:46:30 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990996480FA7Bnonenowhere@61.9.191.5>
Source record: 43583

Walter Maxwell <walt@w2du.com> wrote in
news:fbr813da8sfd93ge022s6b8sn5vvp2hehk@4ax.com:

...
> that rho is to replace upper case lambda as the standard symbol for
> reflection coefficient, and SWR to represent standing wave ratio. Most

Chipman's formulae that you quoted work correctly if rho means the
magnitude of the complex reflection coefficient (rather than the
(complex) reflection coefficient as you say above).

The formulae were probably written when we used slide rules and worked
out the real and imaginary parts separately, whereas today with access to
tools that treat complex numbers as such, we can carry a complex value
through calculations as a single value then separate out the real an
imaginary parts at the end. There is also no real burden in treating Zo
as complex instead of the lossless / distortionless line approximation.

The different notation is painful, isn't it. I write Gamma to mean
uppercase-gamma, and use Gamma for the complex reflection coefficient,
rho for the magnitude of Gamma, lambda for wavelength, don't use Lambda
(I don't think), and gamma for the complex line propagation constant. It
think it is a fairly common convention, but if what you say above is
literally correct, it is not compliant with ASA Y10.9-1953.

Owen

3668. Re: Reasonably-priced capacitors for traps

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 04:48:08 UTC
From: Bryan <bryan.swadenerNOSPAM@comcast.net>
Message-ID: <2tSdnW0FiMIR4onbnZ2dnUVZ_vamnZ2d@giganews.com>
Source record: 43584

Rick wrote:
>
> Anybody know where I can get some halfways reasonably priced capacitors
> for making traps?
>
> I don't need much power capability - 100 watts max.
>
> I looked on rfparts.com and WOW, are they proud of them... can't find
> a'one that's suitable for under about 15 bucks EACH ...
>
Hi Rick,

A stub of coaxial cable will work... approximately 30pF/foot for 50 ohm types... approximately 20pF/foot for 75 ohm types. Aside from the low cost, the spiffy thing about using a coax stub is that, with a pair of wire cutters, it makes the trap easily tunable.

The breakdown voltage will be much higher for a cable with a solid polyethylene dielectric than for the foamed PE cables: http://www.belden.com/pdfs/Cable101/coaxrefc.pdf. In that datasheet, 8214 (RG8/U w/ FPE dielectric) is good for 300V RMS, while 8237 (RG8/U w/ solid PE dielectric) is good for 3700V RMS. You might not think your 100W would need much insulation (70.7V at 50 ohms) but, your trap may *not* be at a 50 ohm point. Hint: to maintain the cable's breakdown voltage, let the center conductor & dielectric protrude beyond the shield. Otherwise, the free-hanging end of the stub may arc over. I learned that trick when building an 80/40m trap dipole... flashed it over a few times (running a kilowatt) before I noticed the soot!

73,
Bryan WA7PRC

3669. Re: gamma match 70cm handheld

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 05:04:44 UTC
From: Bryan <bryan.swadenerNOSPAM@comcast.net>
Message-ID: <i-2dnT31L97tHonbnZ2dnUVZ_ternZ2d@giganews.com>
Source record: 43585

Owen Duffy wrote:
[snip]
> Gamma matches are very sensitive to dimensions around the gamma arm, so
> they are not a very good match

Pun intended? ;^)

> for an antenna that might get knocked
> around.
>
> Owen

I agree; rigidity of the matching section is all-important. But, I don't think it'd be too hard to accomplish, using a chuck of plastic/teflon block... the gamma rod would be only a couple of inches long.

Bryan WA7PRC

3670. Re: Non technical antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 05:24:11 UTC
From: Bryan <bryan.swadenerNOSPAM@comcast.net>
Message-ID: <Zf-dnUr9p6-dFYnbnZ2dnUVZ_tKjnZ2d@giganews.com>
Source record: 43586

Michael Black wrote:
> I have a all in one stereo I got at a garage sale. It had lousy reception
of
> a non-local station that is always receivable here on other radios, even
lousy
> ones. I naturally thought the antenna was the problem. But I did
something
> and realized I likely was attenuating the signal, and the issue wasn't
> "not enough antenna" but too much. I took off the whip antenna, and that
> thing gets perfect reception on that non-local station, whereas before it
> was noisy.
>
> Clearly, the stereo was being overloaded by local signals, which impacted
> on it's ability to receive the strong but comparatively weaker non-local
> station. Removing the antenna attenuated the local station(s) enough that
> the stereo didn't overload, but the non-local station was still strong
> enough to be received fine.
>
> Most consumer broadcast receivers are too sensitive if anything, because
> they don't handle strong signals that well, yet the strong signals
> overloading them make them useless for receiving distant signals. A
> less sensitive receiver wouldn't be as good for distant reception, but
> the local signals wouldn't mask those distant signals with overload.

In my days installing/maintaining FM receivers for background music (67 KHz SCA subcarrier), I ran into that a few times. In one installation, I installed our standard 3 element yagi on the roof and aimed it toward our transmitter. I had line-of-sight to our transmitter some 30 miles away (48.2 Km for our Canadian friend) but had horrible reception.
Our station was on 98.9 MHz (35KW), and at the top of the hill from my receiving location (90° azimuth) , were 3 TV (Ch 4, 5 & 7) and 2 FM stations (98.1 MHz & 100.7 MHz). I surmised the combined 716KW of those stations was overloading the receiver. A dipole made from some lamp cord wire, stapled to the ceiling of the room and fed into 75 ohm coax worked perfectly.
Sometimes simplest is bestest! :-)

Bryan WA7PRC

3671. Re: Reasonably-priced capacitors for traps

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 05:28:19 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99099D5F1B464nonenowhere@61.9.191.5>
Source record: 43587

"Bryan" <bryan.swadenerNOSPAM@comcast.net> wrote in
news:2tSdnW0FiMIR4onbnZ2dnUVZ_vamnZ2d@giganews.com:

> Rick wrote:
>>
>> Anybody know where I can get some halfways reasonably priced
>> capacitors for making traps?
>>
>> I don't need much power capability - 100 watts max.
>>
>> I looked on rfparts.com and WOW, are they proud of them... can't find
>> a'one that's suitable for under about 15 bucks EACH ...
>>
> Hi Rick,
>
> A stub of coaxial cable will work... approximately 30pF/foot for 50
> ohm types... approximately 20pF/foot for 75 ohm types. Aside from the
> low cost, the spiffy thing about using a coax stub is that, with a
> pair of wire cutters, it makes the trap easily tunable.
...

Something to keep in mind is that a short open circuit stub of small coax is a relatively lossy capacitor, and a lower loss capacitor can be made by cutting the cable in two and paralleling the two pieces.

For example, 2m of RG58C/U has a reactance of about 68 ohms at 10MHz, and a Q of only 135. 2 parallel pieces of 1.1m length has the same reactance, but double the Q, but still nowhere near the Q you expect of those doorknobs.

Owen

3672. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 05:36:30 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <vk1913lcrnfjt870mnnad3h3jveirlhoo6@4ax.com>
Source record: 43588

On 4 Apr 2007 19:02:43 -0700, "Keith Dysart" <kd1@sympatico.ca> wrote:

>On Apr 4, 9:25 pm, Cecil Moore <nos...@w5dxp.com> wrote:
>> When it comes to a source, I seem to have been wrong
>> about that. A source seems to create its own physical
>> boundary.
>
>Truly, you have constructed a world view that is much more
>complicated than necessary.
>
Hi Keith,

That isn't the half of it (without going into your further treatment)
our Cecileo will simply twist this admission of error into glowing
self validation - "and yet it moves."

73's
Richard Clark, KB7QHC

3673. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 08:56:19 UTC
From: joseph2k <quiettechblue@yahoo.com>
Message-ID: <TQ2Rh.5196$u03.131@newssvr21.news.prodigy.net>
Source record: 43589
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Cecil Moore wrote:

> billcalley wrote:
>> Now my head *really* hurts! This is a VERY confusing subject, to
>> say the least. (And I also thought antenna tuners actually had a
>> *loss* due to their limited Q...I think I'm going to change careers
>> now and just become a pet groomer; or perhaps simply give up
>> completely and work at Radio Shack).
>
> Real-world antenna tuners do have a loss but we previously
> specified a lossless system. Of course, real world tuners
> and transmission lines suffer losses but we all just live
> with those losses while striving to minimize them. The point
> is that an antenna tuner reflects most of the reflected
> energy back toward the load thus accomplishing a mismatch
> gain that offsets some, if not most, of the mismatch loss.
> High SWR transmission lines are indeed lossier than flat
> matched transmission lines of the same material.
> --
> 73, Cecil, w5dxp.com
Close but no cigar. The (now often automatic) antenna tuner is used to
transform the native impedance to the transmitter to match the conjugate
transformed impedance of the antenna at the transmitter end of the
transmission line. The effective result is that the incident energy
arriving at the antenna "sees" a matched load and goes out to free space
instead of bouncing off the transmission line to antenna interface.
This is also why better antennas have reasonable (not far off matching
impedance) characteristic impedances; they do not require matching networks
physically placed at the antenna itself.
--
JosephKK
Gegen dummheit kampfen die Gotter Selbst, vergebens.
--Schiller

3674. Re: 18:1 all band dipole?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 09:11:48 UTC
From: joseph2k <quiettechblue@yahoo.com>
Message-ID: <f33Rh.1501$w41.173@newssvr19.news.prodigy.net>
Source record: 43590
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Cecil Moore wrote:

> Buck wrote:
>> Cecil Moore <nospam@w5dxp.com> wrote:
>> Please explain your antenna and radio. I am assuming you have a solid
>> state rig with an so-239 connector on it for the basic and then you do
>> what?
>
> Hi Buck, Please check out my associated web page and then
> ask me anything that you don't understand.
>
> http://www.w5dxp.com/notuner.htm
>
> Contrary to what you may have been told, you can change
> the 50 ohm SWR seen by your transmitter by changing the
> length of the 450 ohm ladder-line.

Now that is a "real" ham radio antenna system, screwampus but it provably works, and is repeatable (by others).

--
JosephKK
Gegen dummheit kampfen die Gotter Selbst, vergebens.
--Schiller

3675. Re: VSWR doesn't matter? But how about "mismatch loss"?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 09:16:38 UTC
From: joseph2k <quiettechblue@yahoo.com>
Message-ID: <M73Rh.1502$w41.858@newssvr19.news.prodigy.net>
Source record: 43591
Cross-posted to: sci.electronics.design,sci.electronics.basics,rec.radio.amateur.antenna

Richard Clark wrote:

> On 29 Mar 2007 13:10:46 -0700, "billcalley" <billcalley@yahoo.com>
> wrote:
>
<snip>

> It does matter if you lack a tuner (in more ways that one). Most
> discussion of "mismatch loss" omits such matters as tuners as it is a
> separable issue. Combining these topics raises your chance of
> confusion.
>
> 73's
> Richard Clark, KB7QHC

Heartily agreed.
--
JosephKK
Gegen dummheit kampfen die Gotter Selbst, vergebens.
--Schiller

3676. 4nec2 advice sought...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 10:01:19 UTC
From: Iain Kelly <no.spam@m0pcb.co.uk>
Message-ID: <ev2hbr$56c$1@netty.york.ac.uk>
Source record: 43592

Greetings to one and all,

Hopefully someone will be able to advise me on the following, being very new to NEC modelling I've hit a stumbling block.

As part of my Masters dissertation (In RF Engineering) I am working on developing an N element antenna array in the V/UHF area of the spectrum for a field system (non-amateur). It's nothing that's not really been done before, but I'm taking the practical 'ham' approach to it. Anyway this is only background to my question, and is not really too relevant.

I decided to have a go with some modelling software before actually building an array ad testing it. It just so happens that I had installed 4nec2 many moons ago though I'd never used it. For some reason I had it in my head that modelling an antenna was difficult. Well I'm sure it takes a lot of thought to do a complex model, and the simple models I've done so far have been quite a learning curve, but a fun one at that.

Anyway, I have modelled what is essentially a 4-square above ground and so on, which is fine. The next stage was to make the array out of dipoles. This went fine when modelling in free space, centring around z=0. I get lovely 3D plots etc, wonderful!

Now I want to model this dipole arrangement as if it was mounted on a tower, i.e. not at z=0. So I move all the elements up to the correct height and add in a real earth (which adds itself at z=0). That much is fine. When I then run the model the radiation plots are still all centred on z=0.

Now, logic says to me that the radiation should be coming from the driven antenna elements rather than a point on the ground beneath them.

Am I missing something really simple here?

Many thanks in advance. :-)

--
73, Iain M0PCB/AD5XI

3677. Re: 4nec2 advice sought...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 11:31:07 UTC
From: Bob Bob <bob3bob3@suddenlink.net>
Message-ID: <r83fe4-kd5.ln1@p400bob.personal.cox.net>
Source record: 43593

Hi Iain

You are displaying the far field radiation pattern, not the close-up
energy density...

ie the antenna and height above ground is very small compared to the
radiation pattern being displayed.

Cheers Bob

Iain Kelly wrote:

>
> Now, logic says to me that the radiation should be coming from the
> driven antenna elements rather than a point on the ground beneath them.
>
> Am I missing something really simple here?
>
> Many thanks in advance. :-)
>

3678. Re: 4nec2 advice sought...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 12:39:36 UTC
From: Iain Kelly <no.spam@m0pcb.co.uk>
Message-ID: <ev2qkl$7ei$1@netty.york.ac.uk>
Source record: 43594

Bob Bob wrote:
> Hi Iain
>
> You are displaying the far field radiation pattern, not the close-up
> energy density...
>
> ie the antenna and height above ground is very small compared to the
> radiation pattern being displayed.
>
> Cheers Bob

Aha, so it's just a matter of scale in the plot then? That's what was confusing me. My mind was looking to directly compare the 3D pattern generated with the antenna structure. It makes a bit more sense now.

Cheers,

--
73, Iain M0PCB/AD5XI

3679. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 12:55:10 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <Ok6Rh.5026$YL5.4169@newssvr29.news.prodigy.net>
Source record: 43595

Keith Dysart wrote:
> Consider the 75 Ohm resistor at the right hand end of a 75 Ohm
> transmission line. The load is matched to the line and there
> is no discontinuity and (dare I say it?) no reflection.

Yet that violates the convention that reflected energy
absorbed by the source was never sourced. Why do you
think that convention was adopted in the first place?

> Is not the symmetry rather enticing? And simple?

Apparently it has enticed you to ignore reality. This
argument has been raging for a good 20 years now. Some
of the brightest engineers in the world still disagree.
Your simplistic theories are easily disproved by a
bench experiment. Why you cling to them is strange.

> And all so simple.

Make that simple-minded.
--
73, Cecil http://www.w5dxp.com

3680. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 13:00:31 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <Pp6Rh.5028$YL5.528@newssvr29.news.prodigy.net>
Source record: 43596

Richard Clark wrote:
> That isn't the half of it (without going into your further treatment)
> our Cecileo will simply twist this admission of error into glowing
> self validation - "and yet it moves."

When I find myself in an error, Richard, I correct it.
What do you do?
--
73, Cecil http://www.w5dxp.com

3681. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 13:37:50 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <OY6Rh.5034$YL5.3619@newssvr29.news.prodigy.net>
Source record: 43597

Cecil Moore wrote:
> Keith Dysart wrote:
>> Consider the 75 Ohm resistor at the right hand end of a 75 Ohm
>> transmission line. The load is matched to the line and there
>> is no discontinuity and (dare I say it?) no reflection.
>
> Yet that violates the convention that reflected energy
> absorbed by the source was never sourced. Why do you
> think that convention was adopted in the first place?

I may have misread Keith's posting. I thought we were
talking about sources. Is the above posting about a
75 ohm load devoid of any source?

Consider a 75 ohm load resistor terminating a 75 ohm
transmission line. There are no reflections and the
system is called "flat". Now add a source at that
load end. There will indeed be both forward and reverse
traveling waves.
--
73, Cecil http://www.w5dxp.com

3682. Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 14:36:49 UTC
From: MRW <mr.whatever@gmail.com>
Message-ID: <1175783809.397806.250280@b75g2000hsg.googlegroups.com>
Source record: 43598

I am skimming thru the Propagation chapter of the ARRL handbook, and I am having a difficult time understanding the shortening of wavelength and the retainment of frequency. They have an equation showing that wave velocity is: c = f*w (c = m/s, f = frequency, w = wavelength). It also states that during refraction "the wavelength is simultaneously shortened, but the wave frequency (number of crests that pass a certain point in a given unit of time) remains constant."

I don't understand. If the wavelength is shortened, then shouldn't the frequency increase instead of remaining constant?

3683. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 14:45:36 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175784336.822641.173440@n76g2000hsh.googlegroups.com>
Source record: 43599

On Apr 5, 9:37 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Cecil Moore wrote:
> > Keith Dysart wrote:
> >> Consider the 75 Ohm resistor at the right hand end of a 75 Ohm
> >> transmission line. The load is matched to the line and there
> >> is no discontinuity and (dare I say it?) no reflection.
>
> > Yet that violates the convention that reflected energy
> > absorbed by the source was never sourced. Why do you
> > think that convention was adopted in the first place?
>
> I may have misread Keith's posting. I thought we were
> talking about sources. Is the above posting about a
> 75 ohm load devoid of any source?
>
> Consider a 75 ohm load resistor terminating a 75 ohm
> transmission line. There are no reflections and the
> system is called "flat". Now add a source at that
> load end. There will indeed be both forward and reverse
> traveling waves.

Yes indeed. And the beautiful part is that you can use
superposition to analyze the two directions independantly.

The forward wave reaches the 75 Ohm termination and there
is no reflection. The reverse wave leaves the 75 Ohm generator
and heads down the line.

The total response at any point on the line is the sum of
the two waves at the desired instant at that point.

This works in all cases:
- The waves can have differing phases.
- The waves can have different frequencies.
- The signals do not have to be sinusoids. It works for all
waveshapes: step, square, pulse, you name it.
- The signals don't need to have the same waveshape, though
the arithmetic becomes quite tedious for complex wave
shapes.

The generality is astounding.

Of course sticking to steady state sinusoids at a single
frequency does offer useful simplifications such as 'effective
impedance', 'forward power' and 'reverse power', but care must
be taken with their application since they are not part of

the general solution.

...Keith

3684. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 15:00:10 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <2i3a135m4lki68ch84d5sm2vhp3kerc7pe@4ax.com>
Source record: 43600

On 5 Apr 2007 07:36:49 -0700, "MRW" <mr.whatever@gmail.com> wrote:

>c = f*w (c = m/s, f = frequency, w = wavelength)

This frequency is relevant ONLY for vacuum (or with a very, very slight alteration) air.

Now, it may seem that all air is air, but no. There are slight variations here too that on the global scale small shifts make large changes. Those small shifts are accounted for by pressure, water content (vapor), and temperature.

73's
Richard Clark, KB7QHC

3685. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 15:02:22 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <cq3a13hbsrmtt2i7idhdt765lvjjn1aobf@4ax.com>
Source record: 43601

On Thu, 05 Apr 2007 13:00:31 GMT, Cecil Moore <nospam@w5dxp.com>
wrote:

>When I find myself in an error, Richard, I correct it.

Yourself, or the error? Yes, once again your style shows.

3686. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 15:35:14 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1175787314.770342.181400@d57g2000hsg.googlegroups.com>
Source record: 43602

On Apr 5, 7:36 am, "MRW" <mr.whate...@gmail.com> wrote:
> I am skimming thru the Propagation chapter of the ARRL handbook, and I
> am having a difficult time understanding the shortening of wavelength
> and the retainment of frequency. They have an equation showing that
> wave velocity is: c = f*w (c = m/s, f = frequency, w = wavelength).
> It also states that during refraction "the wavelength is
> simultaneously shortened, but the wave frequency (number of crests
> that pass a certain point in a given unit of time) remains constant."
>
> I don't understand. If the wavelength is shortened, then shouldn't the
> frequency increase instead of remaining constant?

Refraction occurs when an EM wave, having frequency f and wavelength w enters a medium in which the speed of propagation (speed of light) is different than vacuum. A medium with an index of refraction greater than one produces a speed of light which is slower than in vacuum (index of refraction is simply the ratio of vacuum speed to speed in that medium). This changes the proportionality between frequency and wavelength. Since w = c / f, the slower speed at a given frequency will now have a correspondingly shorter wavelength. And, as f = c / w, the slower speed at a given wavelength will now have a correspondingly lower frequency.

I hope that makes sense.

73, Jim AC6XG

3687. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 15:53:17 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <NX8Rh.5050$YL5.2026@newssvr29.news.prodigy.net>
Source record: 43603

MRW wrote:
> I am skimming thru the Propagation chapter of the ARRL handbook, and I
> am having a difficult time understanding the shortening of wavelength
> and the retainment of frequency. They have an equation showing that
> wave velocity is: c = f*w (c = m/s, f = frequency, w = wavelength).
> It also states that during refraction "the wavelength is
> simultaneously shortened, but the wave frequency (number of crests
> that pass a certain point in a given unit of time) remains constant."
>
> I don't understand. If the wavelength is shortened, then shouldn't the
> frequency increase instead of remaining constant?

'c' decreases because of the fractional velocity
factor in a transmission line. The decrease in 'c'
compresses the wavelength but doesn't change the
frequency. 'c' is less in a transmission line than
it is in free space. The speed of light in RG-213,
for instance, is 2/3 of the speed of light in free
space.
--
73, Cecil, w5dxp.com

3688. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 16:23:13 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ev37pi$9a9$1@nntp1.jpl.nasa.gov>
Source record: 43606

MRW wrote:
> I am skimming thru the Propagation chapter of the ARRL handbook, and I
> am having a difficult time understanding the shortening of wavelength
> and the retainment of frequency. They have an equation showing that
> wave velocity is: c = f*w (c = m/s, f = frequency, w = wavelength).
> It also states that during refraction "the wavelength is
> simultaneously shortened, but the wave frequency (number of crests
> that pass a certain point in a given unit of time) remains constant."
>
> I don't understand. If the wavelength is shortened, then shouldn't the
> frequency increase instead of remaining constant?

frequency stays the same, but since it's moving slower, c is smaller, so lambda (wavelength) is shorter.

Same thing goes on in coaxial cable.. the wave propagates in a dielectric with a propagation speed, say, 66% of the free space speed. In such a case, a one wavelength long piece of coax for 30 MHz is 6.6 meters, not 10 meters (the free space wavelength)

The challenge, of course, would be in getting the opposite phenomenon to occur (propagation faster than free space)...but that's a topic for a different day.

jim

3689. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 16:30:59 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <qt9Rh.1661$Q23.912@newssvr17.news.prodigy.net>
Source record: 43604

Keith Dysart wrote:
> The total response at any point on the line is the sum of
> the two waves at the desired instant at that point.

True for any *passive* point on the line. Apparently
not true at the heart of a dynamic active source which
is easy to prove on the bench. Seems to me that based
on real-world bench experiments, we must conclude that
the principle of superposition doesn't apply to sources
because the act of applying DC power to the source
changes the configuration of the system which is a
violation of the principle of superposition rules.
Ramo and Whinnery warn us about attaching any real-
world significance to the power dissipation in an
equivalent source.

Obviously, if any system conditions change when power is
applied the basic rules for the superposition principle
have been violated.

Hopefully, you are beginning to understand why the
convention of 100% rejection of reflected energy
by the source was adopted.
--
73, Cecil, w5dxp.com

3690. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 16:49:52 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1175791792.353491.166870@n76g2000hsh.googlegroups.com>
Source record: 43605

On Apr 4, 8:38 pm, Walter Maxwell <w...@w2du.com> wrote:
> On Thu, 05 Apr 2007 03:01:11 GMT, Owen Duffy <n...@no.where> wrote:
> >Walter Maxwell <w...@w2du.com> wrote in
> >news:ktq813dcbvoq57permesdhpbia5alchrgr@4ax.com:
>
> >...
> >> R/Zo = (1 - rho squared)/(1 + rho squared - 2 rho cos phi)
>
> >> X/Zo = (2 rho sin phi)/(1 + rho squared - 2 rho cos phi)
> >...
>
> >These appear to depend on Zo=Ro to be correct, perhaps they would be more
> >correctly expressed using Ro instead of Zo.
>
> >Owen
>
> Owen, for historical accuracy, at least in the US, prior to 1950, rho, sigma, and S were
used to represent
> standing wave ratio. The symbol of choice used to represent reflection coefficient during
that early era was
> upper case lambda. However, in 1953 the American Standards Association (now NIST)
announced in its publication
> ASA Y10.9-1953, that rho is to replace upper case lambda as the standard symbol for
reflection coefficient,
> and SWR to represent standing wave ratio. Most of academia responded to the change, but a
few have not. I
> don't know about Australia, but in the US lambda is rarely seen as the symbol for
reflection coefficient.
>
> WRT Ro vs Zo, I was simply copying directly from Chipman, where Zo is routinely
considered the characteristic
> impedance of a transmission line, and where it's usually considered sufficiently low loss
to the thought of as
> Ro.
>
> Walt

About Zo being reasonably approximated by Ro, or not:

I made a note to myself some time ago, and I believe it's reasonably
accurate, that neglecting dielectric loss, for a TEM line, given Zo =
Ro+jXo, then to a good approximation

Xo = -0.180*Ro*A*Vf/f

where A = line attenuation in dB/100ft
Vf = line velocity factor
f = frequency in MHz.

So for small diameter 50 ohm polyethylene dielectric line at 1.8MHz, the worst case for most ham applications, Xo/Ro is about .18. For that, I used 2.7dB/100ft for RG174 type line. That's getting to be pretty significant, a ten degree phase angle away from purely resistive. As Owen posted, it's so easy these days to deal with complex numbers that you may as well just carry them all along. Given the above formula, it's easy to figure the complex Zo for a line where you know the nominal attenuation, the velocity factor, and the frequency, and of course the nominal high frequency Zo value.

Cheers,
Tom

3691. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 17:05:43 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175792743.600043.72720@d57g2000hsg.googlegroups.com>
Source record: 43607

On 26 Mar, 21:49, richardharri...@webtv.net (Richard Harrison) wrote:
> Art wrote:
>
> "Any thoughts as to why it sgould be so and the scientific facts to
> support it?"
>
> We have plumb lines and bubble levels which allow easy determination of
> vertical and horizontal directions.
>
> We often inhabit a nearly horizontal plane
>
> If we are as likely as not to communicate with any particular direction,
> an omidirectional vertical antenna makes sense. An inclined wire would
> favor some direction to the detriment of another. Sure a slopimg wire
> works but doesn`t reach maximum height or length as effectively as a
> vertical or horizontal wire would.
>
> Why a straight dipole and not a V-shaped element? The V-shape corrupts
> the nulls at the ends of the straight wire.
>
> Vertical and horizontal antennas are not solely accidents of history.
>
> Best regards, Richard Harrison, KB5WZI

Richard,
It is well known that near maximum "overall" polarity gain can be
obtained by placing a vertical at right angles with respect to earth.
Now -a -days maximum gain is required of a certain polarity which
requires a specific accuracy of less than 1 degree . So yes, in your
working years straight up is good enough but these days of WiFi and
all that concentration is applied for purity of polarity which
requires a resonance at around 3 degrees to the vertical. This can be
determined arithematically according to known laws. Ofcourse as one
moves higher this offset angle changes. This same phenomina or tilt
angle applies for all polarities where maximum gain is required for
purity of polarization.The days have gone where just putting up a wire
satisfies all.
Regards
Art

3692. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 17:28:18 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <paca13hfvld8qcfukh8q02g9sk00mcdfej@4ax.com>
Source record: 43608

On 5 Apr 2007 09:49:52 -0700, "K7ITM" <k7itm@msn.com> wrote:

>On Apr 4, 8:38 pm, Walter Maxwell <w...@w2du.com> wrote:
>> On Thu, 05 Apr 2007 03:01:11 GMT, Owen Duffy <n...@no.where> wrote:
>> >Walter Maxwell <w...@w2du.com> wrote in
>> >news:ktq813dcbvoq57permesdhpbia5alchrgr@4ax.com:
>>
>> >...
>> >> R/Zo = (1 - rho squared)/(1 + rho squared - 2 rho cos phi)
>>
>> >> X/Zo = (2 rho sin phi)/(1 + rho squared - 2 rho cos phi)
>> >...
>>
>> >These appear to depend on Zo=Ro to be correct, perhaps they would be more
>> >correctly expressed using Ro instead of Zo.
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>> >Owen
>>
>> Owen, for historical accuracy, at least in the US, prior to 1950, rho, sigma, and S were
used to represent
>> standing wave ratio. The symbol of choice used to represent reflection coefficient
during that early era was
>> upper case lambda. However, in 1953 the American Standards Association (now NIST)
announced in its publication
>> ASA Y10.9-1953, that rho is to replace upper case lambda as the standard symbol for
reflection coefficient,
>> and SWR to represent standing wave ratio. Most of academia responded to the change, but
a few have not. I
>> don't know about Australia, but in the US lambda is rarely seen as the symbol for
reflection coefficient.
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>> WRT Ro vs Zo, I was simply copying directly from Chipman, where Zo is routinely
considered the characteristic
>> impedance of a transmission line, and where it's usually considered sufficiently low
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>> Ro.
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>> Walt
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>About Zo being reasonably approximated by Ro, or not:
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>I made a note to myself some time ago, and I believe it's reasonably
>accurate, that neglecting dielectric loss, for a TEM line, given Zo =
>Ro+jXo, then to a good approximation

>
> Xo = -0.180*Ro*A*Vf/f
>
>where A = line attenuation in dB/100ft
> Vf = line velocity factor
> f = frequency in MHz.
>
>So for small diameter 50 ohm polyethylene dielectric line at 1.8MHz,
>the worst case for most ham applications, Xo/Ro is about .18. For
>that, I used 2.7dB/100ft for RG174 type line. That's getting to be
>pretty significant, a ten degree phase angle away from purely
>resistive. As Owen posted, it's so easy these days to deal with
>complex numbers that you may as well just carry them all along. Given
>the above formula, it's easy to figure the complex Zo for a line where
>you know the nominal attenuation, the velocity factor, and the
>frequency, and of course the nominal high frequency Zo value.
>
>Cheers,
>Tom

Can't argue with your comments above, Tom, but what ham in his right mind would use 100 feet of RG174?

Walt

3693. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 17:30:18 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <efca13pdkfhj44chi8btjk46098192ug5v@4ax.com>
Source record: 43609

On Thu, 05 Apr 2007 09:23:13 -0700, Jim Lux <james.p.lux@jpl.nasa.gov> wrote:

>MRW wrote:
>> I am skimming thru the Propagation chapter of the ARRL handbook, and I
>> am having a difficult time understanding the shortening of wavelength
>> and the retainment of frequency. They have an equation showing that
>> wave velocity is: c = f*w (c = m/s, f = frequency, w = wavelength).
>> It also states that during refraction "the wavelength is
>> simultaneously shortened, but the wave frequency (number of crests
>> that pass a certain point in a given unit of time) remains constant."
>>
>> I don't understand. If the wavelength is shortened, then shouldn't the
>> frequency increase instead of remaining constant?
>
>frequency stays the same, but since it's moving slower, c is smaller, so
>lambda (wavelength) is shorter.
>
>Same thing goes on in coaxial cable.. the wave propagates in a
>dielectric with a propagation speed, say, 66% of the free space speed.
>In such a case, a one wavelength long piece of coax for 30 MHz is 6.6
>meters, not 10 meters (the free space wavelength)
>
>The challenge, of course, would be in getting the opposite phenomenon to
>occur (propagation faster than free space)...but that's a topic for a
>different day.
>
>jim

Speedy Gozales did it, but that's also a topic for a different day.

Walt, W2DU

3694. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 17:32:26 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <6kca1313ovh4t7du9bd9gs29a3bv24i8c9@4ax.com>
Source record: 43610

On 5 Apr 2007 10:05:43 -0700, "art" <aunwin@insightbb.com> wrote:

>On 26 Mar, 21:49, richardharri...@webtv.net (Richard Harrison) wrote:
>> Art wrote:
>>
>> "Any thoughts as to why it sgould be so and the scientific facts to
>> support it?"
>>
>> We have plumb lines and bubble levels which allow easy determination of
>> vertical and horizontal directions.
>>
>> We often inhabit a nearly horizontal plane
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>> If we are as likely as not to communicate with any particular direction,
>> an omidirectional vertical antenna makes sense. An inclined wire would
>> favor some direction to the detriment of another. Sure a slopimg wire
>> works but doesn`t reach maximum height or length as effectively as a
>> vertical or horizontal wire would.
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>> Why a straight dipole and not a V-shaped element? The V-shape corrupts
>> the nulls at the ends of the straight wire.
>>
>> Vertical and horizontal antennas are not solely accidents of history.
>>
>> Best regards, Richard Harrison, KB5WZI
>
>Richard,
> It is well known that near maximum "overall" polarity gain can be
>obtained by placing a vertical at right angles with respect to earth.
>Now -a -days maximum gain is required of a certain polarity which
>requires a specific accuracy of less than 1 degree . So yes, in your
>working years straight up is good enough but these days of WiFi and
>all that concentration is applied for purity of polarity which
>requires a resonance at around 3 degrees to the vertical. This can be
>determined arithematically according to known laws. Ofcourse as one
>moves higher this offset angle changes. This same phenomina or tilt
>angle applies for all polarities where maximum gain is required for
>purity of polarization.The days have gone where just putting up a wire
>satisfies all.
>Regards
>Art

Educate me, Art, what is 'polarity' gain?

Walt

3695. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 17:44:24 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1175795064.931280.62150@p77g2000hsh.googlegroups.com>
Source record: 43611

On Apr 5, 7:36 am, "MRW" <mr.whate...@gmail.com> wrote:
> I am skimming thru the Propagation chapter of the ARRL handbook, and I
> am having a difficult time understanding the shortening of wavelength
> and the retainment of frequency. They have an equation showing that
> wave velocity is: c = f*w (c = m/s, f = frequency, w = wavelength).
> It also states that during refraction "the wavelength is
> simultaneously shortened, but the wave frequency (number of crests
> that pass a certain point in a given unit of time) remains constant."
>
> I don't understand. If the wavelength is shortened, then shouldn't the
> frequency increase instead of remaining constant?

Others have posted, correctly, that the propagation velocity is slower in some mediums than in others. I think it's a mistake, though, to say that c changes! c is supposed to be a constant, the speed of electromagnetic wave propagation in a vacuum--in fact, I suppose, in a vacuum with no gravitational fields in it. A description of fields in an electromagnetic wave often used the permittivity, epsilon, and permeability, mu, of the medium through which the wave is travelling. If it's through a vacuum, the values of epsilon and mu have values that are used often and have special notation--epsilon-sub-zero and mu-sub-zero. For convenience here, call them eo and uo. Then note that eo*uo = 1/c^2. As you might suspect, the propagation in a medium with larger values of e and u than eo and uo is slower than c. In fact, it should be velocity = sqrt(1/(e*u)).

Note that e has the units of capacitance/length -- commonly farads/meter -- and u has the units of inductance/length -- commonly henries/meter. But a farad is an ampere*second/volt, and a henry is a volt*second/amp, so the units of sqrt(1/(e*u)) are sqrt(1/((A*sec/V*meter)*(V*sec/A*meter))) = sqrt(meter^2/sec^2) = meters/sec. A unit analysis is often useful to insure you haven't made a mistake in your manipulation of equations.

So...in summary, c = f*w is actually not quite correct. It should be wave_velocity = f*w. c should be reserved to mean only the speed of light in a vacuum. If you're in a non-vacuum medium, and measure very accurately, you'll measure the same frequency, but a shorter wavelength: the wave doesn't travel as far to push a cycle past you, as compared with in vacuum. It's going slower.

If the propagation medium is, for example, solid polyethylene (the dielectric of most inexpensive coax cable), you'll find that w is about 0.66 times as much as it is in a vacuum, and the propagation velocity is similarly 0.66*c.

Cheers,
Tom

3696. RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 17:53:35 UTC
From: szilagyic <chris@groupinfo.com>
Message-ID: <1175795615.408578.81790@p77g2000hsh.googlegroups.com>
Source record: 43612
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

Hello,

I am just trying to get an updated list of the top brands of RG-6 quad shield coax cable. I have seen posts from a few years back mentioning Belden, Carol, and Commscope, but I just wanted to get an updated list. I have seen Carol and Zenith brands at local stores recently, are these any good? Mainly going to use this cable for running feeds from HDTV & analog TV antennas in the walls of a house.

Thank you very much for all feedback,
--
Chris

3697. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 18:00:12 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1175796012.743596.179440@y80g2000hsf.googlegroups.com>
Source record: 43613

On Apr 5, 10:28 am, Walter Maxwell <w...@w2du.com> wrote:
> On 5 Apr 2007 09:49:52 -0700, "K7ITM" <k...@msn.com> wrote:
>
>
>
> >On Apr 4, 8:38 pm, Walter Maxwell <w...@w2du.com> wrote:
> >> On Thu, 05 Apr 2007 03:01:11 GMT, Owen Duffy <n...@no.where> wrote:
> >> >Walter Maxwell <w...@w2du.com> wrote in
> >> >news:ktq813dcbvoq57permesdhpbia5alchrgr@4ax.com:
>
> >> >...
> >> >> R/Zo = (1 - rho squared)/(1 + rho squared - 2 rho cos phi)
>
> >> >> X/Zo = (2 rho sin phi)/(1 + rho squared - 2 rho cos phi)
> >> >...
>
> >> >These appear to depend on Zo=Ro to be correct, perhaps they would be more
> >> >correctly expressed using Ro instead of Zo.
>
> >> >Owen
>
> >> Owen, for historical accuracy, at least in the US, prior to 1950, rho, sigma, and S
were used to represent
> >> standing wave ratio. The symbol of choice used to represent reflection coefficient
during that early era was
> >> upper case lambda. However, in 1953 the American Standards Association (now NIST)
announced in its publication
> >> ASA Y10.9-1953, that rho is to replace upper case lambda as the standard symbol for
reflection coefficient,
> >> and SWR to represent standing wave ratio. Most of academia responded to the change,
but a few have not. I
> >> don't know about Australia, but in the US lambda is rarely seen as the symbol for
reflection coefficient.
>
> >> WRT Ro vs Zo, I was simply copying directly from Chipman, where Zo is routinely
considered the characteristic
> >> impedance of a transmission line, and where it's usually considered sufficiently low
loss to the thought of as
> >> Ro.
>
> >> Walt
>
> >About Zo being reasonably approximated by Ro, or not:
>

> >I made a note to myself some time ago, and I believe it's reasonably
> >accurate, that neglecting dielectric loss, for a TEM line, given Zo =
> >Ro+jXo, then to a good approximation
>
> > Xo = -0.180*Ro*A*Vf/f
>
> >where A = line attenuation in dB/100ft
> > Vf = line velocity factor
> > f = frequency in MHz.
>
> >So for small diameter 50 ohm polyethylene dielectric line at 1.8MHz,
> >the worst case for most ham applications, Xo/Ro is about .18. For
> >that, I used 2.7dB/100ft for RG174 type line. That's getting to be
> >pretty significant, a ten degree phase angle away from purely
> >resistive. As Owen posted, it's so easy these days to deal with
> >complex numbers that you may as well just carry them all along. Given
> >the above formula, it's easy to figure the complex Zo for a line where
> >you know the nominal attenuation, the velocity factor, and the
> >frequency, and of course the nominal high frequency Zo value.
>
> >Cheers,
> >Tom
>
> Can't argue with your comments above, Tom, but what ham in his right mind would use 100 feet of RG174?
>
> Walt

Stealth, Walt. Stealth. Or--backpacking. Hey, it's less than 3dB loss. In any event, please note that Zo is independent of length. It's the same for a 3-foot length of line as for a 10000-foot length, assuming the line is indeed reasonably uniform. The A100 value is in the formula only because it's so easy to look up that value directly.

Interestingly, the attenuation of RG174 (because of the thin copper on the copperweld inner conductor) is relatively constant with frequency. It doesn't follow the same dB-proportional_to-sqrt(f) law of line with copper or tinned copper center conductor, at HF frequencies. So a 30 foot length of it is certainly fine for feedline to a receiving antenna at HF, and a very acceptable compromise for many people for foot-transportable or hidden-from-the-neighbors transmitting work.

Cheers,
Tom

3698. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 18:04:47 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175796287.428382.168270@w1g2000hsg.googlegroups.com>
Source record: 43614

On 5 Apr, 10:32, Walter Maxwell <w...@w2du.com> wrote:
> On 5 Apr 2007 10:05:43 -0700, "art" <aun...@insightbb.com> wrote:
>
>
>
>
>
> >On 26 Mar, 21:49, richardharri...@webtv.net (Richard Harrison) wrote:
> >> Art wrote:
>
> >> "Any thoughts as to why it sgould be so and the scientific facts to
> >> support it?"
>
> >> We have plumb lines and bubble levels which allow easy determination of
> >> vertical and horizontal directions.
>
> >> We often inhabit a nearly horizontal plane
>
> >> If we are as likely as not to communicate with any particular direction,
> >> an omidirectional vertical antenna makes sense. An inclined wire would
> >> favor some direction to the detriment of another. Sure a slopimg wire
> >> works but doesn`t reach maximum height or length as effectively as a
> >> vertical or horizontal wire would.
>
> >> Why a straight dipole and not a V-shaped element? The V-shape corrupts
> >> the nulls at the ends of the straight wire.
>
> >> Vertical and horizontal antennas are not solely accidents of history.
>
> >> Best regards, Richard Harrison, KB5WZI
>
> >Richard,
> > It is well known that near maximum "overall" polarity gain can be
> >obtained by placing a vertical at right angles with respect to earth.
> >Now -a -days maximum gain is required of a certain polarity which
> >requires a specific accuracy of less than 1 degree . So yes, in your
> >working years straight up is good enough but these days of WiFi and
> >all that concentration is applied for purity of polarity which
> >requires a resonance at around 3 degrees to the vertical. This can be
> >determined arithematically according to known laws. Ofcourse as one
> >moves higher this offset angle changes. This same phenomina or tilt
> >angle applies for all polarities where maximum gain is required for
> >purity of polarization.The days have gone where just putting up a wire
> >satisfies all.

> >Regards
> >Art
>
> Educate me, Art, what is 'polarity' gain?
>
> Walt- Hide quoted text -
>
> - Show quoted text -

Walter
Gain is the total radiation at a particular angle which can be the summation of all polarities such as in the case of vertical and horizontal antennas.
If one want's maximum gain with a particular polarization in mind then resonance is to be found at an angle other than 90 degree multiples to the earths surface. This is why I have made the point for years that the yagi has put antennas back nearly 100 years. In amateur work it is not so important tho it does explain why the augument rages between a yagi and a quad with the latter providing a much larger arrival area that allow people to hear more. On top of that the yagi becomes less efficient as one adds elements which means progressive polarity inaccuracy for each added element not only for a particular polarity but also for the increase in reactance for the array as a whole. I have mentioned 3 degrees but that was only by the eye on print out for a single element. I never did associate the tip angle with respect to frequency and height tho I am sure this can be done via Matlab for both a single element or an arrangement of elements.
One day they will put this in a book, hopefully the ARRL editions, so the derogatory statements from the older education type guys will cease but I am to old to see that day
Regards
Art

3699. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 18:05:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <l6qfe4-l9g.ln1@mail.specsol.com>
Source record: 43615

Walter Maxwell <walt@w2du.com> wrote:
> On 5 Apr 2007 10:05:43 -0700, "art" <aunwin@insightbb.com> wrote:

> >On 26 Mar, 21:49, richardharri...@webtv.net (Richard Harrison) wrote:
> >> Art wrote:
> >>
> >> "Any thoughts as to why it sgould be so and the scientific facts to
> >> support it?"
> >>
> >> We have plumb lines and bubble levels which allow easy determination of
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> >Richard,
> > It is well known that near maximum "overall" polarity gain can be
> >obtained by placing a vertical at right angles with respect to earth.
> >Now -a -days maximum gain is required of a certain polarity which
> >requires a specific accuracy of less than 1 degree . So yes, in your
> >working years straight up is good enough but these days of WiFi and
> >all that concentration is applied for purity of polarity which
> >requires a resonance at around 3 degrees to the vertical. This can be
> >determined arithematically according to known laws. Ofcourse as one
> >moves higher this offset angle changes. This same phenomina or tilt
> >angle applies for all polarities where maximum gain is required for
> >purity of polarization.The days have gone where just putting up a wire
> >satisfies all.
> >Regards
> >Art

> Educate me, Art, what is 'polarity' gain?

That's when you go to a Polish wedding and put on weight from eating kielbasa.

This is related to the "purity of polarization" which is a measure of the quality of the kielbasa served and the Polish music played at the wedding.

--
Jim Pennino

Remove .spam.sux to reply.

3700. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 18:28:10 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <hbbRh.2899$H_5.2550@newssvr23.news.prodigy.net>
Source record: 43616

K7ITM wrote:
>> On 5 Apr 2007 09:49:52 -0700, "K7ITM" <k...@msn.com> wrote:
>>>> So for small diameter 50 ohm polyethylene dielectric line at 1.8MHz,
>>> the worst case for most ham applications, Xo/Ro is about .18. For
>>> that, I used 2.7dB/100ft for RG174 type line.

> Interestingly, the attenuation of RG174 (because of the thin copper on
> the copperweld inner conductor) is relatively constant with
> frequency.

Owen's transmission line calculator gives the Z0 of RG-174
as 50.13-j3.59 at 1.8 MHz. That's an X0/R0 ratio of about
0.07, not 0.18.
--
73, Cecil, w5dxp.com

3701. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 18:33:28 UTC
From: MRW <mr.whatever@gmail.com>
Message-ID: <1175798008.402051.207490@n59g2000hsh.googlegroups.com>
Source record: 43617

On Apr 5, 1:44 pm, "K7ITM" <k...@msn.com> wrote:
> Others have posted, correctly, that the propagation velocity is slower
> in some mediums than in others. I think it's a mistake, though, to
> say that c changes! c is supposed to be a constant, the speed of
> electromagnetic wave propagation in a vacuum--in fact, I suppose, in a
> vacuum with no gravitational fields in it. A description of fields in
> an electromagnetic wave often used the permittivity, epsilon, and
> permeability, mu, of the medium through which the wave is travelling.
> If it's through a vacuum, the values of epsilon and mu have values
> that are used often and have special notation--epsilon-sub-zero and mu-
> sub-zero. For convenience here, call them eo and uo. Then note that
> eo*uo = 1/c^2. As you might suspect, the propagation in a medium with
> larger values of e and u than eo and uo is slower than c. In fact, it
> should be velocity = sqrt(1/(e*u)).
>
> Note that e has the units of capacitance/length -- commonly farads/
> meter -- and u has the units of inductance/length -- commonly henries/
> meter. But a farad is an ampere*second/volt, and a henry is a
> volt*second/amp, so the units of sqrt(1/(e*u)) are sqrt(1/((A*sec/
> V*meter)*(V*sec/A*meter))) = sqrt(meter^2/sec^2) = meters/sec. A unit
> analysis is often useful to insure you haven't made a mistake in your
> manipulation of equations.
>
> So...in summary, c = f*w is actually not quite correct. It should be
> wave_velocity = f*w. c should be reserved to mean only the speed of
> light in a vacuum. If you're in a non-vacuum medium, and measure very
> accurately, you'll measure the same frequency, but a shorter
> wavelength: the wave doesn't travel as far to push a cycle past you,
> as compared with in vacuum. It's going slower.
>
> If the propagation medium is, for example, solid polyethylene (the
> dielectric of most inexpensive coax cable), you'll find that w is
> about 0.66 times as much as it is in a vacuum, and the propagation
> velocity is similarly 0.66*c.
>
> Cheers,
> Tom

Thank you everyone! I have a better understanding now. I guess part of my confusion is that on the same chapter thay have a table on the electromagnetic spectrum. In it, they list Radio Waves as having frquencies between 10kHz to 300Ghz and wavelengths of 30,000km to 1mm (I guess the 30,000 km is a typo in the book). Are these wavelength values based in a vacuum then?

3702. Distance Between Verticals??

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 18:34:41 UTC
From: Brian Kelly <kelly@dvol.com>
Message-ID: <1175798081.079004.288200@q75g2000hsh.googlegroups.com>
Source record: 43618

I'm putting up a bunch of HF and VHF verticals on a small property.
Couple questions: (1) Assume a 100W HF xcvr is used with ground-
mounted vertical HF dipoles and a 50W 2M mobile xcvr is used with a
gain-type vertical at say 30ft. How much separation (feet) between the
HF antennas and the 2M antenna should I have so that I don't fry the
front ends of either radio?

(2) Phase two of this project will be installing a 2M halo. How much
separation should I have between the halo and the vertical with
respect to acceptable interaction between the two antennas?

Thanks,
Brian w3rv

3703. Re: Lightning 'liability' ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 18:41:45 UTC
From: Spam Collector <spam-collector@artair.com>
Message-ID: <slrnf1agnd.gch.spam-collector@k6.artair.com>
Source record: 43619

On 2007-04-04, Dave <noone@nowhere.com> wrote:
>
> if the lightning is close enough to strike your tower, it was going to hit
> in that general area anyway. your tower has no effect once you get up to
> the heights where lightning starts... it can only effect that last little
> jump to connect to the ground where the 'cone' or 'ball' of protection area
> is commonly considered.

I was considering the possible situation that a strike would have hit my
neighbor's house, as it is higher than mine, but since the well-grounded
tower was there it would take the hit instead, but still damage their
TV, etc. due to the induced currents in the area, and they might blame
me for their losses (since the strike hit my tower) even though the tower
might have saved them from a direct hit.
From the responses it looks like I'm probably over-concerned.

Thanks,
Frank
KE5MJZ

3704. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 18:56:51 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1175799411.203182.238520@p77g2000hsh.googlegroups.com>
Source record: 43620

K7ITM wrote:
> On Apr 5, 7:36 am, "MRW" <mr.whate...@gmail.com> wrote:
> > I am skimming thru the Propagation chapter of the ARRL handbook, and I
> > am having a difficult time understanding the shortening of wavelength
> > and the retainment of frequency. They have an equation showing that
> > wave velocity is: c = f*w (c = m/s, f = frequency, w = wavelength).
> > It also states that during refraction "the wavelength is
> > simultaneously shortened, but the wave frequency (number of crests
> > that pass a certain point in a given unit of time) remains constant."
> >
> > I don't understand. If the wavelength is shortened, then shouldn't the
> > frequency increase instead of remaining constant?
>
>
> Others have posted, correctly, that the propagation velocity is slower
> in some mediums than in others. I think it's a mistake, though, to
> say that c changes! c is supposed to be a constant, the speed of
> electromagnetic wave propagation in a vacuum--in fact, I suppose, in a
> vacuum with no gravitational fields in it. A description of fields in
> an electromagnetic wave often used the permittivity, epsilon, and
> permeability, mu, of the medium through which the wave is travelling.
> If it's through a vacuum, the values of epsilon and mu have values
> that are used often and have special notation--epsilon-sub-zero and mu-
> sub-zero. For convenience here, call them eo and uo. Then note that
> eo*uo = 1/c^2. As you might suspect, the propagation in a medium with
> larger values of e and u than eo and uo is slower than c. In fact, it
> should be velocity = sqrt(1/(e*u)).
>
> Note that e has the units of capacitance/length -- commonly farads/
> meter -- and u has the units of inductance/length -- commonly henries/
> meter. But a farad is an ampere*second/volt, and a henry is a
> volt*second/amp, so the units of sqrt(1/(e*u)) are sqrt(1/((A*sec/
> V*meter)*(V*sec/A*meter))) = sqrt(meter^2/sec^2) = meters/sec. A unit
> analysis is often useful to insure you haven't made a mistake in your
> manipulation of equations.
>
> So...in summary, c = f*w is actually not quite correct. It should be
> wave_velocity = f*w. c should be reserved to mean only the speed of
> light in a vacuum. If you're in a non-vacuum medium, and measure very
> accurately, you'll measure the same frequency, but a shorter
> wavelength: the wave doesn't travel as far to push a cycle past you,
> as compared with in vacuum. It's going slower.
>
> If the propagation medium is, for example, solid polyethylene (the

> dielectric of most inexpensive coax cable), you'll find that w is
> about 0.66 times as much as it is in a vacuum, and the propagation
> velocity is similarly 0.66*c.
>
> Cheers,
> Tom

Hi Tom -

That's certainly one way to look at it. (Though it is a little like saying there is only one speed of sound.) Another way is to say that c = 1/root(mu*epsilon) for any media. Light does after all, always travel at the speed of light. ;-) Besides, it's more difficult to explain Cherenkov radiation without the expression 'faster than the speed of light in that medium'.

I thoroughly enjoyed the discussion you and Owen were (are) having regarding amplifiers.
Thank you for that.

73, Jim AC6XG

3705. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 19:17:08 UTC
From: Philo <philo@nospampse.be>
Message-ID: <UWbRh.104639$H13.650346@phobos.telenet-ops.be>
Source record: 43621

"szilagyic" <chris@groupinfo.com> wrote in message
news:1175795615.408578.81790@p77g2000hsh.googlegroups.com...
> Hello,
>
> I am just trying to get an updated list of the top brands of RG-6 quad
> shield coax cable. I have seen posts from a few years back mentioning
> Belden, Carol, and Commscope, but I just wanted to get an updated
> list. I have seen Carol and Zenith brands at local stores recently,
> are these any good? Mainly going to use this cable for running feeds
> from HDTV & analog TV antennas in the walls of a house.
>
> Thank you very much for all feedback,
> --
> Chris
>
Just do not worry about the cable; put 1/2" or preferably 3/4" ducts in the
walls.

Never place RF (or any) cable directly in concrete or masonry. If, for some
reason, you end up with a bad cable (soaked with rain water for instance)
you just have to pull it out and replace it. So you don't really need to go
for top brands and overrated and expensive cables.

If you intend to place short stretches (less than 10 or 15 meters) for the
VHF range, use RG6 with solid polyethylene dielectric. If you have to place
important lengths for UHF of satellite MF bands, use RG11 with polystyrene
or foam dielectric. I used train loads of Commscope cable without to many
problems. They gave weird names to their cables like 6ST??? for RG6 type and
11ST??? for RG11. Always use RF cable with copper clad core as they work
best with F type connectors. Stay away from jacketted cables with "flooding
compoud", even for underground placement.

3706. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 19:30:08 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1175801408.446358.318050@p77g2000hsh.googlegroups.com>
Source record: 43622

On Apr 5, 11:56 am, "Jim Kelley" <jwkel...@uci.edu> wrote:
> K7ITM wrote:
> > On Apr 5, 7:36 am, "MRW" <mr.whate...@gmail.com> wrote:
> > > I am skimming thru the Propagation chapter of the ARRL handbook, and I
> > > am having a difficult time understanding the shortening of wavelength
> > > and the retainment of frequency. They have an equation showing that
> > > wave velocity is: c = f*w (c = m/s, f = frequency, w = wavelength).
> > > It also states that during refraction "the wavelength is
> > > simultaneously shortened, but the wave frequency (number of crests
> > > that pass a certain point in a given unit of time) remains constant."
>
> > > I don't understand. If the wavelength is shortened, then shouldn't the
> > > frequency increase instead of remaining constant?
>
> > Others have posted, correctly, that the propagation velocity is slower
> > in some mediums than in others. I think it's a mistake, though, to
> > say that c changes! c is supposed to be a constant, the speed of
> > electromagnetic wave propagation in a vacuum--in fact, I suppose, in a
> > vacuum with no gravitational fields in it. A description of fields in
> > an electromagnetic wave often used the permittivity, epsilon, and
> > permeability, mu, of the medium through which the wave is travelling.
> > If it's through a vacuum, the values of epsilon and mu have values
> > that are used often and have special notation--epsilon-sub-zero and mu-
> > sub-zero. For convenience here, call them eo and uo. Then note that
> > eo*uo = 1/c^2. As you might suspect, the propagation in a medium with
> > larger values of e and u than eo and uo is slower than c. In fact, it
> > should be velocity = sqrt(1/(e*u)).
>
> > Note that e has the units of capacitance/length -- commonly farads/
> > meter -- and u has the units of inductance/length -- commonly henries/
> > meter. But a farad is an ampere*second/volt, and a henry is a
> > volt*second/amp, so the units of sqrt(1/(e*u)) are sqrt(1/((A*sec/
> > V*meter)*(V*sec/A*meter))) = sqrt(meter^2/sec^2) = meters/sec. A unit
> > analysis is often useful to insure you haven't made a mistake in your
> > manipulation of equations.
>
> > So...in summary, c = f*w is actually not quite correct. It should be
> > wave_velocity = f*w. c should be reserved to mean only the speed of
> > light in a vacuum. If you're in a non-vacuum medium, and measure very
> > accurately, you'll measure the same frequency, but a shorter
> > wavelength: the wave doesn't travel as far to push a cycle past you,
> > as compared with in vacuum. It's going slower.
>
> > If the propagation medium is, for example, solid polyethylene (the

> > dielectric of most inexpensive coax cable), you'll find that w is
> > about 0.66 times as much as it is in a vacuum, and the propagation
> > velocity is similarly 0.66*c.
>
> > Cheers,
> > Tom
>
> Hi Tom -
>
> That's certainly one way to look at it. (Though it is a little like
> saying there is only one speed of sound.) Another way is to say that
> c = 1/root(mu*epsilon) for any media. Light does after all, always
> travel at the speed of light. ;-) Besides, it's more difficult to
> explain Cherenkov radiation without the expression 'faster than the
> speed of light in that medium'.
>
> I thoroughly enjoyed the discussion you and Owen were (are) having
> regarding amplifiers.
> Thank you for that.
>
> 73, Jim AC6XG

Hi Jim,

Some people may use only c-sub-zero for the speed of light in a vacuum, but most commonly I see it simply as c, a fundamental physical constant. To avoid confusion, I would HIGHLY recommend that either you be very explicit that you're using co as the constant, and c as the speed of light in whatever medium you're dealing with -- OR that you're using c as the constant and whatever other notation for the speed elsewhere.

NIST lists the constant both ways: c, c-sub-zero. SEVERAL other places I just looked (reference books from my bookshelf; a web survey including US, UK and European sites--mostly physics sites; several university sites) only used c as the constant, except the NIST site and one other, which both listed it as c or c-sub-zero with equal weight.

It's clearly a matter only of notation, but I'll elect to stay with the most commonly used notation, and from what I've seen just now, most think c is a constant.

Cheers,
Tom

3707. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 19:38:59 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1175801939.953462.188580@e65g2000hsc.googlegroups.com>
Source record: 43623

On Apr 5, 11:33 am, "MRW" <mr.whate...@gmail.com> wrote:
> On Apr 5, 1:44 pm, "K7ITM" <k...@msn.com> wrote:
>
>
>
> > Others have posted, correctly, that the propagation velocity is slower
> > in some mediums than in others. I think it's a mistake, though, to
> > say that c changes! c is supposed to be a constant, the speed of
> > electromagnetic wave propagation in a vacuum--in fact, I suppose, in a
> > vacuum with no gravitational fields in it. A description of fields in
> > an electromagnetic wave often used the permittivity, epsilon, and
> > permeability, mu, of the medium through which the wave is travelling.
> > If it's through a vacuum, the values of epsilon and mu have values
> > that are used often and have special notation--epsilon-sub-zero and mu-
> > sub-zero. For convenience here, call them eo and uo. Then note that
> > eo*uo = 1/c^2. As you might suspect, the propagation in a medium with
> > larger values of e and u than eo and uo is slower than c. In fact, it
> > should be velocity = sqrt(1/(e*u)).
>
> > Note that e has the units of capacitance/length -- commonly farads/
> > meter -- and u has the units of inductance/length -- commonly henries/
> > meter. But a farad is an ampere*second/volt, and a henry is a
> > volt*second/amp, so the units of sqrt(1/(e*u)) are sqrt(1/((A*sec/
> > V*meter)*(V*sec/A*meter))) = sqrt(meter^2/sec^2) = meters/sec. A unit
> > analysis is often useful to insure you haven't made a mistake in your
> > manipulation of equations.
>
> > So...in summary, c = f*w is actually not quite correct. It should be
> > wave_velocity = f*w. c should be reserved to mean only the speed of
> > light in a vacuum. If you're in a non-vacuum medium, and measure very
> > accurately, you'll measure the same frequency, but a shorter
> > wavelength: the wave doesn't travel as far to push a cycle past you,
> > as compared with in vacuum. It's going slower.
>
> > If the propagation medium is, for example, solid polyethylene (the
> > dielectric of most inexpensive coax cable), you'll find that w is
> > about 0.66 times as much as it is in a vacuum, and the propagation
> > velocity is similarly 0.66*c.
>
> > Cheers,
> > Tom
>
> Thank you everyone! I have a better understanding now. I guess part of
> my confusion is that on the same chapter thay have a table on the

> electromagnetic spectrum. In it, they list Radio Waves as having
> frquencies between 10kHz to 300Ghz and wavelengths of 30,000km to 1mm
> (I guess the 30,000 km is a typo in the book). Are these wavelength
> values based in a vacuum then?

Clearly, the definition for the frequency range is somewhat
arbitrary. The boundary between infra-red and radio waves will
probably continue to be blurred as electronics advances further.

Radio waves down to much lower frequencies than 10kHz have been
used...the longer wavelengths penetrate water further, and are useful
for communicating with submarines. So don't be surprised if you come
across references to radio signals at 50Hz or so. Because
communications with radio waves is almost always based on propagation
through the vacuum of space, or through air which is only very
slightly slower, yes, the values for wavelength are based on c being a
constant, the speed of light in a vacuum.

Once you figure out one wavelength-frequency relationship, decade
(power-of-ten) values are easy:

1MHz = 300 meters (actually 299.792458, but almost universally taken
to be 300...)
10MHz = 30 meters
100MHz = 3 meters
etc...

Cheers,
Tom

3708. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 20:14:51 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <ev3lc5$jm1$1@news.service.uci.edu>
Source record: 43625

K7ITM wrote:

> Hi Jim,
>
> Some people may use only c-sub-zero for the speed of light in a
> vacuum, but most commonly I see it simply as c, a fundamental physical
> constant. To avoid confusion, I would HIGHLY recommend that either
> you be very explicit that you're using co as the constant, and c as
> the speed of light in whatever medium you're dealing with -- OR that
> you're using c as the constant and whatever other notation for the
> speed elsewhere.
>
> NIST lists the constant both ways: c, c-sub-zero. SEVERAL other
> places I just looked (reference books from my bookshelf; a web survey
> including US, UK and European sites--mostly physics sites; several
> university sites) only used c as the constant, except the NIST site
> and one other, which both listed it as c or c-sub-zero with equal
> weight.
>
> It's clearly a matter only of notation, but I'll elect to stay with
> the most commonly used notation, and from what I've seen just now,
> most think c is a constant.
>
> Cheers,
> Tom

Hi Tom -

This is becoming circuitous. What you're saying is exactly what led
the original correspondent to be confused in the first place. Since
the relavant equation doesn't read c = f*w/n, the only way to explain
the phenomenon is by using a value of c that varies with medium. That
was the entire point.

73. Jim AC6XG

3709. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 20:16:18 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <mOcRh.6096$Kd3.5110@newssvr27.news.prodigy.net>
Source record: 43624

K7ITM wrote:
> It's clearly a matter only of notation, but I'll elect to stay with
> the most commonly used notation, and from what I've seen just now,
> most think c is a constant.

That's why I put it in quotes - to signify an unusual notation.
--
73, Cecil, w5dxp.com

3710. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 20:40:08 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131anld2viah073@corp.supernews.com>
Source record: 43626

MRW wrote:
>
> Thank you everyone! I have a better understanding now. I guess part of
> my confusion is that on the same chapter thay have a table on the
> electromagnetic spectrum. In it, they list Radio Waves as having
> frquencies between 10kHz to 300Ghz and wavelengths of 30,000km to 1mm
> (I guess the 30,000 km is a typo in the book). Are these wavelength
> values based in a vacuum then?

Yes. And it's very, very nearly the same for air.

The 30,000 km would be a typo -- the wavelength in a vacuum at 10 kHz
would be 30 km.

Roy Lewallen, W7EL

3711. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 20:46:14 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131ao0r6373ojc8@corp.supernews.com>
Source record: 43527

Walter Maxwell wrote:
>
> Can't argue with your comments above, Tom, but what ham in his right mind would use 100 feet of RG174?

I do, for 40 and 80 meter antennas on Field Day since I backpack everything in. But then I'm often accused of not being in my right mind, so there still might not be anyone in that category who does.

Roy Lewallen, W7EL

3712. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 21:12:10 UTC
From: richardharrison@webtv.net
Message-ID: <11980-4615662A-83@storefull-3258.bay.webtv.net>
Source record: 43529

Art wrote:
"I have mentioned 3 degrees but that was only by eye on print out for a single element."

I have set the vertical angle of many highly directional dish feed horns using a bubble level when the path was long. The best setting will be horizontal so that the signal skims the earth when there are no obstructions.

Never did subsequent adjustment of elevation angle for best signal ever alter the bubble setting by one iota.

Why vertical or horizontal? To get the antennas parallel to each other. That`s why.

All electrical charges exert forces on one another. At great distances, the forces become vanishingly small. Even so, every effective antenna is coupled to other conducting matter in its rdiation path to do work in maintaining periodic motion of charges, however faint, throughout the universe. Energy transferred by an antenna to the universe is said to be radiated.

Radiation reflected by the ionosphere surrounding the earth is found to be scrambled in its polarization (the direction of its E-field).

Energy directly communicated between line-of-sight antennas is most effective when the transmitting and receiving antenna conductors are parallel. Conversely, when they are cross-polarized, loss may exceed 20 dB.

Best regards, Richard Harrison, KB5WZI

3713. Best beam for WARC?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 21:22:53 UTC
From: Philip Nyströmer <philip.nystromer@telia.com>
Message-ID: <NMdRh.37951$E02.15418@newsb.telia.net>
Source record: 43528

Hi,

I have used a Butternut HF-9VX vertical for many years. Now I am thinking of getting a HF beam antenna. I am not into contesting. Rather I enjoy memorable QSO's with hams that like to share thoughts and ideas. Since I have enjoyed "local" (i.e. mostly Europe) QSO's with my vertical, I would now like to reach as far as I can, i.e. real DX's. I am doing CW and SSB equally much.

My interest profile leads me to optimize my beam for a warc band, on a higher frequency, e.g. 12m or 17meters. But how common is warc out there? If I got a 12 or 17meter mono bander, would I sit in vain to find the QSO's I want? Would it be more safe to just optimize for 20 meters?

Given the solar cycle I guess it would be wise to optimize for something in the "mid-range" wave lengths, like somewhere in the range of 17-20m, to be able to DX in the solar cycle dip as well. Is it a waist of money to get a beam for the higher frequencies, except during the high peaks in the solar cycle?

I would appreciate if anyone could share experiences and ideas on this matter. Also if some one could recommend a really good, high quality beam for my interest profile.

Tnx de SM5WVN /Phil

3714. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 21:43:47 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990A4E9D256C3nonenowhere@61.9.191.5>
Source record: 43530

"K7ITM" <k7itm@msn.com> wrote in
news:1175791792.353491.166870@n76g2000hsh.googlegroups.com:

...
> About Zo being reasonably approximated by Ro, or not:
>
> I made a note to myself some time ago, and I believe it's reasonably
> accurate, that neglecting dielectric loss, for a TEM line, given Zo =
> Ro+jXo, then to a good approximation
>
> Xo = -0.180*Ro*A*Vf/f
>
> where A = line attenuation in dB/100ft
> Vf = line velocity factor
> f = frequency in MHz.
>
> So for small diameter 50 ohm polyethylene dielectric line at 1.8MHz,
> the worst case for most ham applications, Xo/Ro is about .18. For
> that, I used 2.7dB/100ft for RG174 type line. That's getting to be

I make the loss/100' of RG174 to be 1.1dB and from that I get Xo=-3.6
ohms. (Did you get loss/100m from somewhere? This is probably the answer
to Cecil's diligent spot of an apparent error.)

> pretty significant, a ten degree phase angle away from purely
> resistive. As Owen posted, it's so easy these days to deal with
> complex numbers that you may as well just carry them all along. Given
> the above formula, it's easy to figure the complex Zo for a line where
> you know the nominal attenuation, the velocity factor, and the
> frequency, and of course the nominal high frequency Zo value.

Beyond dealing with transmission lines as Zo=Ro:

A common approximation for Xo is -Ro*alpha/beta and Ro=Ro. This
effectively (approximately) attributes all of the effect of the R element
of and RLGC model to Xo. Tom, your method is equivalent to this when
attenuation is converted to nepers/unit-length and frequency is converted
to radians/unit-length.

My line loss calculator at http://www.vk1od.net/tl/tllc.php takes a
different approach. It computes an estimate of the complex characteristic
impedance implied by the loss=k1*f^0.5+k2*f model, nominal Ro, and
velocity factor using an RLGC model. The model assumes:
* R is proportional to square root of frequency;
* L is constant;
* G is proportional to frequency; and

* C is constant.
These are reasonable assumptions for most practical transmission lines down to about 100kHz. The assumption to become invalid first is the first assumption (are you still with me) which depends of fully developed skin effect, hence the low frequency qualification.

The k1 and k2 values are obtained by regression from published attenuation figures.

I haven't seen this done in other calculators, so it is one of the reasons why my calculator will give slightly different results to others such as TLDETAILS for example.

Owen

3715. Re: Lightning 'liability' ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 21:46:29 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990A4F1247900nonenowhere@61.9.191.5>
Source record: 43531

Spam Collector <spam-collector@artair.com> wrote in
news:slrnf1agnd.gch.spam-collector@k6.artair.com:

> I was considering the possible situation that a strike would have hit
> my neighbor's house, as it is higher than mine, but since the
> well-grounded tower was there it would take the hit instead, but still
> damage their TV, etc. due to the induced currents in the area, and
> they might blame me for their losses (since the strike hit my tower)
> even though the tower might have saved them from a direct hit.
> From the responses it looks like I'm probably over-concerned.

It could.

IMHO, the neighbours would have a hard time proving that you were liable,
but don't get legal advice from me, ask a lawyer... and he will give you
two answers.

Yes, you are probably over-concerned. Worry about personal safety first,
and that is pretty much people on your own property.

Owen

3716. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 22:03:27 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990A51F2F8713nonenowhere@61.9.191.5>
Source record: 43532

Owen Duffy <none@no.where> wrote in
news:Xns990A4E9D256C3nonenowhere@61.9.191.5:

...
>> So for small diameter 50 ohm polyethylene dielectric line at 1.8MHz,
>> the worst case for most ham applications, Xo/Ro is about .18. For
>> that, I used 2.7dB/100ft for RG174 type line. That's getting to be
>
> I make the loss/100' of RG174 to be 1.1dB and from that I get Xo=-3.6
> ohms. (Did you get loss/100m from somewhere? This is probably the
> answer to Cecil's diligent spot of an apparent error.)
>

Tom, in view of your comment about skin effect not being well developed in RG174, I went to Belden's data sheet for 8216 (RG174 type) and sure enough, the loss below 30 MHZ does not track the loss=k1*f^0.5+k2*f model. Your loss figure of 2.7dB/100' may well be correct, and my line loss calculator is in error below 30MHz for this particular cable due to the thin copper plating and steel core of the inner conductor. TLDETAILS and other calculators based on the same loss model will also be in error. I note that the ARRL TLW shows 1.8dB/100' for 8216 at 1.8MHz.

This sets me thinking of a way to calculate a lower frequency limit to the loss model when I generate it, so that I can store that limit in the database and prevent calculation below that frequency.

Owen

3717. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 22:04:13 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175810653.359032.287790@o5g2000hsb.googlegroups.com>
Source record: 43533

On 5 Apr, 14:12, richardharri...@webtv.net (Richard Harrison) wrote:
> Art wrote:
>
> "I have mentioned 3 degrees but that was only by eye on print out for a
> single element."
>
> I have set the vertical angle of many highly directional dish feed horns
> using a bubble level when the path was long. The best setting will be
> horizontal so that the signal skims the earth when there are no
> obstructions.
>
> Never did subsequent adjustment of elevation angle for best signal ever
> alter the bubble setting by one iota.
>
> Why vertical or horizontal? To get the antennas parallel to each other.
> That`s why.
>
> All electrical charges exert forces on one another. At great distances,
> the forces become vanishingly small. Even so, every effective antenna is
> coupled to other conducting matter in its rdiation path to do work in
> maintaining periodic motion of charges, however faint, throughout the
> universe. Energy transferred by an antenna to the universe is said to be
> radiated.
>
> Radiation reflected by the ionosphere surrounding the earth is found to
> be scrambled in its polarization (the direction of its E-field).
>
> Energy directly communicated between line-of-sight antennas is most
> effective when the transmitting and receiving antenna conductors are
> parallel. Conversely, when they are cross-polarized, loss may exceed 20
> dB.
>
> Best regards, Richard Harrison, KB5WZI

No Richard, you are out of date.I'm sure that more about antennas is
taught
these days that has never showed up in Terman. On the tipping thing
many towers have multiple beamms on them and when one is added then
owners have to reset their antennas. Now ofcourse one can now move
them remotely until max polarity is observed. As far as parallel is
concerned, anytime you introduce reactance to the resonance to an
individual element you lose out on efficiency if polarity is a concern
qand in Termans time polarity was not that much of a concern. I truly
believe that most auguments on this newsgroup is because teachings of

yesteryear do not match up to present day teachings. With weather forcasters they now direct R.F at a front first with horizontal polarization and then with vertical polarization and then merge the reflected pictures, thus it is imperitivethat polarization is dead on for 3 D analysis of the weather front. Lots of things are done these days that wasn't even thought about as little as 20 years ago such that you must read iee antenna findings every month to keep up.
Art

3718. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 22:13:11 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <12ta13hbak6oe4l12q6nmasvepp4klvgm8@4ax.com>
Source record: 43534

On Thu, 05 Apr 2007 13:46:14 -0700, Roy Lewallen <w7el@eznec.com> wrote:

>Walter Maxwell wrote:
>>
>> Can't argue with your comments above, Tom, but what ham in his right mind would use 100 feet of RG174?
>
>I do, for 40 and 80 meter antennas on Field Day since I backpack
>everything in. But then I'm often accused of not being in my right mind,
>so there still might not be anyone in that category who does.
>
>Roy Lewallen, W7EL

Ok, Ok, I was not in my right mind when I made the comment--apologies to all.

Walt, W2DU

3719. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 22:20:51 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <4eta131b6k027bosgvm0nbo7h3m0dqjbds@4ax.com>
Source record: 43535

On 5 Apr 2007 15:04:13 -0700, "art" <aunwin@insightbb.com> wrote:

>On 5 Apr, 14:12, richardharri...@webtv.net (Richard Harrison) wrote:
>> Art wrote:
>>
>> "I have mentioned 3 degrees but that was only by eye on print out for a
>> single element."
>>
>> I have set the vertical angle of many highly directional dish feed horns
>> using a bubble level when the path was long. The best setting will be
>> horizontal so that the signal skims the earth when there are no
>> obstructions.
>>
>> Never did subsequent adjustment of elevation angle for best signal ever
>> alter the bubble setting by one iota.
>>
>> Why vertical or horizontal? To get the antennas parallel to each other.
>> That`s why.
>>
>> All electrical charges exert forces on one another. At great distances,
>> the forces become vanishingly small. Even so, every effective antenna is
>> coupled to other conducting matter in its rdiation path to do work in
>> maintaining periodic motion of charges, however faint, throughout the
>> universe. Energy transferred by an antenna to the universe is said to be
>> radiated.
>>
>> Radiation reflected by the ionosphere surrounding the earth is found to
>> be scrambled in its polarization (the direction of its E-field).
>>
>> Energy directly communicated between line-of-sight antennas is most
>> effective when the transmitting and receiving antenna conductors are
>> parallel. Conversely, when they are cross-polarized, loss may exceed 20
>> dB.
>>
>> Best regards, Richard Harrison, KB5WZI
>
>No Richard, you are out of date.I'm sure that more about antennas is
>taught
>these days that has never showed up in Terman. On the tipping thing
>many towers have multiple beamms on them and when one is added then
>owners have to reset their antennas. Now ofcourse one can now move
>them remotely until max polarity is observed. As far as parallel is
>concerned, anytime you introduce reactance to the resonance to an
>individual element you lose out on efficiency if polarity is a concern

>qand in Termans time polarity was not that much of a concern. I truly
>believe that most auguments on this newsgroup is because teachings of
>yesteryear do not match up to present day teachings. With weather
>forcasters they now direct R.F at a front first with horizontal
>polarization and then with vertical polarization and then merge the
>reflected pictures, thus it is imperitivethat polarization is dead on
>for 3 D analysis of the weather front. Lots of things are done these
>days that wasn't even thought about as little as 20 years ago such
>that you must read iee antenna findings every month to keep up.
>Art

Art, you still haven't explained what 'polarity' gain is. And what is maximum polarity? I learned polarity as
being plus or minus. Are there other 'polarities'?

Walt, W2DU

3720. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 22:22:15 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <cjta13ltqsbboi0frdoid60g63ugglej4t@4ax.com>
Source record: 43536

On Thu, 05 Apr 2007 18:05:02 GMT, jimp@specsol.spam.sux.com wrote:

>Walter Maxwell <walt@w2du.com> wrote:
>> On 5 Apr 2007 10:05:43 -0700, "art" <aunwin@insightbb.com> wrote:
>
>> >On 26 Mar, 21:49, richardharri...@webtv.net (Richard Harrison) wrote:
>> >> Art wrote:
>> >>
>> >> "Any thoughts as to why it sgould be so and the scientific facts to
>> >> support it?"
>> >>
>> >> We have plumb lines and bubble levels which allow easy determination of
>> >> vertical and horizontal directions.
>> >>
>> >> We often inhabit a nearly horizontal plane
>> >>
>> >> If we are as likely as not to communicate with any particular direction,
>> >> an omidirectional vertical antenna makes sense. An inclined wire would
>> >> favor some direction to the detriment of another. Sure a slopimg wire
>> >> works but doesn`t reach maximum height or length as effectively as a
>> >> vertical or horizontal wire would.
>> >>
>> >> Why a straight dipole and not a V-shaped element? The V-shape corrupts
>> >> the nulls at the ends of the straight wire.
>> >>
>> >> Vertical and horizontal antennas are not solely accidents of history.
>> >>
>> >> Best regards, Richard Harrison, KB5WZI
>> >
>> >Richard,
>> > It is well known that near maximum "overall" polarity gain can be
>> >obtained by placing a vertical at right angles with respect to earth.
>> >Now -a -days maximum gain is required of a certain polarity which
>> >requires a specific accuracy of less than 1 degree . So yes, in your
>> >working years straight up is good enough but these days of WiFi and
>> >all that concentration is applied for purity of polarity which
>> >requires a resonance at around 3 degrees to the vertical. This can be
>> >determined arithematically according to known laws. Ofcourse as one
>> >moves higher this offset angle changes. This same phenomina or tilt
>> >angle applies for all polarities where maximum gain is required for
>> >purity of polarization.The days have gone where just putting up a wire
>> >satisfies all.
>> >Regards
>> >Art

>
>> Educate me, Art, what is 'polarity' gain?
>
>That's when you go to a Polish wedding and put on weight from eating
>kielbasa.
>
>This is related to the "purity of polarization" which is a measure
>of the quality of the kielbasa served and the Polish music played
>at the wedding.

Now that is what I can understand, Joe.

Walt

3721. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 22:25:14 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <8kta135niabgo5hqkqhklpd0jb75qaoe5i@4ax.com>
Source record: 43537

On Thu, 05 Apr 2007 11:30:59 -0500, Cecil Moore <nospam@w5dxp.com>
wrote:

>we must conclude that
>the principle of superposition doesn't apply to sources
>because the act of applying DC power to the source
>changes the configuration of the system which is a
>violation of the principle of superposition rules.

... a variation on "yet it moves" as superposition rules explicitly
state how sources are to be treated.

So much for value in the mea culpas, appologies, admissions and
explanations for errors - paid (in debased coin) to the victims of
accuracy.

3722. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 22:27:05 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <lrta1352bedpa8qhmg5lm8u28etc6bpu9g@4ax.com>
Source record: 43538

On Thu, 05 Apr 2007 22:20:51 GMT, Walter Maxwell <walt@w2du.com>
wrote:

>Are there other 'polarities'?

Art and AntiArt?

Hi Walt,

I hope your procedure went well.

73's
Richard Clark, KB7QHC

3723. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 22:43:47 UTC
From: clifto <clifto@gmail.com>
Message-ID: <3mage4-ud8.ln1@remote.clifto.com>
Source record: 43539
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

szilagyic wrote:
> I am just trying to get an updated list of the top brands of RG-6 quad
> shield coax cable. I have seen posts from a few years back mentioning
> Belden, Carol, and Commscope, but I just wanted to get an updated
> list. I have seen Carol and Zenith brands at local stores recently,
> are these any good? Mainly going to use this cable for running feeds
> from HDTV & analog TV antennas in the walls of a house.

My experience with a few Carol Cable products (including coax) has been
good. I would consider that the Zenith brand name appears to be rented
out to the best bidder these days (peruse a.h.r for recent stories about
Heath/Zenith products) and expect that the manufacturer spent most of the
cost of making that coax on the marketing of that coax.

--
Music hath charms to soothe the savage breast.
That's why stereo has two channels.

3724. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 23:09:06 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990A5D143B871nonenowhere@61.9.191.5>
Source record: 43540

Owen Duffy <none@no.where> wrote in
news:Xns990A51F2F8713nonenowhere@61.9.191.5:

> This sets me thinking of a way to calculate a lower frequency limit to
> the loss model when I generate it, so that I can store that limit in
> the database and prevent calculation below that frequency.

I have just analysed the tllc database contents to find cases where the
modelled error is more than 10% different to the data points on which the
regression was based.

There are a few cases, they are all copper clad steel inner conductors
(some of the RG6, RG59, RG174, RG316). I need to implement a lower
frequency limit for model validity for each cable type.

An alternative approach to retain some lower frequency results is to use a
cubic spline interpolation... but it has its own problems.

Owen

3725. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 23:11:38 UTC
From: Chris Friesen <cbf123@mail.usask.ca>
Message-ID: <131b0hbeg4noq1a@corp.supernews.com>
Source record: 43541
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

clifto wrote:
> szilagyic wrote:
>
>>I am just trying to get an updated list of the top brands of RG-6 quad
>>shield coax cable.

Belden 1694A is a nice cable, as is Canare L-5CFB.

I built a component cable set for my front projector out of the Canare V3-5CFB, which is basically similar to the L-5CFB but has three cables wrapped together in a single jacket. Works very well.

Chris

3726. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 23:13:12 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175814792.642562.245820@d57g2000hsg.googlegroups.com>
Source record: 43542

On 5 Apr, 15:20, Walter Maxwell <w...@w2du.com> wrote:
> On 5 Apr 2007 15:04:13 -0700, "art" <aun...@insightbb.com> wrote:
>
>
>
>
>
> >On 5 Apr, 14:12, richardharri...@webtv.net (Richard Harrison) wrote:
> >> Art wrote:
>
> >> "I have mentioned 3 degrees but that was only by eye on print out for a
> >> single element."
>
> >> I have set the vertical angle of many highly directional dish feed horns
> >> using a bubble level when the path was long. The best setting will be
> >> horizontal so that the signal skims the earth when there are no
> >> obstructions.
>
> >> Never did subsequent adjustment of elevation angle for best signal ever
> >> alter the bubble setting by one iota.
>
> >> Why vertical or horizontal? To get the antennas parallel to each other.
> >> That`s why.
>
> >> All electrical charges exert forces on one another. At great distances,
> >> the forces become vanishingly small. Even so, every effective antenna is
> >> coupled to other conducting matter in its rdiation path to do work in
> >> maintaining periodic motion of charges, however faint, throughout the
> >> universe. Energy transferred by an antenna to the universe is said to be
> >> radiated.
>
> >> Radiation reflected by the ionosphere surrounding the earth is found to
> >> be scrambled in its polarization (the direction of its E-field).
>
> >> Energy directly communicated between line-of-sight antennas is most
> >> effective when the transmitting and receiving antenna conductors are
> >> parallel. Conversely, when they are cross-polarized, loss may exceed 20
> >> dB.
>
> >> Best regards, Richard Harrison, KB5WZI
>
> >No Richard, you are out of date.I'm sure that more about antennas is
> >taught
> >these days that has never showed up in Terman. On the tipping thing

> >many towers have multiple beamms on them and when one is added then
> >owners have to reset their antennas. Now ofcourse one can now move
> >them remotely until max polarity is observed. As far as parallel is
> >concerned, anytime you introduce reactance to the resonance to an
> >individual element you lose out on efficiency if polarity is a concern
> >qand in Termans time polarity was not that much of a concern. I truly
> >believe that most auguments on this newsgroup is because teachings of
> >yesteryear do not match up to present day teachings. With weather
> >forcasters they now direct R.F at a front first with horizontal
> >polarization and then with vertical polarization and then merge the
> >reflected pictures, thus it is imperitivethat polarization is dead on
> >for 3 D analysis of the weather front. Lots of things are done these
> >days that wasn't even thought about as little as 20 years ago such
> >that you must read iee antenna findings every month to keep up.
> >Art
>
> Art, you still haven't explained what 'polarity' gain is. And what is maximum polarity? I learned polarity as
> being plus or minus. Are there other 'polarities'?
>
> Walt, W2DU- Hide quoted text -
>
> - Show quoted text -

Walt, if you are looking for maximum horizontal or any other polarity
it can only be obtained by removal of reception of other polarities,
this maximum is obtained by having the radiator at <90 degree
multiples with respect to earth. You can prove this to your self
anytime by calculating max horizontal gain by progressively tipping a
dipole while keeping it resonant until the maximum is reached. If your
concern is for total gain without regard to polarity mix then the
vertical position total gain will equal the total gain of the tipped
dipole. The difference is that one arrangement has a mixture of
polarities where-as the tipped antenna will only provide a single
polarity. If another element or anything else is added near enough to
add reactance then the prior antenna must be adjusted to remove it,
thus the reason for remote adjustment which is much cheaper to
maintain rather than regular trips up a tower by maintanance men.
Hopefully Walter this will bring you up to date. I have no reason for
a 300 posting thread as I do not intend to write rev 3 of Reflections
or anything else.
Regards
Art

3727. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 23:13:15 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <fofRh.5294$u03.8@newssvr21.news.prodigy.net>
Source record: 43543

Richard Clark wrote:
> ... a variation on "yet it moves" as superposition rules explicitly
> state how sources are to be treated.

But since it leads to a contradiction as far as energy
goes, it must be in error. The raging inferno that is
the source is apparently not transparent to waves traveling
in the opposite direction.
--
73, Cecil http://www.w5dxp.com

3728. Re: Reasonably-priced capacitors for traps

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 23:22:40 UTC
From: Rick <Nospam@reply.in.gp>
Message-ID: <pan.2007.04.05.23.22.39.144214@reply.in.gp>
Source record: 43544

On Wed, 04 Apr 2007 21:48:08 -0700, Bryan wrote:

> A stub of coaxial cable will work... approximately 30pF/foot for 50 ohm
> types... approximately 20pF/foot for 75 ohm types.

Good evening, Bryan.

Thanks, but there are a couple of problems... the antenna will be for 160 through 40 and so two of the traps will be for 80 meters... I forget what the capacitance will be but I think it was somewhere in the 200 pf range. Also, the antenna is meant to be portable, and so the traps need to be as physically small as practical. Also the power will usually be low... as low as 5 watts, usually no more than 50 and never more than 100 watts... so I guess I need to make the antenna as efficient as I can... kind of a contradiction in terms for trapped antennas especially where the traps need to be physically small.

If I could find the doorknob capacitors for a reasonable price that would be ideal, but $15 each is way too much.

On the other hand, the ones from RF Parts are all at least 4 KV, and up from there (40-50 KV). I don't know how to accurately calculate the voltage rating I'll need (I'll post that as another question under another topic), but my guess is that for 100 watts max, I don't need 5 KV, and may not need 1 KV.

Who else besides RF Parts has these things and has a decent website?

3729. Calculating trap capacitor voltage rating

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 23:29:54 UTC
From: Rick <Nospam@reply.in.gp>
Message-ID: <pan.2007.04.05.23.29.53.793507@reply.in.gp>
Source record: 43545

How do I calculate the voltage rating I'll need for capacitors used to make traps?

I am making a portable field antenna for 160 through 40 meters, for use with 100 watts absolute maximum (normal use will be from 5 to 50 watts).

3730. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 23:38:45 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1175816325.080749.231500@b75g2000hsg.googlegroups.com>
Source record: 43546

On Apr 5, 3:03 pm, Owen Duffy <n...@no.where> wrote:
> Owen Duffy <n...@no.where> wrote innews:Xns990A4E9D256C3nonenowhere@61.9.191.5:
>
> ...
>
> >> So for small diameter 50 ohm polyethylene dielectric line at 1.8MHz,
> >> the worst case for most ham applications, Xo/Ro is about .18. For
> >> that, I used 2.7dB/100ft for RG174 type line. That's getting to be
>
> > I make the loss/100' of RG174 to be 1.1dB and from that I get Xo=-3.6
> > ohms. (Did you get loss/100m from somewhere? This is probably the
> > answer to Cecil's diligent spot of an apparent error.)
>
> Tom, in view of your comment about skin effect not being well developed
> in RG174, I went to Belden's data sheet for 8216 (RG174 type) and sure
> enough, the loss below 30 MHZ does not track the loss=k1*f^0.5+k2*f
> model. Your loss figure of 2.7dB/100' may well be correct, and my line
> loss calculator is in error below 30MHz for this particular cable due to
> the thin copper plating and steel core of the inner conductor. TLDETAILS
> and other calculators based on the same loss model will also be in error.
> I note that the ARRL TLW shows 1.8dB/100' for 8216 at 1.8MHz.
>
> This sets me thinking of a way to calculate a lower frequency limit to
> the loss model when I generate it, so that I can store that limit in the
> database and prevent calculation below that frequency.
>
> Owen

Hi Owen,

Yes, I've played with the same model (k1*sqrt(f)+k2*f) for loss. For
things below 500MHz or so--and generally above--the k2 term seemed to
always be so low as to not be worth including. For one thing, the
high-frequency apparent loss may well NOT be due to increased loss in
the dielectric, but rather to variations in impedance along the line
or some similar phenomenon. Published specs for precision lines seem
to be a lot closer than those for "garden variety coax" to what I'd
expect based on theory and what I believe to be the dielectric's power
factor for polyethylene and PTFE. Assuming that all types of line
from a given reputable manufacturer use the same quality polyethylene
and the same quality PTFE, we should see the same contribution from
dielectric, taking into account solid versus foam, for all types: at
a given frequency, the dielectric loss of the poly or PTFE should be
the same. If that's the case, then for some lines at least, the k2
factor must not be due entirely to dielectric loss.

A note on my simple formula: one of the approximations in it is that the phase angle of Zo is assumed to be close to zero, so that sqrt(1+j*x) can be reasonably approximated as 1+j*x/2. For x=+/- 0.2, the error magnitude is less than 0.005, and the error in the imaginary part is less than 0.0005. But for line that has a seriously reactive Zo, the error can be large.

We have Roy to thank for pointing out to me, several years ago, that characteristic of RG-174. I knew I'd have a chance to thank him in public for it sometime. ;-)

Cheers,
Tom

3731. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-05 23:55:04 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ef2b139ijjhb2voh9p4otnpvslaiknsbqt@4ax.com>
Source record: 43547

On Thu, 05 Apr 2007 23:13:15 GMT, Cecil Moore <nospam@w5dxp.com>
wrote:

>Richard Clark wrote:
>> ... a variation on "yet it moves" as superposition rules explicitly
>> state how sources are to be treated.
>
>But since it leads to a contradiction as far as energy
>goes, it must be in error.

Superposition is in contradiction to superposition and is in error!
...classic fulfillment of your hackneyed quote of Galileo. Any fires
of purgation you may feel for not accepting Keith's explanation for
(what you call) sources is your own sin - you may as well condemn the
Church (in a muttering whisper, of course) and go back to your cell of
righteousness.

3732. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 00:05:21 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <5c3b13p2i8sp9mq8r4h5l625pnamku9cod@4ax.com>
Source record: 43548

On Thu, 05 Apr 2007 15:27:05 -0700, Richard Clark <kb7qhc@comcast.net> wrote:

>On Thu, 05 Apr 2007 22:20:51 GMT, Walter Maxwell <walt@w2du.com>
>wrote:
>
>>Are there other 'polarities'?
>
>Art and AntiArt?
>
>Hi Walt,
>
>I hope your procedure went well.
>
>73's
>Richard Clark, KB7QHC

Sorry Richard, my surgery had to be postponed a second time, first, to wait after my cataract surgery, and
second, just before the procedure was to be performed, my dentist discovered an infected tooth. One of its
roots was cracked, and I spent one heluva night last night after having the root removed. Consequently, my
spinal surgery has been moved to April 18. This is gettin' ridiculous! But thanks for your concern.

Walt

3733. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 00:06:36 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <gagRh.3165$5e2.859@newssvr11.news.prodigy.net>
Source record: 43549

Richard Clark wrote:
> Superposition is in contradiction to superposition and is in error!

It should be easy to prove. Hook up two IC-706's in
series driving a 50 ohm dummy load. Install some
feedback to make them coherent. Turn one off and
one on. Then turn the other off and the other on.
Then turn them both on. Do they satisfy the
principle of superposition?
--
73, Cecil http://www.w5dxp.com

3734. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 00:12:00 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <8n3b13l664tpootplv0s5jeh2f8s89dmh0@4ax.com>
Source record: 43550

On 5 Apr 2007 16:13:12 -0700, "art" <aunwin@insightbb.com> wrote:

>On 5 Apr, 15:20, Walter Maxwell <w...@w2du.com> wrote:
>> On 5 Apr 2007 15:04:13 -0700, "art" <aun...@insightbb.com> wrote:
>>
>>
>>
>>
>>
>> >On 5 Apr, 14:12, richardharri...@webtv.net (Richard Harrison) wrote:
>> >> Art wrote:
>>
>> >> "I have mentioned 3 degrees but that was only by eye on print out for a
>> >> single element."
>>
>> >> I have set the vertical angle of many highly directional dish feed horns
>> >> using a bubble level when the path was long. The best setting will be
>> >> horizontal so that the signal skims the earth when there are no
>> >> obstructions.
>>
>> >> Never did subsequent adjustment of elevation angle for best signal ever
>> >> alter the bubble setting by one iota.
>>
>> >> Why vertical or horizontal? To get the antennas parallel to each other.
>> >> That`s why.
>>
>> >> All electrical charges exert forces on one another. At great distances,
>> >> the forces become vanishingly small. Even so, every effective antenna is
>> >> coupled to other conducting matter in its rdiation path to do work in
>> >> maintaining periodic motion of charges, however faint, throughout the
>> >> universe. Energy transferred by an antenna to the universe is said to be
>> >> radiated.
>>
>> >> Radiation reflected by the ionosphere surrounding the earth is found to
>> >> be scrambled in its polarization (the direction of its E-field).
>>
>> >> Energy directly communicated between line-of-sight antennas is most
>> >> effective when the transmitting and receiving antenna conductors are
>> >> parallel. Conversely, when they are cross-polarized, loss may exceed 20
>> >> dB.
>>
>> >> Best regards, Richard Harrison, KB5WZI
>>
>> >No Richard, you are out of date.I'm sure that more about antennas is

>> >taught
>> >these days that has never showed up in Terman. On the tipping thing
>> >many towers have multiple beamms on them and when one is added then
>> >owners have to reset their antennas. Now ofcourse one can now move
>> >them remotely until max polarity is observed. As far as parallel is
>> >concerned, anytime you introduce reactance to the resonance to an
>> >individual element you lose out on efficiency if polarity is a concern
>> >qand in Termans time polarity was not that much of a concern. I truly
>> >believe that most auguments on this newsgroup is because teachings of
>> >yesteryear do not match up to present day teachings. With weather
>> >forcasters they now direct R.F at a front first with horizontal
>> >polarization and then with vertical polarization and then merge the
>> >reflected pictures, thus it is imperitivethat polarization is dead on
>> >for 3 D analysis of the weather front. Lots of things are done these
>> >days that wasn't even thought about as little as 20 years ago such
>> >that you must read iee antenna findings every month to keep up.
>> >Art
>>
>> Art, you still haven't explained what 'polarity' gain is. And what is maximum polarity?
I learned polarity as
>> being plus or minus. Are there other 'polarities'?
>>
>> Walt, W2DU- Hide quoted text -
>>
>> - Show quoted text -
>
>Walt, if you are looking for maximum horizontal or any other polarity
>it can only be obtained by removal of reception of other polarities,
>this maximum is obtained by having the radiator at <90 degree
>multiples with respect to earth. You can prove this to your self
>anytime by calculating max horizontal gain by progressively tipping a
>dipole while keeping it resonant until the maximum is reached. If your
>concern is for total gain without regard to polarity mix then the
>vertical position total gain will equal the total gain of the tipped
>dipole. The difference is that one arrangement has a mixture of
>polarities where-as the tipped antenna will only provide a single
>polarity. If another element or anything else is added near enough to
>add reactance then the prior antenna must be adjusted to remove it,
>thus the reason for remote adjustment which is much cheaper to
>maintain rather than regular trips up a tower by maintanance men.
>Hopefully Walter this will bring you up to date. I have no reason for
>a 300 posting thread as I do not intend to write rev 3 of Reflections
>or anything else.
>Regards
>Art

Art, using correct terminology is essential in preventing misunderstandings, as you have done with 'polarity'.
You have confused 'polarity' with 'polarization'--the two are not synonomous, but are distinctly different.

Sorry, Art, your misuse of this term has been confusing, rather than enlightening. Are you blaming me for the
more than 300 postings on this thread?

Walt

3735. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 01:04:15 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175821455.906877.273950@n76g2000hsh.googlegroups.com>
Source record: 43551

On 5 Apr, 17:12, Walter Maxwell <w...@w2du.com> wrote:
> On 5 Apr 2007 16:13:12 -0700, "art" <aun...@insightbb.com> wrote:
>
>
>
>
>
> >On 5 Apr, 15:20, Walter Maxwell <w...@w2du.com> wrote:
> >> On 5 Apr 2007 15:04:13 -0700, "art" <aun...@insightbb.com> wrote:
>
> >> >On 5 Apr, 14:12, richardharri...@webtv.net (Richard Harrison) wrote:
> >> >> Art wrote:
>
> >> >> "I have mentioned 3 degrees but that was only by eye on print out for a
> >> >> single element."
>
> >> >> I have set the vertical angle of many highly directional dish feed horns
> >> >> using a bubble level when the path was long. The best setting will be
> >> >> horizontal so that the signal skims the earth when there are no
> >> >> obstructions.
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> >> >> be scrambled in its polarization (the direction of its E-field).
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> >> >> Energy directly communicated between line-of-sight antennas is most
> >> >> effective when the transmitting and receiving antenna conductors are
> >> >> parallel. Conversely, when they are cross-polarized, loss may exceed 20
> >> >> dB.
>
> >> >> Best regards, Richard Harrison, KB5WZI
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> >> >these days that has never showed up in Terman. On the tipping thing
> >> >many towers have multiple beamms on them and when one is added then
> >> >owners have to reset their antennas. Now ofcourse one can now move
> >> >them remotely until max polarity is observed. As far as parallel is
> >> >concerned, anytime you introduce reactance to the resonance to an
> >> >individual element you lose out on efficiency if polarity is a concern
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> >> >yesteryear do not match up to present day teachings. With weather
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> >> >that you must read iee antenna findings every month to keep up.
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> >> being plus or minus. Are there other 'polarities'?
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> >> Walt, W2DU- Hide quoted text -
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> >this maximum is obtained by having the radiator at <90 degree
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> >anytime by calculating max horizontal gain by progressively tipping a
> >dipole while keeping it resonant until the maximum is reached. If your
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> >vertical position total gain will equal the total gain of the tipped
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> >maintain rather than regular trips up a tower by maintanance men.
> >Hopefully Walter this will bring you up to date. I have no reason for
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> >Regards
> >Art
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> Art, using correct terminology is essential in preventing misunderstandings, as you have
done with 'polarity'.
> You have confused 'polarity' with 'polarization'--the two are not synonomous, but are

distinctly different.
> Sorry, Art, your misuse of this term has been confusing, rather than enlightening. Are you blaming me for the
> more than 300 postings on this thread?
>
> Walt- Hide quoted text -
>
> - Show quoted text -

Walt
Now why would I blame you for over 300 postings? Obviously you have created some confusion which is natural for our hobby since we are an old group which gives justification to "there is no fool like an old fool" Nothing personal. Lets face it we oversell experience when in a lot of cases it is the same experience over and over again. Anybody here who remembers the Sputnik probably would not be able to get a degree today or even the same job. On this tilt thing if you look at patents in the 6 million plus area most would not understand what they were referring to, whereas the present day student understands thing fully since he grew up with digital transmissions. Heck most of us retired before the last ten years which is becoming the heydays of antenna research. Yes, as I get older I make the same mistakes as all old people do and you make provision for other old people unless you think your self as perfect as would a younger person who just got his degree and was up to date.
The difference ofcourse is the young student wants to prove things to himself until he gets behind technically when he then asks for proof from others. If I look back at the past arguments on my threads many pull out the 50 year old books that we have stored away. The modern student will look up Google and even if he is a few years out of school would have checked the computor for reference to "adjusting antennas" or "tilting antennas"to get up to date where as the old timer thinks he is still back in the old days so his knoweledge is up to date and cannot adapt to the present situation he there is no reference to that in my books.Odd thing I saw the other day was a book by Terman and would you believe it nowhere in the book does the words of "maxwell" or Gauss" show up so they must be imaginary also. Yup, Walt as you get older you will find that a lot more people are mixed up except you and need to be told so until the time come that more people are saying it to you forcing you to be more tolerant.
Frankly a lot of people on this net need to get up to speed with respect to radiation such as tipped antennas e.t.c instead of discarding information in
favour of the opportunity to mock while the younger more knowledgable members give a quiet smile to themselves. Walt were you aware of the reasons for tipping? I doubt it because you probably can remember the Sputnik when the standards of education was lower and Google was not around.
Never heard you come forward with respect to the Gaussian and Maxwell argument either before or after the young M.I.T guy put every body straight or did you know it anyway but just didn't want to correct

people then?
Art

3736. Re: Calculating trap capacitor voltage rating

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 01:05:29 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1175821529.920211.276650@n76g2000hsh.googlegroups.com>
Source record: 43552

On Apr 5, 4:29 pm, Rick <Nos...@reply.in.gp> wrote:
> How do I calculate the voltage rating I'll need for capacitors used to
> make traps?
>
> I am making a portable field antenna for 160 through 40 meters, for use
> with 100 watts absolute maximum (normal use will be from 5 to 50 watts).

One way to put an absolute maximum rating on the trap voltage and current is to assume that ALL your power is dissipated in the trap. Obviously, that would be a real bummer, but it's a limit. In the case of a symmetric dipole, the power would divide, probably fairly close to equally, between the two sides. Remember that you want to be sure the cap doesn't flash over, so take into account peak voltages: peaks of modulation, etc.

So if you have a trap that, at resonance, has Xc=Xl, and has some Q, then at power P dissipated in the trap, the voltage will be sqrt(Xl*Q*P). Circulating current will be sqrt(P*Q/Xl). You mentioned in another posting 100 watts absolute max, and 200pF resonant at 80 meters, so Xc=Xl=200 ohms, approximately. You want to make them small, so I'd guess Q<300...let's say Q=200. So for the case of 100W in one trap (that coil's gonna get really hot if it really is required to dissipate that for long...), that's Vrms=sqrt(200*200*100)=2000V. Irms=sqrt(100*200/200)=10A. Please note that the CURRENT in the cap may be a bigger problem than the voltage across it!

That's absolute worst-case. I'd guess you'll see more like 5 watts max per side dissipated with 100 watts input, the rest being radiated, and if that is indeed the case, Vrms=450V and Irms=2.23A. If there's only 1 watt dissipated, it's still 200V and 1A.

At about 30pF/foot, RG-58 could do the job, but 200pF would be almost 7 feet of coax. That would be economical, to be sure, and should be up to the job with no problems. Paralleling some high voltage ceramic discs would probably work...use NPO (C0G) type, maybe 5 or 10 in parallel to avoid current problems.

Cheers,
Tom

3737. Re: Calculating trap capacitor voltage rating

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 01:05:58 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131b77rdlkt6b9a@corp.supernews.com>
Source record: 43553

Rick wrote:
> How do I calculate the voltage rating I'll need for capacitors used to
> make traps?
>
> I am making a portable field antenna for 160 through 40 meters, for use
> with 100 watts absolute maximum (normal use will be from 5 to 50 watts).

I don't know of any general way to calculate it, but you can easily get the data from a model. In EZNEC, clicking Load Dat will show you the voltage across and current through a "load" (in this case, trap), as well as its power loss. Other programs have an equivalent feature.

Roy Lewallen, W7EL

3738. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 01:15:30 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1175822130.138530.167060@y80g2000hsf.googlegroups.com>
Source record: 43554

On Apr 5, 1:14 pm, Jim Kelley <jwkel...@uci.edu> wrote:
> K7ITM wrote:
> > Hi Jim,
>
> > Some people may use only c-sub-zero for the speed of light in a
> > vacuum, but most commonly I see it simply as c, a fundamental physical
> > constant. To avoid confusion, I would HIGHLY recommend that either
> > you be very explicit that you're using co as the constant, and c as
> > the speed of light in whatever medium you're dealing with -- OR that
> > you're using c as the constant and whatever other notation for the
> > speed elsewhere.
>
> > NIST lists the constant both ways: c, c-sub-zero. SEVERAL other
> > places I just looked (reference books from my bookshelf; a web survey
> > including US, UK and European sites--mostly physics sites; several
> > university sites) only used c as the constant, except the NIST site
> > and one other, which both listed it as c or c-sub-zero with equal
> > weight.
>
> > It's clearly a matter only of notation, but I'll elect to stay with
> > the most commonly used notation, and from what I've seen just now,
> > most think c is a constant.
>
> > Cheers,
> > Tom
>
> Hi Tom -
>
> This is becoming circuitous. What you're saying is exactly what led
> the original correspondent to be confused in the first place. Since
> the relavant equation doesn't read c = f*w/n, the only way to explain
> the phenomenon is by using a value of c that varies with medium. That
> was the entire point.
>
> 73. Jim AC6XG

Hi Jim,

OK, but I still say that, in that case, the equation (c=f*w) uses c in
a way that's inconsistent with common usage of c. I don't know if the
article quoted by the OP mentions that, or if somewhere it adds other
qualification, but if it's not out of context, then it would confuse
me, too, if I were trying to understand it for the first time. At the
very least, the article should say somewhere that c is the speed of
propagation in whatever medium we're dealing with, and if it did,

perhaps the OP wouldn't have been confused about it in the first place. His posting makes it very clear to me that HE thought c was a constant, as I would if the author didn't tell me otherwise.

Cheers,
Tom

3739. Re: Calculating trap capacitor voltage rating

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 01:32:29 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990A75634750Bnonenowhere@61.9.191.5>
Source record: 43555

Rick <Nospam@reply.in.gp> wrote in news:pan.2007.04.05.23.29.53.793507
@reply.in.gp:

>
> How do I calculate the voltage rating I'll need for capacitors used to
> make traps?
>
> I am making a portable field antenna for 160 through 40 meters, for use
> with 100 watts absolute maximum (normal use will be from 5 to 50
watts).
>

The antenna can be designed so that traps are not resonant at the operating frequency, and that tends to reduce the voltage impressed across the traps.

Modelling might give you the best indication of the operating voltage on the traps. Don't forget to allow for peak and a safety margin.

Another approach is the so called coax trap. I have seen many descriptions of these things, and they are all different, so I thought I would write my own which, in keeping with the others, is also different. My approach was to describe them using a transmission line explanation. Such an explanation suggests they are a lot better than at first might meet the eye. My notes are at http://www.vk1od.net/coaxtrap/index.htm .

Owen

3740. Re: Lightning 'liability' ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 01:33:40 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175823220.769027.202730@l77g2000hsb.googlegroups.com>
Source record: 43556

On 5 Apr, 14:46, Owen Duffy <n...@no.where> wrote:
> Spam Collector <spam-collec...@artair.com> wrote
innews:slrnf1agnd.gch.spam-collector@k6.artair.com:
>
> > I was considering the possible situation that a strike would have hit
> > my neighbor's house, as it is higher than mine, but since the
> > well-grounded tower was there it would take the hit instead, but still
> > damage their TV, etc. due to the induced currents in the area, and
> > they might blame me for their losses (since the strike hit my tower)
> > even though the tower might have saved them from a direct hit.
> > From the responses it looks like I'm probably over-concerned.
>
> It could.
>
> IMHO, the neighbours would have a hard time proving that you were liable,
> but don't get legal advice from me, ask a lawyer... and he will give you
> two answers.
>
> Yes, you are probably over-concerned. Worry about personal safety first,
> and that is pretty much people on your own property.
>
> Owen

Owen,
the laws are different in Australia. In the U.S. laws are made first
without a ruling what the the actual "words" inferred where as
"intent" of the law in Australia and other places is of prime
importance. As time passes by words uttered can change their meaning
from the original intent thus solutions can be delayed for years where
nothing is really final. Also in the U.S. anybody can sue anybody and
with impunity where as in other countries the loser pays the costs of
the court action.In America the person with the most money nearly
always wins and the poor finish up in jail since each side pays his
own costs and only gets the attorney that he can afford before his
money runs out.You can even get away with murder here
if you have deep pockets and in a lot of cases charges will be dropped
or diminished if the County does not have enough money to pursue a
lengthy trial where you must bear in mind that the opportunity for
unlimited appeals depend on the depth of the pocket of the
accused.America is broke
financially and in a lot of cases criminals are not arrested or let
out of prison early to make room for new entrants! We tried to make an
Empire without sufficient money on hand and thus we lost a Country.
Art

3741. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 01:50:22 UTC
From: Paul Franklin <pffranklin.nospam@hotmail.com>
Message-ID: <bf9b13hsu5ohhtp18mnaj6pufijtsu8oe0@4ax.com>
Source record: 43557
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

On Thu, 05 Apr 2007 17:43:47 -0500, clifto <clifto@gmail.com> wrote:

>szilagyic wrote:
>> I am just trying to get an updated list of the top brands of RG-6 quad
>> shield coax cable. I have seen posts from a few years back mentioning
>> Belden, Carol, and Commscope, but I just wanted to get an updated
>> list. I have seen Carol and Zenith brands at local stores recently,
>> are these any good? Mainly going to use this cable for running feeds
>> from HDTV & analog TV antennas in the walls of a house.
>
>My experience with a few Carol Cable products (including coax) has been
>good. I would consider that the Zenith brand name appears to be rented
>out to the best bidder these days (peruse a.h.r for recent stories about
>Heath/Zenith products) and expect that the manufacturer spent most of the
>cost of making that coax on the marketing of that coax.

Belden, Alpha and Carol are all good. As important as the cable are
the connectors. The compression type are the way to go, IMO. Invest
in a good QS stripper and a compression tool. Don't bother with crimp
tools and don't even think about twist-on.

HTH,

Paul

3742. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 02:54:00 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <gqcb13lv7edsbgndjgp8o9ekr33pqdv15h@4ax.com>
Source record: 43558

On 5 Apr 2007 18:04:15 -0700, "art" <aunwin@insightbb.com> wrote:

>On 5 Apr, 17:12, Walter Maxwell <w...@w2du.com> wrote:
>> On 5 Apr 2007 16:13:12 -0700, "art" <aun...@insightbb.com> wrote:
snip
>> >> Walt, W2DU- Hide quoted text -
>>
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>Walt
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>old group which gives justification to "there is no fool like an old
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>The difference ofcourse is the young student wants to prove things to
>himself until he gets behind technically when he then asks for proof
>from others. If I look back at the past arguments on my threads many
>pull out the 50 year old books that we have stored away. The modern
>student will look up Google and even if he is a few years out of
>school would have checked the computor for reference to "adjusting
>antennas" or "tilting antennas"to get up to date where as the old
>timer thinks he is still back in the old days so his knoweledge is up
>to date and cannot adapt to the present situation he there is no
>reference to that in my books.Odd thing I saw the other day was a book
>by Terman and would you believe it nowhere in the book does the words
>of "maxwell" or Gauss" show up so they must be imaginary also. Yup,
>Walt as you get older you will find that a lot more people are mixed
>up except you and need to be told so until the time come that more
>people are saying it to you forcing you to be more tolerant.
>Frankly a lot of people on this net need to get up to speed with
>respect to radiation such as tipped antennas e.t.c instead of
>discarding information in
>favour of the opportunity to mock while the younger more knowledgable
>members give a quiet smile to themselves. Walt were you aware of the
>reasons for tipping? I doubt it because you probably can remember the
>Sputnik when the standards of education was lower and Google was not
>around.
>Never heard you come forward with respect to the Gaussian and Maxwell
>argument either before or after the young M.I.T guy put every body
>straight or did you know it anyway but just didn't want to correct
>people then?
>Art

Art, you say I have created confusion? Over what? Confusion? How about responding to your misuse of the term
'polarity'? Now that's confusion.

And you say that some MIT guy put everybody straight? Just what is it the everybody needed straightening about
that the MIT guy is supposed to have done? And are you implying that Terman, Kraus, Johnson, et al are wrong,
and that we need 'straightening out' because we learned it wrong from these masters of 50

years ago?

And you're also saying that our educational standards are better now? Art, what have you been smoking? And are
you also saying that the new graduate with no hands-on experience outweighs a graduate of 30 years ago with
experience gained during those 30 years? What planet are you from, Art, certainly not Earth.

Think about it,

Walt, W2DU

3743. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 03:00:38 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175828438.024823.154670@n76g2000hsh.googlegroups.com>
Source record: 43559

On Apr 5, 12:30 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > The total response at any point on the line is the sum of
> > the two waves at the desired instant at that point.
>
> True for any *passive* point on the line. Apparently
> not true at the heart of a dynamic active source which
> is easy to prove on the bench. Seems to me that based
> on real-world bench experiments, we must conclude that
> the principle of superposition doesn't apply to sources
> because the act of applying DC power to the source
> changes the configuration of the system which is a
> violation of the principle of superposition rules.
> Ramo and Whinnery warn us about attaching any real-
> world significance to the power dissipation in an
> equivalent source.
>
> Obviously, if any system conditions change when power is
> applied the basic rules for the superposition principle
> have been violated.

Firstly, the principle of conservation of energy always holds.
I don't think anyone has ever disputed that.

Secondly, about superposition. A sufficient condition for
superposition to hold is that all the components are linear
and time-invariant. Examining the ideal transmission lines
used in our simple examples, this is true and superposition
holds on the transmission line. This is also true for the
components in our simple generators so superposition holds
there as well. And it holds for the system consisting of the
generator and the transmission line.

But as I understand, you have done some analysis which brings
superposition into conflict with conservation of energy and
you have concluded that one of them must be wrong. (And having
had strong success with conservation of energy, you have
chosen superposition to be wrong.)

But there is a third choice. Perhaps there is an error in the
way that you have connected the dots between superposition
and conservation of energy. Perhaps, as a result, superposition
and conservation of energy are not in conflict at all.

And this is indeed the case. Since both are true, the error must
be in how the dots are connected.

I suggest you carefully examine the chain of logic that causes you to conclude that they disagree. That is the path to resolving the contradiction.

If you would care to lay out the chain that connects the dots, I would be happy to attempt to help with locating the misstep.

...Keith

3744. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 03:09:02 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175828942.591293.62200@q75g2000hsh.googlegroups.com>
Source record: 43560

On 5 Apr, 19:54, Walter Maxwell <w...@w2du.com> wrote:
> On 5 Apr 2007 18:04:15 -0700, "art" <aun...@insightbb.com> wrote:
>
>
>
>
>
>
>
> >On 5 Apr, 17:12, Walter Maxwell <w...@w2du.com> wrote:
> >> On 5 Apr 2007 16:13:12 -0700, "art" <aun...@insightbb.com> wrote:
> snip
> >> >> Walt, W2DU- Hide quoted text -
>
> >> >> - Show quoted text -
>
> >> >Walt, if you are looking for maximum horizontal or any other polarity
> >> >it can only be obtained by removal of reception of other polarities,
> >> >this maximum is obtained by having the radiator at <90 degree
> >> >multiples with respect to earth. You can prove this to your self
> >> >anytime by calculating max horizontal gain by progressively tipping a
> >> >dipole while keeping it resonant until the maximum is reached. If your
> >> >concern is for total gain without regard to polarity mix then the
> >> >vertical position total gain will equal the total gain of the tipped
> >> >dipole. The difference is that one arrangement has a mixture of
> >> >polarities where-as the tipped antenna will only provide a single
> >> >polarity. If another element or anything else is added near enough to
> >> >add reactance then the prior antenna must be adjusted to remove it,
> >> >thus the reason for remote adjustment which is much cheaper to
> >> >maintain rather than regular trips up a tower by maintanance men.
> >> >Hopefully Walter this will bring you up to date. I have no reason for
> >> >a 300 posting thread as I do not intend to write rev 3 of Reflections
> >> >or anything else.
> >> >Regards
> >> >Art
>
> >> Art, using correct terminology is essential in preventing misunderstandings, as you
have done with 'polarity'.
> >> You have confused 'polarity' with 'polarization'--the two are not synonomous, but are
distinctly different.
> >> Sorry, Art, your misuse of this term has been confusing, rather than enlightening. Are
you blaming me for the
> >> more than 300 postings on this thread?
>

> >> Walt- Hide quoted text -
>
> >> - Show quoted text -
>
> >Walt
> >Now why would I blame you for over 300 postings? Obviously you have
> >created some confusion which is natural for our hobby since we are an
> >old group which gives justification to "there is no fool like an old
> >fool" Nothing personal. Lets face it we oversell experience when in a
> >lot of cases it is the same experience over and over again. Anybody
> >here who remembers the Sputnik probably would not be able to get a
> >degree today or even the same job. On this tilt thing if you look at
> >patents in the 6 million plus area most would not understand what they
> >were referring to, whereas the present day student understands thing
> >fully since he grew up with digital transmissions. Heck most of us
> >retired before the last ten years which is becoming the heydays of
> >antenna research. Yes, as I get older I make the same mistakes as all
> >old people do and you make provision for other old people unless you
> >think your self as perfect as would a younger person who just got his
> >degree and was up to date.
> >The difference ofcourse is the young student wants to prove things to
> >himself until he gets behind technically when he then asks for proof
> >from others. If I look back at the past arguments on my threads many
> >pull out the 50 year old books that we have stored away. The modern
> >student will look up Google and even if he is a few years out of
> >school would have checked the computor for reference to "adjusting
> >antennas" or "tilting antennas"to get up to date where as the old
> >timer thinks he is still back in the old days so his knoweledge is up
> >to date and cannot adapt to the present situation he there is no
> >reference to that in my books.Odd thing I saw the other day was a book
> >by Terman and would you believe it nowhere in the book does the words
> >of "maxwell" or Gauss" show up so they must be imaginary also. Yup,
> >Walt as you get older you will find that a lot more people are mixed
> >up except you and need to be told so until the time come that more
> >people are saying it to you forcing you to be more tolerant.
> >Frankly a lot of people on this net need to get up to speed with
> >respect to radiation such as tipped antennas e.t.c instead of
> >discarding information in
> >favour of the opportunity to mock while the younger more knowledgable
> >members give a quiet smile to themselves. Walt were you aware of the
> >reasons for tipping? I doubt it because you probably can remember the
> >Sputnik when the standards of education was lower and Google was not
> >around.
> >Never heard you come forward with respect to the Gaussian and Maxwell
> >argument either before or after the young M.I.T guy put every body
> >straight or did you know it anyway but just didn't want to correct
> >people then?
> >Art
>
> Art, you say I have created confusion? Over what? Confusion? How about responding to your

misuse of the term
> 'polarity'? Now that's confusion.
>
> And you say that some MIT guy put everybody straight? Just what is it the everybody needed straightening about
> that the MIT guy is supposed to have done? And are you implying that Terman, Kraus, Johnson, et al are wrong,
> and that we need 'straightening out' because we learned it wrong from these masters of 50 years ago?
>
> And you're also saying that our educational standards are better now? Art, what have you been smoking? And are
> you also saying that the new graduate with no hands-on experience outweighs a graduate of 30 years ago with
> experience gained during those 30 years? What planet are you from, Art, certainly not Earth.
>
> Think about it,
>
> Walt, W2DU- Hide quoted text -
>
> - Show quoted text -

3745. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 03:13:59 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <XViRh.5320$u03.2941@newssvr21.news.prodigy.net>
Source record: 43561

Keith Dysart wrote:
> This is also true for the
> components in our simple generators so superposition holds
> there as well.

I've asked Richard how to hook up two IC-706's in
series to get them to meet the requirements of
the superposition principle. Maybe you can show
us how to do it.
--
73, Cecil http://www.w5dxp.com

3746. Re: Reasonably-priced capacitors for traps

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 03:17:59 UTC
From: Bryan <bryan.swadenerNOSPAM@comcast.net>
Message-ID: <auadnRHNlt1yJojbnZ2dnUVZ_segnZ2d@giganews.com>
Source record: 43562

Rick wrote:
> Bryan wrote:
>
> > A stub of coaxial cable will work... approximately 30pF/foot for 50 ohm
> > types... approximately 20pF/foot for 75 ohm types.
>
> Good evening, Bryan.
>
> Thanks, but there are a couple of problems... the antenna will be for 160
> through 40 and so two of the traps will be for 80 meters... I forget what
> the capacitance will be but I think it was somewhere in the 200 pf range.
> Also, the antenna is meant to be portable, and so the traps need to be as
> physically small as practical. Also the power will usually be low... as
> low as 5 watts, usually no more than 50 and never more than 100 watts...
> so I guess I need to make the antenna as efficient as I can... kind of a
> contradiction in terms for trapped antennas especially where the traps
> need to be physically small.
>
> If I could find the doorknob capacitors for a reasonable price that would
> be ideal, but $15 each is way too much.
>
> On the other hand, the ones from RF Parts are all at least 4 KV, and up
> from there (40-50 KV). I don't know how to accurately calculate the
> voltage rating I'll need (I'll post that as another question under another
> topic), but my guess is that for 100 watts max, I don't need 5 KV, and may
> not need 1 KV.
>
> Who else besides RF Parts has these things and has a decent website?

Hi Rick,

As Owen mentioned, a single coaxial stub would likely be physically unwieldy. IIRC, I used a short stub as a padder across a doorknob capacitor (tuned to 40m). Certainly, coaxial cable used as a capacitor won't be as good as a ceramic or porcelain capacitor but, my trap dipole worked fine for me. Another common idea is to use a coaxial trap. It's worth investigating, and inexpensive to try.

The company I work for uses a lot of porcelain dielectric capacitors (a VERY good hi-Q/low ESR dielectric) from American Technical Ceramics (http://www.atceramics.com/). Look at ATC's "multilayer capacitor" line. They're physically small and, if chosen properly, will handle higher voltages and currents.

For ceramic and mica transmitting capacitors, you might try the surplus vendors. A few are:
Fair Radio Sales (http://www.fairradio.com/)
Surplus Sales of Nebraska (http://www.surplussales.com/)
All-Tronics (http://www.alltronics.com/)
Economy Electronics (http://www.economyelectronics.com/)
Ocean State Electronics (http://www.oselectronics.com/)

Another possible resource is FaradNet (http://www.faradnet.com/).

73,
Bryan WA7PRC

3747. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 03:27:04 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <c6jRh.4844$_43.4338@trnddc02>
Source record: 43563
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

"Paul Franklin" <pffranklin.nospam@hotmail.com> wrote in message
news:bf9b13hsu5ohhtp18mnaj6pufijtsu8oe0@4ax.com...
> On Thu, 05 Apr 2007 17:43:47 -0500, clifto <clifto@gmail.com> wrote:
>
>>szilagyic wrote:
>>> I am just trying to get an updated list of the top brands of RG-6 quad
>>> shield coax cable. I have seen posts from a few years back mentioning
>>> Belden, Carol, and Commscope, but I just wanted to get an updated
>>> list. I have seen Carol and Zenith brands at local stores recently,
>>> are these any good? Mainly going to use this cable for running feeds
>>> from HDTV & analog TV antennas in the walls of a house.
>>
>>My experience with a few Carol Cable products (including coax) has been
>>good. I would consider that the Zenith brand name appears to be rented
>>out to the best bidder these days (peruse a.h.r for recent stories about
>>Heath/Zenith products) and expect that the manufacturer spent most of the
>>cost of making that coax on the marketing of that coax.
>
> Belden, Alpha and Carol are all good. As important as the cable are
> the connectors. The compression type are the way to go, IMO. Invest
> in a good QS stripper and a compression tool. Don't bother with crimp
> tools and don't even think about twist-on.
>
> HTH,
>
> Paul

Hi Paul

What is the problem with "twist-ons"? I dont question your judgement,
but I have found them to be good for my 2 meter application.

Now I am considering doing some work at 2 GHz. This is a good time for me
to learn about cable and F connectors.

Thanks
Jerry

3748. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 03:46:57 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175831217.790992.81180@w1g2000hsg.googlegroups.com>
Source record: 43564

On 5 Apr, 19:54, Walter Maxwell <w...@w2du.com> wrote:
> On 5 Apr 2007 18:04:15 -0700, "art" <aun...@insightbb.com> wrote:
>
>
>
>
>
>
>
> >On 5 Apr, 17:12, Walter Maxwell <w...@w2du.com> wrote:
> >> On 5 Apr 2007 16:13:12 -0700, "art" <aun...@insightbb.com> wrote:
> snip
> >> >> Walt, W2DU- Hide quoted text -
>
> >> >> - Show quoted text -
>
> >> >Walt, if you are looking for maximum horizontal or any other polarity
> >> >it can only be obtained by removal of reception of other polarities,
> >> >this maximum is obtained by having the radiator at <90 degree
> >> >multiples with respect to earth. You can prove this to your self
> >> >anytime by calculating max horizontal gain by progressively tipping a
> >> >dipole while keeping it resonant until the maximum is reached. If your
> >> >concern is for total gain without regard to polarity mix then the
> >> >vertical position total gain will equal the total gain of the tipped
> >> >dipole. The difference is that one arrangement has a mixture of
> >> >polarities where-as the tipped antenna will only provide a single
> >> >polarity. If another element or anything else is added near enough to
> >> >add reactance then the prior antenna must be adjusted to remove it,
> >> >thus the reason for remote adjustment which is much cheaper to
> >> >maintain rather than regular trips up a tower by maintanance men.
> >> >Hopefully Walter this will bring you up to date. I have no reason for
> >> >a 300 posting thread as I do not intend to write rev 3 of Reflections
> >> >or anything else.
> >> >Regards
> >> >Art
>
> >> Art, using correct terminology is essential in preventing misunderstandings, as you
have done with 'polarity'.
> >> You have confused 'polarity' with 'polarization'--the two are not synonomous, but are
distinctly different.
> >> Sorry, Art, your misuse of this term has been confusing, rather than enlightening. Are
you blaming me for the
> >> more than 300 postings on this thread?
>

> >> Walt- Hide quoted text -
>
> >> - Show quoted text -
>
> >Walt
> >Now why would I blame you for over 300 postings? Obviously you have
> >created some confusion which is natural for our hobby since we are an
> >old group which gives justification to "there is no fool like an old
> >fool" Nothing personal. Lets face it we oversell experience when in a
> >lot of cases it is the same experience over and over again. Anybody
> >here who remembers the Sputnik probably would not be able to get a
> >degree today or even the same job. On this tilt thing if you look at
> >patents in the 6 million plus area most would not understand what they
> >were referring to, whereas the present day student understands thing
> >fully since he grew up with digital transmissions. Heck most of us
> >retired before the last ten years which is becoming the heydays of
> >antenna research. Yes, as I get older I make the same mistakes as all
> >old people do and you make provision for other old people unless you
> >think your self as perfect as would a younger person who just got his
> >degree and was up to date.
> >The difference ofcourse is the young student wants to prove things to
> >himself until he gets behind technically when he then asks for proof
> >from others. If I look back at the past arguments on my threads many
> >pull out the 50 year old books that we have stored away. The modern
> >student will look up Google and even if he is a few years out of
> >school would have checked the computor for reference to "adjusting
> >antennas" or "tilting antennas"to get up to date where as the old
> >timer thinks he is still back in the old days so his knoweledge is up
> >to date and cannot adapt to the present situation he there is no
> >reference to that in my books.Odd thing I saw the other day was a book
> >by Terman and would you believe it nowhere in the book does the words
> >of "maxwell" or Gauss" show up so they must be imaginary also. Yup,
> >Walt as you get older you will find that a lot more people are mixed
> >up except you and need to be told so until the time come that more
> >people are saying it to you forcing you to be more tolerant.
> >Frankly a lot of people on this net need to get up to speed with
> >respect to radiation such as tipped antennas e.t.c instead of
> >discarding information in
> >favour of the opportunity to mock while the younger more knowledgable
> >members give a quiet smile to themselves. Walt were you aware of the
> >reasons for tipping? I doubt it because you probably can remember the
> >Sputnik when the standards of education was lower and Google was not
> >around.
> >Never heard you come forward with respect to the Gaussian and Maxwell
> >argument either before or after the young M.I.T guy put every body
> >straight or did you know it anyway but just didn't want to correct
> >people then?
> >Art
>
> Art, you say I have created confusion? Over what?

Walter, you complained about not getting as many responses as I, I
accept that sometimes my threads are as long as 50 posts instead of
just a few for agreement Yours is now >300 is it you or others who are
confused.You think about it

Confusion? How about responding to your misuse of the term
> 'polarity'? Now that's confusion.
>
> And you say that some MIT guy put everybody straight? Just what is it the everybody
needed straightening about
> that the MIT guy is supposed to have done?
Well one person finally concurred and nobody refuted this concurrence
so you think the majority are correct because they didn't agree?

And are you implying that Terman, Kraus, Johnson, et al are wrong,
> and that we need 'straightening out' because we learned it wrong from these masters of 50
years ago?
You remembered it from 50 years ago, that is a lot of difference from
truly understanding it. The MIT and another individual from down under
agreed with the mathematics that underlined what I was talking about
invoking what the masters stated. So it is you who must have learned
it wrong 50 years ago
but you have time to correct the M.I.T guy and the guy from down under
that they had misused mathematics some how and came up with formular
that disputes the masters. Actually the guy from MIT gave a terrific
response that didnot receive any reject from anybody including you.
>
> And you're also saying that our educational standards are better now? Art, what have you
been smoking? And are
> you also saying that the new graduate with no hands-on experience outweighs a graduate of
30 years ago with
> experience gained during those 30 years?

Yes I do unless the experienced guy kept up with progress such as a
Professor. When I spoke about polarity and tipping a younger person
knowing what I was talking about would have adapted while you who knew
nothing about the subject could not adapt. If you are not aware of
modern day practices then you would not get hired today. New graduates
always get the nod over senior citizens.

What planet are you from, Art, certainly not Earth.

It is on earth we are talking about when we talk of tilting and the
correlattion of gaussian theory with respect to radiation. You have
presented nothing with respect to supposed inaccuracy which says you
are ignorant of it. Why else does one ridicule another person by
moving away from science ? So if you disagree with the tipping process
for antennas or if you disagree with the response from M.I.T. then put
your stake in the ground and state your superiority in mathematacs
rather than driving the stake into the messenger. If you take this
small step I assure you this thread will not last as long as yours.
You may be able to distort science
but you can't refute mathematics by killing the mathematician. Perhaps

it is better that you put your eyes and ears back into the ground . On
the other hand I would be impressed if you could prove your position
but you have shown that you can't by burying your head in the sand.
Walter we are all getting older and it is harder to keep up with
things, that is something that we all have to accept and you are not
immune to it, and it shows
Art

>
> Think about it,
>
> Walt, W2DU- Hide quoted text -
>
> - Show quoted text -

3749. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 06:25:06 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <gspb13h6vcdkpumoe7g6mh65d39ucffv2v@4ax.com>
Source record: 43565

On Fri, 06 Apr 2007 00:06:36 GMT, Cecil Moore <nospam@w5dxp.com>
wrote:
>> Superposition is in contradiction to superposition and is in error!
>It should be easy to prove.

Stupidityï¿½

3750. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 07:08:57 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <tsqb13527peh09bm2tbrgk362bsj25vha7@4ax.com>
Source record: 43566

On 5 Apr 2007 18:15:30 -0700, "K7ITM" <k7itm@msn.com> wrote:

>HE thought c was a
>constant, as I would if the author didn't tell me otherwise.

Hi Tom,

The speed of light is always constant - within its frame of reference.
It is only for those that inhabit a different frame that it "appears"
to be different. By Lorentzian laws, there is no time at the speed of
light and everything is simultaneous - source and load are
inseparable.

To illustrate at a slightly slower speed (from Feynman):
"A very interesting example of the slowing of time with motion
is furnished mu-mesons (muons), which are particles that
disintegrate spontaneously after an average lifetime of 2.2 ï¿½S.
They come to earth in cosmic rays.... It is clear that in its
short lifetime a muon cannot travel, even at the speed of light,
much more than 600 meters. But although the muons are created at
the top of the atmosphere, some 10 kilometers up, yet they are
actually found in a laboratory down here, in cosmic rays. How can
that be? The answer is that .... While from OUR own point of view
they live considerably longer ... time is increased ... by
1/SQRT(1-(uï¿½/vï¿½))."

73's
Richard Clark, KB7QHC

3751. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 10:23:03 UTC
From: Paul Franklin <pffranklin.nospam@hotmail.com>
Message-ID: <t67c13hm1iuattlvb5dlq9o5n10meb5lue@4ax.com>
Source record: 43567
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

On Fri, 06 Apr 2007 03:27:04 GMT, "Jerry Martes"
<j.jmartes@verizon.net> wrote:
<snip>
>> Belden, Alpha and Carol are all good. As important as the cable are
>> the connectors. The compression type are the way to go, IMO. Invest
>> in a good QS stripper and a compression tool. Don't bother with crimp
>> tools and don't even think about twist-on.
>>
>> HTH,
>>
>> Paul
>
>
> Hi Paul
>
> What is the problem with "twist-ons"? I dont question your judgement,
>but I have found them to be good for my 2 meter application.
>
> Now I am considering doing some work at 2 GHz. This is a good time for me
>to learn about cable and F connectors.
>
> Thanks
> Jerry
>
Two reasons I don't like twist-ons. First, I don't find them to make
that great of a mechanical connection and can therefore be pulled off
the cable fairly easily.

Second, and I admit I don't have network analyzer plots to back this
up or anything, I've always found them to make a mess of the shields
when you twist them. That could lead to more of an impedance bump at
the connector than with other types. Probably not an issue at 2
meters, but more important as the frequency goes up.

Paul

3752. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 10:55:59 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175856959.842722.191290@w1g2000hsg.googlegroups.com>
Source record: 43568

On Apr 5, 11:13 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > This is also true for the
> > components in our simple generators so superposition holds
> > there as well.
>
> I've asked Richard how to hook up two IC-706's in
> series to get them to meet the requirements of
> the superposition principle. Maybe you can show
> us how to do it.

Sure, but I thought it would be obvious that there are many
ways, but take the following as an example.

Place them side by side on the bench.
Take a piece of coax sufficiently long to reach between the
output jacks.
Put an appropriate plug on each end of the coax.
Plug the plugs into the output jacks.

...Keith

PS. Was there a real question there somewhere?
What outcome were you expecting to observe?

And there will be no progress until you explain why you think
that superposition and conservation of energy are in conflict.
You have, for years, claimed that conservation of energy holds,
a claim with which there is general agreement.
Only a week ago you started a thread to argue that superposition
holds, another claim with which there is general agreement.
And yet suddenly you are prepared to discard superposition.
Do you not think it worthwhile to examine the reasons to ensure
that you are not making a mistake?
After all, superposition is a powerful technique and none of the
text books mention special caveats that constrain how it can
be applied to generators.
Where is the source of your conflict?

3753. Re: Reasonably-priced capacitors for traps

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 12:02:51 UTC
From: Rick <Nospam@reply.in.gp>
Message-ID: <pan.2007.04.06.12.02.50.830520@reply.in.gp>
Source record: 43569

On Thu, 05 Apr 2007 20:17:59 -0700, Bryan wrote:

> Another common idea is to use a coaxial trap. It's worth
> investigating, and inexpensive to try.

Good morning, Bryan.

I have done some reading on coax traps, and consulted with some who, as the old saying goes, have probably forgotten more than I will ever know about antennas, and I'm told they tend to be fairly lossy and inefficient. They are certainly easier and cheaper to build than the coil-and-capacitor type. The big thing that concerns me about coax traps is that they need to be fairly small and portable, meaning I'd probably make them out of RG-58, and I wondered if RG-58 or even RG-8X would handle the voltage.

> For ceramic and mica transmitting capacitors, you might try the surplus
> vendors.

Thanks. Fair Radio looks like they have a pretty good selection.

3754. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 12:02:52 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <MFqRh.14866$Um6.2610@newssvr12.news.prodigy.net>
Source record: 43570

Keith Dysart wrote:
> On Apr 5, 11:13 pm, Cecil Moore <nos...@w5dxp.com> wrote:
>> Keith Dysart wrote:
>>> This is also true for the
>>> components in our simple generators so superposition holds
>>> there as well.

It is not true for the average commercial amateur
radio transmitter.

>> I've asked Richard how to hook up two IC-706's in
>> series to get them to meet the requirements of
>> the superposition principle. Maybe you can show
>> us how to do it.
>
> Sure, but I thought it would be obvious that there are many
> ways, but take the following as an example.
>
> Place them side by side on the bench.
> Take a piece of coax sufficiently long to reach between the
> output jacks.
> Put an appropriate plug on each end of the coax.
> Plug the plugs into the output jacks.

In order to satisfy the results predicted by superposition,
I don't see how you can double the voltage by putting
them in parallel. That's why I asked you to put them
in series. Please put them is series such that the
two component voltages are doubled and the two component
currents are doubled when both transmitters are powered
on.

Also please tell us how the powered-down transmitter
handles the voltage and current that it is exposed
to when the other transmitter is powered up. I
seriously doubt your implication that it is a linear
process.

> PS. Was there a real question there somewhere?
> What outcome were you expecting to observe?

I am expecting the signal from the powered-on
transmitter not to make it through the circuitry
of the powered-down transmitter. I am expecting
smoke when you try to superpose two coherent 100w
signals into a single 400w signal.

> And there will be no progress until you explain why you think
> that superposition and conservation of energy are in conflict.

There's a name for people who try to tell others what
they think. I do not think there is a conflict and am
absolutely NOT asserting that the conservation of energy
principle and the superposition *principles* are in
conflict. Such is a figment of your imagination. Please
listen closely:

THE AVERAGE AMATEUR RADIO TRANSMITTER DOES NOT MEET
THE RULES NECESSARY FOR THE SUPERPOSITION PRINCIPLE
TO APPLY! Got it?

There's nothing wrong with the superposition principle.
It simply doesn't apply to certain circuits including
the average commercial amateur radio transmitter.
--
73, Cecil http://www.w5dxp.com

3755. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 12:10:07 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <yMqRh.1724$Q23.1079@newssvr17.news.prodigy.net>
Source record: 43571

Richard Clark wrote:
> Cecil Moore <nospam@w5dxp.com> wrote:
>>> Superposition is in contradiction to superposition and is in error!
>> It should be easy to prove.
>
> Stupidityï¿½

Richard, anyone who has to stoop to editing postings
in order to change the meaning is the personification
of stupidity. You have evolved such stupid behavior
into an art form.

I wonder what abuse@comcast.com would think about
your violation of netnews rules?
--
73, Cecil http://www.w5dxp.com

3756. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 12:12:33 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <QOqRh.1725$Q23.1569@newssvr17.news.prodigy.net>
Source record: 43572

Richard Clark wrote:
> While from OUR own point of view
> they live considerably longer ... time is increased ... by
> 1/SQRT(1-(uï¿½/vï¿½))."

I wonder what that implies about the alleged age
of the universe?
--
73, Cecil http://www.w5dxp.com

3757. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 12:14:58 UTC
From: Ian Jackson <IanJacksonRemoveThisBit@g3ohx.demon.co.uk>
Message-ID: <lIYaqgUCnjFGFweB@g3ohx.demon.co.uk>
Source record: 43573
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

In message <t67c13hm1iuattlvb5dlq9o5n10meb5lue@4ax.com>, Paul Franklin
<pffranklin.nospam@hotmail.com> writes
>On Fri, 06 Apr 2007 03:27:04 GMT, "Jerry Martes"
><j.jmartes@verizon.net> wrote:
><snip>
>>> Belden, Alpha and Carol are all good. As important as the cable are
>>> the connectors. The compression type are the way to go, IMO. Invest
>>> in a good QS stripper and a compression tool. Don't bother with crimp
>>> tools and don't even think about twist-on.
>>>
>>> HTH,
>>>
>>> Paul
>>
>>
>> Hi Paul
>>
>> What is the problem with "twist-ons"? I dont question your judgement,
>>but I have found them to be good for my 2 meter application.
>>
>> Now I am considering doing some work at 2 GHz. This is a good time for me
>>to learn about cable and F connectors.
>>
>> Thanks
>> Jerry
>>
>Two reasons I don't like twist-ons. First, I don't find them to make
>that great of a mechanical connection and can therefore be pulled off
>the cable fairly easily.
>

If you can pull them off, you are probably not putting them on
correctly.
(Tip: Ignore instructions, and use cunning.)

>Second, and I admit I don't have network analyzer plots to back this
>up or anything, I've always found them to make a mess of the shields
>when you twist them. That could lead to more of an impedance bump at
>the connector than with other types. Probably not an issue at 2
>meters, but more important as the frequency goes up.
>
While the connector thread will crush the outer somewhat (causing a very
short piece of low Zo), it's unlikely to be a problem in most
applications, even at 2GHz.

Ian.
--

3758. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 12:29:32 UTC
From: adykes@panix.com
Message-ID: <ev5efc$n2c$1@panix5.panix.com>
Source record: 43574
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

In article <t67c13hm1iuattlvb5dlq9o5n10meb5lue@4ax.com>,
Paul Franklin <pffranklin.nospam@hotmail.com> wrote:
>On Fri, 06 Apr 2007 03:27:04 GMT, "Jerry Martes"
><j.jmartes@verizon.net> wrote:
><snip>
>>> Belden, Alpha and Carol are all good. As important as the cable are
>>> the connectors. The compression type are the way to go, IMO. Invest
>>> in a good QS stripper and a compression tool. Don't bother with crimp
>>> tools and don't even think about twist-on.
>>>

What's the diff between a compression tool and a crimp tool?

OT: I inherited break/fix responsibility (billable by the hour) on a
business thinwire lan that was installed by a TV cable guy. He used
twist-ons and no crimp rings. That site paid my rent for a couple
years, until I eventually replaced all the connectors with proper
ends.

For that reason, I've always looked fondly on twist-ons, in a bizzare
way.

--
a d y k e s @ p a n i x . c o m
Don't blame me. I voted for Gore. A Proud signature since 2001

3759. Re: Lightning 'liability' ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 12:39:29 UTC
From: Bob Miller <NOSPAM@neosoft.com>
Message-ID: <6ffc139s5b67ie84sac04hpsuc3vbeuia2@4ax.com>
Source record: 43575

On 04 Apr 2007 19:50:45 GMT, KE5MMJZ <spam@artair.com> wrote:

>As a new ham, I am considering erecting a tower for
>my antenna(s). As part of my research, I've been
>reading about lightning protection, and now feel
>I have a fair understanding of what I need to do
>in order to protect both my radio gear and my home.
> However, the thought occurred to me that if I
>ercted a tower it would probably increase the odds
>of lightning striking either it or a nearby object,
>and while my house might be protected (or at least
>I would be the one choosing to take the risk), what
>about the neighbors? Even if the strike would be
>directly on my tower, from what I've read there
>could be enough induced voltage/current to damage
>the 'unprotected' appliances of my neighbors, and
>they might blame me for their losses (or even if
>it doesn't hit the tower, they may still see it
>as the cause of a nearby strike).
> Has anyone heard of any such cases or am I
>just worrying about the highly improbable?
>
>Thanks,
>Frank
>KE5MJZ

I'm just guessing but it would be tough to go into court and prove the actions of a bolt of lightning that may or may not have been attracted by your tower and then skipped to your neighbor's property and did damage.

Where would the proof be on a bolt of lightning that lasted less than a second and likely had no witnesses?

If your tower is up to spec on grounding paraphernalia, you ought to be okay.

bob
k5qwg

3760. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 13:18:26 UTC
From: szilagyic@gmail.com
Message-ID: <1175865506.461063.225250@l77g2000hsb.googlegroups.com>
Source record: 43576
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

On Apr 5, 9:50 pm, Paul Franklin <pffranklin.nos...@hotmail.com>
wrote:
> On Thu, 05 Apr 2007 17:43:47 -0500, clifto <cli...@gmail.com> wrote:
> >szilagyic wrote:
> >> I am just trying to get an updated list of the top brands of RG-6 quad
> >> shield coax cable. I have seen posts from a few years back mentioning
> >> Belden, Carol, and Commscope, but I just wanted to get an updated
> >> list. I have seen Carol and Zenith brands at local stores recently,
> >> are these any good? Mainly going to use this cable for running feeds
> >> from HDTV & analog TV antennas in the walls of a house.
>
> >My experience with a few Carol Cable products (including coax) has been
> >good. I would consider that the Zenith brand name appears to be rented
> >out to the best bidder these days (peruse a.h.r for recent stories about
> >Heath/Zenith products) and expect that the manufacturer spent most of the
> >cost of making that coax on the marketing of that coax.
>
> Belden, Alpha and Carol are all good. As important as the cable are
> the connectors. The compression type are the way to go, IMO. Invest
> in a good QS stripper and a compression tool. Don't bother with crimp
> tools and don't even think about twist-on.
>
> HTH,
>
> Paul

What are the common issues with the crimp-on connectors? I've been
using them here and there mainly because they are cheap. So far I
haven't really noticed any problems, but maybe it's because I haven't
used anything else to see an improvement. Thanks!!

--
Chris

3761. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 13:22:33 UTC
From: GROUP MODERATOR <MODER@TOR.GR>
Message-ID: <yQrRh.347$DI1.326@bignews2.bellsouth.net>
Source record: 43427
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

<szilagyic@gmail.com> wrote in message
news:1175865506.461063.225250@l77g2000hsb.googlegroups.com...
>
> What are the common issues with the crimp-on connectors? I've been
> using them here and there mainly because they are cheap. So far I
> haven't really noticed any problems, but maybe it's because I haven't
> used anything else to see an improvement. Thanks!!

it not that they are so bad it just that the compression fittings are the
way to go.

3762. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 13:58:45 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175867925.134182.278270@d57g2000hsg.googlegroups.com>
Source record: 43428

On 26 Mar, 19:27, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
> "art" <aun...@insightbb.com> wrote in message
>
> news:1174918889.954850.13600@p77g2000hsh.googlegroups.com...
>
>
>
>
>
> > Antennas seemed to have evolved into structures that
> > are parallel or at right angles to the earths surface
> > Why is this or is it asthetics that is driving this thinking?
> > My research on the subject evolves around the vector formation
> > of radiation and where the addition of the vectors involved
> > which creats radiation is at an angle to the radiator..
> > This suggests that for best radiative advantage it is
> > this vector that should be parallel to the earths surface
> > and not the physical radiator. This appears to be born out
> > by following my Gaussian approach to radiator design.
> > So the question of habitual arrangement of antenna arrays
> > parallel or at right angles to the earths surface as
> > being the best arrangement needs some sort of validation.
> > Any thoughts as to why it should be so and the scientific
> > facts that support it?
> > Art
>
> What angle did you derive was the best angle to mount an anenna? Please show
> experimental data to backup your conclusions.
>
> Jimmie- Hide quoted text -
>
> - Show quoted text -

Heh Jimmie,
I was looking at a book that showed the scanning lines of a tv.
It also showed aperture as being bisected equally by these same
scanning lines.
Since aperture is directly related to gain one could probably state
that the
angle of the scan lines on a TV is directly related to the tipping
angle for radiation. Both are magnetically related ie angle of release
of an electron so you may get a better answer from a T.V. technician
with respect to angles than ham radio operators. Isn't science great
when your brain is nimble and curious!

Art

3763. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 14:14:38 UTC
From: Paul Franklin <pffranklin.nospam@hotmail.com>
Message-ID: <vnkc1316fftrr61hrsv0cupes9aqjnvnut@4ax.com>
Source record: 43429
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

On 6 Apr 2007 08:29:32 -0400, adykes@panix.com (Al Dykes) wrote:

>In article <t67c13hm1iuattlvb5dlq9o5n10meb5lue@4ax.com>,
>Paul Franklin <pffranklin.nospam@hotmail.com> wrote:
>>On Fri, 06 Apr 2007 03:27:04 GMT, "Jerry Martes"
>><j.jmartes@verizon.net> wrote:
>><snip>
>>>> Belden, Alpha and Carol are all good. As important as the cable are
>>>> the connectors. The compression type are the way to go, IMO. Invest
>>>> in a good QS stripper and a compression tool. Don't bother with crimp
>>>> tools and don't even think about twist-on.
>>>>
>
>
>What's the diff between a compression tool and a crimp tool?
>
>
>OT: I inherited break/fix responsibility (billable by the hour) on a
>business thinwire lan that was installed by a TV cable guy. He used
>twist-ons and no crimp rings. That site paid my rent for a couple
>years, until I eventually replaced all the connectors with proper
>ends.
>
>For that reason, I've always looked fondly on twist-ons, in a bizzare
>way.

The compression fitting have a captive sleeve on the cable end of the
fitting. You strip the cable more or less as usual, slide it up
through the connector as you would with a crimp type. But then the
compression tool presses the sleeve up into the body of the connector.
The inside is tapered, so when the sleeve is pressed in, it compresses
against the cable, locking it tightly into place.

Here's a picture:

http://www.cablestogo.com/product.asp?cat%5Fid=411&sku=41077

They are also available with seals for water resistant outdoor use.
(In fact, the picture is of a connector with seals.)

Here's what the tool looks like:

http://www.cablestogo.com/product.asp?cat%5Fid=1403&sku=38011

Try 'em, you'll like 'em!

Paul

3764. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 14:21:15 UTC
From: Ed Nielsen <eblcb@dslr.net>
Message-ID: <wbWdnfniw5E-yovbnZ2dnUVZ_qKqnZ2d@comcast.com>
Source record: 43430
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

Twist-in connectors do not provide the shielding that a CATV system needs. They are a HUGE source of ingress/egress, and the return loss is rather low (the higher the better. Hex-crimp fittings have ~18dB, and compression are >30dB). Plus, It actually takes more time to put on a twist-on connector that it does to put on a real connector.

Compression fittings may cost a little more for the connector and the installation tools, but cost less in labor (time) to install. Not to mention the materials/time spent in replacing the twist-on connectors with real ones when they don't work properly.

--

CIAO!

Ed N.

"Jerry Martes" <j.jmartes@verizon.net> wrote in message
news:c6jRh.4844$_43.4338@trnddc02...
>
> "Paul Franklin" <pffranklin.nospam@hotmail.com> wrote in message
> news:bf9b13hsu5ohhtp18mnaj6pufijtsu8oe0@4ax.com...
>> On Thu, 05 Apr 2007 17:43:47 -0500, clifto <clifto@gmail.com> wrote:
>>
>>>szilagyic wrote:
>>>> I am just trying to get an updated list of the top brands of RG-6 quad
>>>> shield coax cable. I have seen posts from a few years back mentioning
>>>> Belden, Carol, and Commscope, but I just wanted to get an updated
>>>> list. I have seen Carol and Zenith brands at local stores recently,
>>>> are these any good? Mainly going to use this cable for running feeds
>>>> from HDTV & analog TV antennas in the walls of a house.
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>>>My experience with a few Carol Cable products (including coax) has been
>>>good. I would consider that the Zenith brand name appears to be rented
>>>out to the best bidder these days (peruse a.h.r for recent stories about
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>>>cost of making that coax on the marketing of that coax.
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>> the connectors. The compression type are the way to go, IMO. Invest
>> in a good QS stripper and a compression tool. Don't bother with crimp
>> tools and don't even think about twist-on.
>>
>> HTH,
>>

>> Paul
>
>
> Hi Paul
>
> What is the problem with "twist-ons"? I dont question your judgement,
> but I have found them to be good for my 2 meter application.
>
> Now I am considering doing some work at 2 GHz. This is a good time for
> me to learn about cable and F connectors.
>
> Thanks
> Jerry
>

3765. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 14:24:40 UTC
From: adykes@panix.com
Message-ID: <ev5l78$4rb$1@panix5.panix.com>
Source record: 43431
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

In article <vnkc1316fftrr61hrsv0cupes9aqjnvnut@4ax.com>,
Paul Franklin <pffranklin.nospam@hotmail.com> wrote:
>On 6 Apr 2007 08:29:32 -0400, adykes@panix.com (Al Dykes) wrote:
>
>>In article <t67c13hm1iuattlvb5dlq9o5n10meb5lue@4ax.com>,
>>Paul Franklin <pffranklin.nospam@hotmail.com> wrote:
>>>On Fri, 06 Apr 2007 03:27:04 GMT, "Jerry Martes"
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>>OT: I inherited break/fix responsibility (billable by the hour) on a
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>>twist-ons and no crimp rings. That site paid my rent for a couple
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>>For that reason, I've always looked fondly on twist-ons, in a bizzare
>>way.
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>fitting. You strip the cable more or less as usual, slide it up
>through the connector as you would with a crimp type. But then the
>compression tool presses the sleeve up into the body of the connector.
>The inside is tapered, so when the sleeve is pressed in, it compresses
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>Here's a picture:
>
>http://www.cablestogo.com/product.asp?cat%5Fid=411&sku=41077
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>They are also available with seals for water resistant outdoor use.
>(In fact, the picture is of a connector with seals.)
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>Here's what the tool looks like:

>
>http://www.cablestogo.com/product.asp?cat%5Fid=1403&sku=38011
>
>Try 'em, you'll like 'em!
>
>Paul
>

OK. It's a large, well engineered crimp tool and fitting.

I actually have tools, some cable, and a bag of ends that fit that
description. I just considered them standard tools and parts for
serious work. They came to me by accident. I was the "customer" for a
a pre-ethernet LAN built on CATV plant that spanned a 40 floor
building.
--
a d y k e s @ p a n i x . c o m
Don't blame me. I voted for Gore. A Proud signature since 2001

3766. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 14:32:19 UTC
From: Ed Nielsen <eblcb@dslr.net>
Message-ID: <9KmdnTQUE6Onx4vbnZ2dnUVZ_tijnZ2d@comcast.com>
Source record: 43432
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

Hex-crimp fittings have 6 points where the connector is pinched into the cable creating small impedance mismatches. Impedance mismatch creates reflection. If the reflection(s) is(are) severe enough, whatever is at that(those) frequency (frequencies) may not work. Plus, their return loss is a fair amount lower than that of compression connectors (~18dB as compared to >30dB).

I've replaced hex-crimp fittings on DirecTV systems because of hex-crimp fittings which were causing some channels to not work.

Go to http://www.cencom94.com/Download.html and check out DBS Tutorial. Pages 12 & 13 illustrates why you don't want to use hex-crimp fittings.

--

CIAO!

Ed N.

<szilagyic@gmail.com> wrote in message news:1175865506.461063.225250@l77g2000hsb.googlegroups.com...
> On Apr 5, 9:50 pm, Paul Franklin <pffranklin.nos...@hotmail.com>
> wrote:
>> On Thu, 05 Apr 2007 17:43:47 -0500, clifto <cli...@gmail.com> wrote:
>> >szilagyic wrote:
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>> >> Belden, Carol, and Commscope, but I just wanted to get an updated
>> >> list. I have seen Carol and Zenith brands at local stores recently,
>> >> are these any good? Mainly going to use this cable for running feeds
>> >> from HDTV & analog TV antennas in the walls of a house.
>> >
>> >My experience with a few Carol Cable products (including coax) has been
>> >good. I would consider that the Zenith brand name appears to be rented
>> >out to the best bidder these days (peruse a.h.r for recent stories about
>> >Heath/Zenith products) and expect that the manufacturer spent most of
>> >the
>> >cost of making that coax on the marketing of that coax.
>>
>> Belden, Alpha and Carol are all good. As important as the cable are
>> the connectors. The compression type are the way to go, IMO. Invest
>> in a good QS stripper and a compression tool. Don't bother with crimp
>> tools and don't even think about twist-on.
>>
>> HTH,

>>
>> Paul
>
> What are the common issues with the crimp-on connectors? I've been
> using them here and there mainly because they are cheap. So far I
> haven't really noticed any problems, but maybe it's because I haven't
> used anything else to see an improvement. Thanks!!
>
> --
> Chris
>

3767. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 15:00:30 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <8tnc13dj6165ggbak09ljqdf366md08u9l@4ax.com>
Source record: 43433

On Fri, 06 Apr 2007 07:10:07 -0500, Cecil Moore <nospam@w5dxp.com>
wrote:

>I wonder what abuse@comcast.com would think about
>your violation of netnews rules?

What a wheeze :-0
Has Hecht split the sheets with you?

73's
Richard Clark, KB7QHC

3768. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 15:11:13 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <rmnc13hram8mtlqr0kd2asjppkennjh6q4@4ax.com>
Source record: 43434
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

On Fri, 6 Apr 2007 08:21:15 -0600, "Ed Nielsen" <eblcb@dslr.net>
wrote:

>Twist-in connectors do not provide the shielding that a CATV system needs.
>They are a HUGE source of ingress/egress, and the return loss is rather low
>(the higher the better. Hex-crimp fittings have ~18dB, and compression are
> >30dB). Plus, It actually takes more time to put on a twist-on connector
>that it does to put on a real connector.
>
>Compression fittings may cost a little more for the connector and the
>installation tools, but cost less in labor (time) to install. Not to
>mention the materials/time spent in replacing the twist-on connectors with
>real ones when they don't work properly.

A couple of years ago the house took a lightning strike that I deduced
damaged cabling provided by the cable system(Time-Warner). I removed
my additions and placed a service call. When the truck arrived I
showed them where I had dropped my stuff off the system and restored
their original configuration. After they fixed the connector arc-overs
they ran there signal leakage test. Then they requested I restore my
alterations and one by one they chased down ALL of the twist-on and
crimp connections that I had made and replaced them with their own
compression fittings. The results were better picture quality, zero RF
influence from the Ham Xmtr, and higher speed Internet.

I think I better invest in the connectors and tool to keep things
tidy.

John Ferrell W8CCW
"Life is easier if you learn to
plow around the stumps"

3769. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 15:18:57 UTC
From: adykes@panix.com
Message-ID: <ev5od1$f4f$1@panix5.panix.com>
Source record: 43435
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

In article <rmnc13hram8mtlqr0kd2asjppkennjh6q4@4ax.com>,
John Ferrell <johnferrell@sprintmail.com> wrote:
>On Fri, 6 Apr 2007 08:21:15 -0600, "Ed Nielsen" <eblcb@dslr.net>
>wrote:
>
>>Twist-in connectors do not provide the shielding that a CATV system needs.
>>They are a HUGE source of ingress/egress, and the return loss is rather low
>>(the higher the better. Hex-crimp fittings have ~18dB, and compression are
>> >30dB). Plus, It actually takes more time to put on a twist-on connector
>>that it does to put on a real connector.
>>
>>Compression fittings may cost a little more for the connector and the
>>installation tools, but cost less in labor (time) to install. Not to
>>mention the materials/time spent in replacing the twist-on connectors with
>>real ones when they don't work properly.
>
>A couple of years ago the house took a lightning strike that I deduced
>damaged cabling provided by the cable system(Time-Warner). I removed
>my additions and placed a service call. When the truck arrived I
>showed them where I had dropped my stuff off the system and restored
>their original configuration. After they fixed the connector arc-overs
>they ran there signal leakage test. Then they requested I restore my
>alterations and one by one they chased down ALL of the twist-on and
>crimp connections that I had made and replaced them with their own
>compression fittings. The results were better picture quality, zero RF
>influence from the Ham Xmtr, and higher speed Internet.
>
>I think I better invest in the connectors and tool to keep things
>tidy.

The 40-floor internal CATV system I was a customer of was very close
to, and LOS with the Empire State Building antennas. The cabling
engineers described the CATV system as one big antenna. Problems that
poped up tended to be a bad connector or a grounding problem. It wasa
data lan so if there was a problem we couldn't just tell theuser to
watch the ghosts until we got around to fixing it.

--
a d y k e s @ p a n i x . c o m
Don't blame me. I voted for Gore. A Proud signature since 2001

3770. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 15:42:12 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1175874132.688860.195030@e65g2000hsc.googlegroups.com>
Source record: 43436

On Apr 6, 5:02 am, Cecil Moore <nos...@w5dxp.com> wrote:

> There's nothing wrong with the superposition principle.
> It simply doesn't apply to certain circuits including
> the average commercial amateur radio transmitter.
> --
> 73, Cecil http://www.w5dxp.com

Hi Cecil -

There are examples of superposition in commercial equipment. Check out the QSC Audio web page. In particular note the specs on their stereo power amps in bridged mode.

Your expectation of obtaining 400 watts from two 100 watt radios hints at a possible error in your understanding regarding simultaneously superposing voltages and currents. Just a thought.

73, Jim AC6XG

3771. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 15:48:35 UTC
From: richardharrison@webtv.net
Message-ID: <18795-46166BD3-49@storefull-3256.bay.webtv.net>
Source record: 43437

Art wrote:
"Frankly a lot of people on this net need to get up to speed with respect to radiation such as tipped antennas ---."

Yesterday`s response seems to have been gobbled in cyber space.

Not all my reference books are over 50 years old. One of my best was published in 2003 although its principal author was born in 1910. He is J.D. Kraus, but he had numerous and likely younger collaborators, 6 of whom are listed as co-authors. The title: "Antennas For All Applications. 3rd edition".

On page 297 is found an item which illustrates what happens when you tip an antenna. It is titled: "Antenna Rotation Experiments":
"Consider the radio circuit shown in Fig. 8-74a in which one antenna is circularly polarized (a turnstile?) and the other is linearly polarized. If one of the antennas is rotated about its axis a frequency f (r/s), the received signal is shifted to F + or - f, where F is the transmitter frequency."

Fig. 8-74 notes:
"Antenna rotation produces amplitude modulation."

Of course it does. When the linear antenna is aligned parallel to one axis of the CP antenna, the signal is maximum. When the linear antenna is most misaligned with either axis of the CP antenna, signal is a minimum. The example demonstrates why polarization alignment, not tipping or tilt, is usually important.

Best regards, Richard Harrison, KB5WZI

3772. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 15:50:26 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ev5q81$rj8$1@nntp1.jpl.nasa.gov>
Source record: 43440

Owen Duffy wrote:
> Owen Duffy <none@no.where> wrote in
> news:Xns990A51F2F8713nonenowhere@61.9.191.5:
>
>
>>This sets me thinking of a way to calculate a lower frequency limit to
>>the loss model when I generate it, so that I can store that limit in
>>the database and prevent calculation below that frequency.
>
>
> I have just analysed the tllc database contents to find cases where the
> modelled error is more than 10% different to the data points on which the
> regression was based.
>
> There are a few cases, they are all copper clad steel inner conductors
> (some of the RG6, RG59, RG174, RG316). I need to implement a lower
> frequency limit for model validity for each cable type.
>
> An alternative approach to retain some lower frequency results is to use a
> cubic spline interpolation... but it has its own problems.

Not the least of which is that you (philosophically) want a model that
is based on the underlying physics (which the sqrt(f), f model is)..
The problem comes in because sqrt(f) doesn't model skin effect at low
frequencies very well, when the skin depth becomes an appreciable
fraction of the conductor diameter (because the conductor is no longer a
thin wall tube).. the cladding just throws another wrench into the works.

What might work is if you look at the generic curves for Rac/Rdc for
round and tubular conductors. The analytical formulation is quite
complex, but I'm pretty sure there's a simple polynomial approximation.

Jim

3773. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 15:59:17 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <ev5qno$qj9$1@nnrp.linuxfan.it>
Source record: 43438

Richard Clark wrote:
> On Fri, 06 Apr 2007 00:06:36 GMT, Cecil Moore <nospam@w5dxp.com>
> wrote:
>>> Superposition is in contradiction to superposition and is in error!
>> It should be easy to prove.
>
> Stupidity²

½ ¼ ? ß ? ? ? ? µ ? ? ? ? ? ? ? ? ? ± ? ? ? ? ÷ ? ° ? · ? ^(n) ²

IBM extended ascii, ain't it great? <grin>

JS

3774. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 16:04:59 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1175875499.054959.308350@l77g2000hsb.googlegroups.com>
Source record: 43439

On Apr 6, 12:08 am, Richard Clark <kb7...@comcast.net> wrote:
> On 5 Apr 2007 18:15:30 -0700, "K7ITM" <k...@msn.com> wrote:
>
> >HE thought c was a
> >constant, as I would if the author didn't tell me otherwise.
>
> Hi Tom,
>
> The speed of light is always constant - within its frame of reference.
> It is only for those that inhabit a different frame that it "appears"
> to be different. By Lorentzian laws, there is no time at the speed of
> light and everything is simultaneous - source and load are
> inseparable.
>
> To illustrate at a slightly slower speed (from Feynman):
> "A very interesting example of the slowing of time with motion
> is furnished mu-mesons (muons), which are particles that
> disintegrate spontaneously after an average lifetime of 2.2 μS.
> They come to earth in cosmic rays.... It is clear that in its
> short lifetime a muon cannot travel, even at the speed of light,
> much more than 600 meters. But although the muons are created at
> the top of the atmosphere, some 10 kilometers up, yet they are
> actually found in a laboratory down here, in cosmic rays. How can
> that be? The answer is that .... While from OUR own point of view
> they live considerably longer ... time is increased ... by
> 1/SQRT(1-(u²/v²))."
>
> 73's
> Richard Clark, KB7QHC

Seems to me you're way off point here, Richard. I'm in my lab, my inertial frame of reference. I send some EM waves through my vacuum chamber and I measure their speed as 2.997...*10^8 meters/second. The same waves continue on through the glass of the bell jar keeping air out of my vacuum, and I happen to notice that their speed through that glass is1.684*10^8 meters/second. I notice that light from my hydrogen light source contains certain well-defined spectral lines, but each of those passes through my vacuum at the same speed. However, I notice that those lines, in a short pulse of light, come out of the glass separated in time slightly, implying that they took different times to get through the glass, and were therefore not even travelling through the glass at the same velocity; I notice no such separation for the light passing through the vacuum. Further, I notice that light from a distant star has apparently the same set of

spectral lines, but they are shifted to slightly longer wavelengths. However, they take the same time to pass through the vacuum as my locally-generated hydrogen light. All my measurements are in the same frame of reference, and IN VACUUM the speed of em radiation appears from all my measurements to be the same, no matter its wavelength, even for very long wavelengths, but in other media, still the same inertial reference frame, it's different. I also happen to notice that the light from the distant star was created in a different inertial frame of reference...

OK, I'll shut up on this now.

Cheers,
Tom

3775. Re: Reasonably-priced capacitors for traps

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 16:13:37 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ev5rjfsal1@nntp1.jpl.nasa.gov>
Source record: 43442

Rick wrote:
> On Wed, 04 Apr 2007 21:48:08 -0700, Bryan wrote:
>
>
>>A stub of coaxial cable will work... approximately 30pF/foot for 50 ohm
>>types... approximately 20pF/foot for 75 ohm types.
>
>
> Good evening, Bryan.
>
> Thanks, but there are a couple of problems... the antenna will be for 160
> through 40 and so two of the traps will be for 80 meters... I forget what
> the capacitance will be but I think it was somewhere in the 200 pf range.
> Also, the antenna is meant to be portable, and so the traps need to be as
> physically small as practical. Also the power will usually be low... as
> low as 5 watts, usually no more than 50 and never more than 100 watts...
> so I guess I need to make the antenna as efficient as I can... kind of a
> contradiction in terms for trapped antennas especially where the traps
> need to be physically small.
>
> If I could find the doorknob capacitors for a reasonable price that would
> be ideal, but $15 each is way too much.
>
> On the other hand, the ones from RF Parts are all at least 4 KV, and up
> from there (40-50 KV). I don't know how to accurately calculate the
> voltage rating I'll need (I'll post that as another question under another
> topic), but my guess is that for 100 watts max, I don't need 5 KV, and may
> not need 1 KV.
>
> Who else besides RF Parts has these things and has a decent website?

I've bought a lot of HV capacitors for various applications over the
years, both surplus and new.

RF parts has fairly reasonable prices for new components. The actual
manufacturer Ceramite, is a division of Vishay. TDK also makes this
kind of capacitor. And, for surface mount, there are some high
current/high voltage RF capacitor manufacturers (ATC, Murata Erie,
Dielectric Labs). These things aren't made in huge volumes and they're
fairly expensive, brand new.

You might find surplus or used parts much cheaper (e.g. eBay)..
Something to watch out for.. there are two very different series of
"doorknob" style capacitors. One is used for DC kinds of applications
and can't handle much RF current (you used to see these as filter

capacitors in flyback type power supplies at 15.75 kHz). The other is designed for RF current. The ones that can handle current cost a LOT more.

And, if you're buying used... The failure/wearout mode with overvoltage is that the metalization on the ceramic gradually goes away, reducing the capacitance. The failure/wearout mode with overcurrent is microcracks in the ceramic dielectric from thermal stresses. The capacitance tends to be fairly constant (these aren't high precision devices anyway.. 20% is a close tolerance part), but they'll have a C that varies with voltage and temperature, and the breakdown voltage will decrease ("treeing in the dielectric").

Even the RF devices aren't intended for use in a tuned circuit.. they're used for DC blocks and RF bypassing, where the capacitance isn't critical. They often have a fairly large temperature coefficient, as well.

What you might want to look into is capacitors with very low ESR made for power converters. The Cornell Dubilier 942P or Wima FKP1 series, for instance. They use polypropylene dielectric with extended foil construction and 0.15 uF 2kV parts run a couple bucks. They're widely used in <1MHz power applications (and can be run at 2 or 3x their voltage ratings, if you want to be bold and thrifty). The key specs to look at are RMS rf current ratings (which are thermally limited, by the way)

If they aren't low loss enough (or you can't get them in small enough capacitance), you might look at paralleling or stacking SMT ceramic caps from the vendors above. 1kV parts are readily available. I have a 1kW 13 MHz power amp here that uses 11 pieces of a 56 pF cap in parallel in series with the RF and a half dozen 100pF 2.5kV units in shunt in the output network.
>

Jim, W6RMK

3776. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 16:15:21 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1175876121.815803.157580@o5g2000hsb.googlegroups.com>
Source record: 43441

On 6 Apr, 08:48, richardharri...@webtv.net (Richard Harrison) wrote:
> Art wrote:
>
> "Frankly a lot of people on this net need to get up to speed with
> respect to radiation such as tipped antennas ---."
>
> Yesterday`s response seems to have been gobbled in cyber space.
>
> Not all my reference books are over 50 years old. One of my best was
> published in 2003 although its principal author was born in 1910. He is
> J.D. Kraus, but he had numerous and likely younger collaborators, 6 of
> whom are listed as co-authors. The title: "Antennas For All
> Applications. 3rd edition".
>
> On page 297 is found an item which illustrates what happens when you tip
> an antenna. It is titled: "Antenna Rotation Experiments":
> "Consider the radio circuit shown in Fig. 8-74a in which one antenna is
> circularly polarized (a turnstile?) and the other is linearly polarized.
> If one of the antennas is rotated about its axis a frequency f (r/s),
> the received signal is shifted to F + or - f, where F is the transmitter
> frequency."
>
> Fig. 8-74 notes:
> "Antenna rotation produces amplitude modulation."
>
> Of course it does. When the linear antenna is aligned parallel to one
> axis of the CP antenna, the signal is maximum. When the linear antenna
> is most misaligned with either axis of the CP antenna, signal is a
> minimum. The example demonstrates why polarization alignment, not
> tipping or tilt, is usually important.
>
> Best regards, Richard Harrison, KB5WZI

I will have to read it for myself, it doesn't seem to be relavent but
I'll check to see if you are seeing things in context. The book I
quoted regarding scan lines was Terman by the way. The Kraus book did
not present any great changes to older versions which is often the
case when publishers present 2nd or 3rd editions to squeeze any
remaining profits However I will read it to see if the microwave
portion is up to date rather than a reissue

3777. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 16:21:13 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ev5s1o$sj6$1@nntp1.jpl.nasa.gov>
Source record: 43443

Philo wrote:
> "szilagyic" <chris@groupinfo.com> wrote in message
> news:1175795615.408578.81790@p77g2000hsh.googlegroups.com...
>
>>Hello,
>>
>>I am just trying to get an updated list of the top brands of RG-6 quad
>>shield coax cable. I have seen posts from a few years back mentioning
>>Belden, Carol, and Commscope, but I just wanted to get an updated
>>list. I have seen Carol and Zenith brands at local stores recently,
>>are these any good? Mainly going to use this cable for running feeds
>>from HDTV & analog TV antennas in the walls of a house.
>>
>>Thank you very much for all feedback,
>>--
>>Chris
>>
>
> Just do not worry about the cable; put 1/2" or preferably 3/4" ducts in the
> walls.
>
> Never place RF (or any) cable directly in concrete or masonry. If, for some
> reason, you end up with a bad cable (soaked with rain water for instance)
> you just have to pull it out and replace it. So you don't really need to go
> for top brands and overrated and expensive cables.

Kind of depends on who's building your house. Conduit would be quite unusual in most residential construction, and would be likely very expensive. I suspect you could run 10 parallel runs of high quality RG-6 without conduit and still cost a lot less than the conduit. Just abandon a run if it fails. The labor for conduit installation (especially if they are not already installing it) is high..

In most houses, the wiring is done after the structure is built, and the electricians go through with a drill and spade bit and drill the studs to run the cables. They have the flexibility to run the cable anywhere convenient (for instance, around plumbing that is in the way).

You would want to remind the folks doing the installation that the standard is to keep low and high voltage separated by more than 12", and particularly (because it's not in the code) that you want decent bend radii. Otherwise, they tend to string the cable and just pull it snug, which will almost always bend it too tightly, particularly where they come down from the attic through the header at the top of a wall.

There are flexible (plastic) conduits available which are somewhat
easier to route, but still, you run into a problem with drilling lots of
1.5" holes (to clear the od of the conduit) in studs that are only
3.5" wide. The inspectors don't like to see it, especially if all the
holes are lined up in a straight line. To them it starts to look like
the edge of a perforated ticket stub saying "tear here".

>
> If you intend to place short stretches (less than 10 or 15 meters) for the
> VHF range, use RG6 with solid polyethylene dielectric. If you have to place
> important lengths for UHF of satellite MF bands, use RG11 with polystyrene
> or foam dielectric. I used train loads of Commscope cable without to many
> problems. They gave weird names to their cables like 6ST??? for RG6 type and
> 11ST??? for RG11. Always use RF cable with copper clad core as they work
> best with F type connectors. Stay away from jacketted cables with "flooding
> compoud", even for underground placement.
>
>
>
>

3778. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 17:10:15 UTC
From: Carl Navarro <cnavarro@wcnet.org>
Message-ID: <tevc13tj5ehgrthridiob1ncodco694718@4ax.com>
Source record: 43444
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

On Fri, 06 Apr 2007 15:11:13 GMT, John Ferrell
<johnferrell@sprintmail.com> wrote:

>On Fri, 6 Apr 2007 08:21:15 -0600, "Ed Nielsen" <eblcb@dslr.net>
>wrote:
>
>>Twist-in connectors do not provide the shielding that a CATV system needs.
>>They are a HUGE source of ingress/egress, and the return loss is rather low
>>(the higher the better. Hex-crimp fittings have ~18dB, and compression are
>> >30dB). Plus, It actually takes more time to put on a twist-on connector
>>that it does to put on a real connector.
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>>Compression fittings may cost a little more for the connector and the
>>installation tools, but cost less in labor (time) to install. Not to
>>mention the materials/time spent in replacing the twist-on connectors with
>>real ones when they don't work properly.
>
>A couple of years ago the house took a lightning strike that I deduced
>damaged cabling provided by the cable system(Time-Warner). I removed
>my additions and placed a service call. When the truck arrived I
>showed them where I had dropped my stuff off the system and restored
>their original configuration. After they fixed the connector arc-overs
>they ran there signal leakage test. Then they requested I restore my
>alterations and one by one they chased down ALL of the twist-on and
>crimp connections that I had made and replaced them with their own
>compression fittings. The results were better picture quality, zero RF
>influence from the Ham Xmtr, and higher speed Internet.
>
>I think I better invest in the connectors and tool to keep things
>tidy.

You'll wonder how you ever did without them. Ebay is a great source
for compression fittings. Keyword Digicon. I got my first tool for
Thomas and Betts and the T&B system. When the fittings became pricey,
I switched to Digicons. Since I didn't want to convert my tool all
the time, I grabbed an LCCT tool and fittings. My guy in the Detroit
area (about 50 miles away) sells me a few hundred at a time. I paid
$108 with shipping for 300 the last time and had them in about 30
hours from the time I placed my order.

Carl

>
>John Ferrell W8CCW

>"Life is easier if you learn to
>plow around the stumps"

3779. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 18:13:21 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <45wRh.3006$H_5.368@newssvr23.news.prodigy.net>
Source record: 43445

Jim Kelley wrote:
> Your expectation of obtaining 400 watts from two 100 watt radios hints
> at a possible error in your understanding regarding simultaneously
> superposing voltages and currents. Just a thought.

Put two 70.7 vdc batteries in series with a 50 ohm load.
Switch in one battery at a time. Each battery will
supply 100 watts. Now switch in both batteries. They
will supply a combined 400 watts. The batteries are
required to supply the extra constructive interference
energy assuming each battery maintains its constant
70.7 vdc voltage output.

This is what has to happen when two coherent RF voltages
are superposed in phase. I just don't think an IC-706
will do that, i.e. it is not a linear device, thus
violating the requirements for superposition. In phase
superposition would require that:

Vtot = V1/_0 deg + V2/_0 deg = |V1|+|V2|

Ptot = P1 + P2 + 2*SQRT(P1*P2)cos(0)

Ptot = 100w + 100w + 2*SQRT(100w*100w) = 400w

Presupposition of linearity of any amateur radio
transmitter without proof is foolish as is the
presupposition that a ten cent resistor or a $10
resistor will gobble up all the reflected energy.
--
73, Cecil http://www.w5dxp.com

3780. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 18:17:27 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <V8wRh.3007$H_5.1680@newssvr23.news.prodigy.net>
Source record: 43446

John Smith I wrote:
> IBM extended ascii, ain't it great? <grin>

What is surprising is that if I simply enter a
Shift-6 and a '2', it somewhere gets changed
to that IBM extended superscript squared
character.
--
73, Cecil http://www.w5dxp.com

3781. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 18:20:00 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ibwRh.3008$H_5.1062@newssvr23.news.prodigy.net>
Source record: 43447

K7ITM wrote:
> I also happen to notice
> that the light from the distant star was created in a different
> inertial frame of reference...

Not to mention being created in a different medium.
--
73, Cecil http://www.w5dxp.com

3782. Re: Lightning 'liability' ?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 18:20:14 UTC
From: nm5k@wt.net
Message-ID: <1175883614.312272.237120@y80g2000hsf.googlegroups.com>
Source record: 43448

On Apr 6, 6:39 am, Bob Miller <NOS...@neosoft.com> wrote:
> On 04 Apr 2007 19:50:45 GMT, KE5MMJZ <s...@artair.com> wrote:
>
>
>
> >As a new ham, I am considering erecting a tower for
> >my antenna(s). As part of my research, I've been
> >reading about lightning protection, and now feel
> >I have a fair understanding of what I need to do
> >in order to protect both my radio gear and my home.
> > However, the thought occurred to me that if I
> >ercted a tower it would probably increase the odds
> >of lightning striking either it or a nearby object,
> >and while my house might be protected (or at least
> >I would be the one choosing to take the risk), what
> >about the neighbors? Even if the strike would be
> >directly on my tower, from what I've read there
> >could be enough induced voltage/current to damage
> >the 'unprotected' appliances of my neighbors, and
> >they might blame me for their losses (or even if
> >it doesn't hit the tower, they may still see it
> >as the cause of a nearby strike).
> > Has anyone heard of any such cases or am I
> >just worrying about the highly improbable?
>
> >Thanks,
> >Frank
> >KE5MJZ
>
> I'm just guessing but it would be tough to go into court and prove the
> actions of a bolt of lightning that may or may not have been attracted
> by your tower and then skipped to your neighbor's property and did
> damage.
>
> Where would the proof be on a bolt of lightning that lasted less than
> a second and likely had no witnesses?
>
> If your tower is up to spec on grounding paraphernalia, you ought to
> be okay.
>
> bob
> k5qwg

If the tower is well grounded, and takes the strike to ground in a
orderly miltary manner, there should be no problems.
I've taken two strikes to my mast which is 15 feet away from
where I'm sitting, and I've had no problems at all. My puter
amd display didn't flinch, and there was no damage to anything
in the house. The tower ground is ultra critical in this regard.
It must be good, or the strike may decide it likes another route
to ground.
MK

3783. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 18:27:51 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <HiwRh.20155$tD2.7112@newsread1.news.pas.earthlink.net>
Source record: 43449
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

"Ed Nielsen" <eblcb@dslr.net> wrote in message
news:9KmdnTQUE6Onx4vbnZ2dnUVZ_tijnZ2d@comcast.com...
> Hex-crimp fittings have 6 points where the connector is pinched into the
> cable creating small impedance mismatches. Impedance mismatch creates
> reflection. If the reflection(s) is(are) severe enough, whatever is at
> that(those) frequency (frequencies) may not work. Plus, their return loss
> is a fair amount lower than that of compression connectors (~18dB as
> compared to >30dB).
>
> I've replaced hex-crimp fittings on DirecTV systems because of hex-crimp
> fittings which were causing some channels to not work.
>
>

Funny how it works where a bad connector will blank out just a couple of
cable chanels. First time this hapened to me about 20 years ago the cable
guy came out and said it was a bad connection. Almost laughed at him,but he
replaced the connector at the outside of the house and it cleared right up.

3784. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 19:35:48 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <ev67f6pnn1@news.service.uci.edu>
Source record: 43450

Cecil Moore wrote:
> Jim Kelley wrote:
>
>> Your expectation of obtaining 400 watts from two 100 watt radios hints
>> at a possible error in your understanding regarding simultaneously
>> superposing voltages and currents. Just a thought.
>
>
> Put two 70.7 vdc batteries in series with a 50 ohm load.
> Switch in one battery at a time. Each battery will
> supply 100 watts. Now switch in both batteries. They
> will supply a combined 400 watts. The batteries are
> required to supply the extra constructive interference
> energy assuming each battery maintains its constant
> 70.7 vdc voltage output.

> This is what has to happen when two coherent RF voltages
> are superposed in phase. I just don't think an IC-706
> will do that, i.e. it is not a linear device, thus
> violating the requirements for superposition. In phase
> superposition would require that:
>
> Vtot = V1/_0 deg + V2/_0 deg = |V1|+|V2|
>
> Ptot = P1 + P2 + 2*SQRT(P1*P2)cos(0)
>
> Ptot = 100w + 100w + 2*SQRT(100w*100w) = 400w

> Presupposition of linearity of any amateur radio
> transmitter without proof is foolish as is the
> presupposition that a ten cent resistor or a $10
> resistor will gobble up all the reflected energy.

Holy cow. Happy Good Friday by the way.

A 100 watt source is something which ostensibly produces a maximum of
70.7 volts and a maximum 1.414 amps into a 50 ohm load. There are two
ways to superpose the outputs of 100 watts sources such as this. One
way is to superpose voltages by arranging them in series. The total
output voltage available would then 141.4 volts. But doing so does
not allow the source to produce current beyond some limit. Maximum
current would still ostensibly be 1.414 amps. To increase the
available current one could arrange the sources in parallel and
basically 'superpose' the currents. However this does not increase
the available voltage. That is still ostensibly 70.7. volts. Total

current from the two sources in parallel into a 50 ohm load would now be 2.828 amps.

A car battery does not have a 100 watt limit, or in particular, a 1.414 amp limit. When you put two batteries in series you are more of less superposing the voltages, but you aren't superposing currents. Since the battery doesn't have a 1.414 amp current limit, the batteries can each now produce 141.4 volts divided by 50 ohms worth of current. Since they are arranged in series, each battery will produce 2.828 amps of current. It isn't a superposition thing. Put the batteries in parallel as a check on your notion of superposition.

Your numbers highlight the problem using irradiance equations with power terms in them. You're getting the wrong answer because power doesn't interfere, so it's pretty ridiculous to put it into an interference equation in the first place. Look at the risk you run doing it. There is nothing wrong with the proper use of superposition and interference. Given that, what do you think the problem might be?

73, Jim AC6XG

3785. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 19:51:17 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <ev68c7$q8u$1@news.service.uci.edu>
Source record: 43451

Jim Kelley wrote:

> Total current from the two sources in
> parallel into a 50 ohm load would now be 2.828 amps.

I misspoke here: The current limit of two sources in parallel would be
2.828 amps, not the current into 50 ohms.

73, jk

3786. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 20:01:12 UTC
From: richardharrison@webtv.net
Message-ID: <24616-4616A708-124@storefull-3258.bay.webtv.net>
Source record: 43452

Walter, W2DU wrote:
"The first reference I can give you is in "Theory and Problems of Transmission Lines" by Robert Chipman, in Schaum`s Outline Series, page 128 Eqs 7.9a and 7.9b."

Alas, I don`t have Chipman`s book. Another source is Terman`s 1955 "Electronic and Radio Engineering". He solves the differential equations for a transmission line, starting on page 84 for solution of traveling wave problems.

Best regards, Richard Harrison, KB5WZI

3787. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 20:58:29 UTC
From: Steve Barker <ichasetrains@some.yahoo.com>
Message-ID: <wY-dnWkHCIPBKYvbnZ2dnUVZ_g2dnZ2d@giganews.com>
Source record: 43453
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

Carl, is ebay item 320099467506 along the right lines?

--
Steve Barker

"Carl Navarro" <cnavarro@wcnet.org> wrote in message
news:tevc13tj5ehgrthridiob1ncodco694718@4ax.com...
>
> You'll wonder how you ever did without them. Ebay is a great source
> for compression fittings. Keyword Digicon. I got my first tool for
> Thomas and Betts and the T&B system. When the fittings became pricey,
> I switched to Digicons. Since I didn't want to convert my tool all
> the time, I grabbed an LCCT tool and fittings. My guy in the Detroit
> area (about 50 miles away) sells me a few hundred at a time. I paid
> $108 with shipping for 300 the last time and had them in about 30
> hours from the time I placed my order.
>
> Carl
>
>
>
>
>
>>
>>John Ferrell W8CCW
>>"Life is easier if you learn to
>>plow around the stumps"

3788. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 21:08:56 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990B48B4456D5nonenowhere@61.9.191.5>
Source record: 43454

Jim Lux <james.p.lux@jpl.nasa.gov> wrote in
news:ev5q81$rj8$1@nntp1.jpl.nasa.gov:

> Owen Duffy wrote:
>> Owen Duffy <none@no.where> wrote in
>> news:Xns990A51F2F8713nonenowhere@61.9.191.5:
>>
>>
>>>This sets me thinking of a way to calculate a lower frequency limit
>>>to the loss model when I generate it, so that I can store that limit
>>>in the database and prevent calculation below that frequency.
>>
>>
>> I have just analysed the tllc database contents to find cases where
>> the modelled error is more than 10% different to the data points on
>> which the regression was based.
>>
>> There are a few cases, they are all copper clad steel inner
>> conductors (some of the RG6, RG59, RG174, RG316). I need to implement
>> a lower frequency limit for model validity for each cable type.
>>
>> An alternative approach to retain some lower frequency results is to
>> use a cubic spline interpolation... but it has its own problems.
>
> Not the least of which is that you (philosophically) want a model that
> is based on the underlying physics (which the sqrt(f), f model is)..
> The problem comes in because sqrt(f) doesn't model skin effect at low
> frequencies very well, when the skin depth becomes an appreciable
> fraction of the conductor diameter (because the conductor is no longer
> a thin wall tube).. the cladding just throws another wrench into the
> works.
>
> What might work is if you look at the generic curves for Rac/Rdc for
> round and tubular conductors. The analytical formulation is quite
> complex, but I'm pretty sure there's a simple polynomial
> approximation.

Hi Jim,

I did some playing around comparing spline fits with manufacturers data points. The underlying problem is that the manufacturer might give a data point at say 50MHz where the skin effect appears well developed (the data point is a good fit to the simple loss model constructed with that data point and the ones at higher frequencies), and only one data point much lower (eg 5MHz) that is not a good fit to the model and suggests that

skin effect is not well developed at that frequency.

The lack of a good number of data points in the region where resistance is not proportional to f^0.5 prevents accurate modelling. The loss data doesn't provide enough information to infer the relative diameters of the high conductivity coating and the low conductivity core.

The approach I have taken with tllc is:
- explain the issue in the usage nots;
- carry into the summarised data, the lowest frequency on which the model is based so that it can be displayed and users aware when the model results are an extrapolation;
- the raw data has been analysed to find low frequency data points that are more than 10% different to forecast by the predicted loss model, and those points have been excised and the models recreated;

For example, the data for Belden 1189A (a CCS inner conductor) has had a 5MHz data point excised, and the lowest data point used is now 55MHz. The calculator results shows that frequency, and the user must make his own mind up about the applicability of an extrapolated result.

I use RG6 coax that has a hard drawn copper centre conductor, and tllc's results for Belden 1189A (an RG6 type) are probably quite reasonable at 3MHz, but the results would underestimate the loss in real Belden 1189A because of its use of CCS inner conductor.

An interesting question is ladder lines. Taking Wireman's products, 552 which uses a #16 19 strand copper clad steel conductor or unspecified coating thickness might well have higher loss than 551 which has a #18 30% single core copper clad steel conductor at sufficiently low frequency. The question is at what frequency does the effect of the thinner copper coating of the thicker conductor bundle manifest itself. I know that Wes measured these lines, and in the article I read he stated that the measurements were done between 50MHz and 150MHz which would probably not have shown the effects of the thin coating at low frequencies.

Owen

3789. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 21:14:38 UTC
From: MRW <mr.whatever@gmail.com>
Message-ID: <1175894078.931253.317240@n59g2000hsh.googlegroups.com>
Source record: 43455

On Apr 5, 4:40 pm, Roy Lewallen <w...@eznec.com> wrote:
> Yes. And it's very, very nearly the same for air.
>
> The 30,000 km would be a typo -- the wavelength in a vacuum at 10 kHz
> would be 30 km.
>
> Roy Lewallen, W7EL

Thanks again everyone! It makes sense to me to just treat c, in this
case, as a relative speed dependent on the medium.

3790. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 21:32:37 UTC
From: Phil <agatized@sprynet.com>
Message-ID: <V%yRh.18980$PL.18576@newsread4.news.pas.earthlink.net>
Source record: 43456

Some of the best reasons are empirical. Numerous studies have shown
that the clutter return from the sea surface is considerably higher in
horizontal polarization. I am on vacation, so I don't have my Skolnik
handy to say exactly how much. Anyway, this favors a vertical polarization.

Similarly, practical considerations make vertical polarization the best
for mobile applications. The 1/4 whip is the simplest antenna structure
on a mobile platform. While base stations could as easily use
horizontal or vertical, any mobile horizontal antenna will require extra
structure to implement.

In both of these applications there is nothing be gained by going to any
other polarization than vertical for these uses. In cases where
horizontal polarization has an advantage, there is no reason to go
partly vertical. So that is why the world end up either being vertical
or horizontal for the most part. Where it doesn't, polarization usually
doesn't matter or is less of a concern than other reasons (see inverted
vees and sloping dipoles).

Erich
KA6AMD

Jimmie D wrote:
> "art" <aunwin@insightbb.com> wrote in message
> news:1175038792.312433.127780@e65g2000hsc.googlegroups.com...
>> On 27 Mar, 15:12, richardharri...@webtv.net (Richard Harrison) wrote:
>>> Art wrote:
>>>
>>> "I have his (Kraus`) second edition (Antennas) and I find no mention of
>>> radiation from the beginning where current is applied onward."
>>>
>>> I think I have that edition too. If you review the chapter on "Point
>>> Sources" you`ll find: power patterns, a power theorem and its
>>> application to isotropic sources, rediation intensity, source with
>>> hemispheric power pattern, unidirectional cosine power pattern, etc.,
>>> etc..
>>>
>>> The new, now available 3rd ed. of "Antennas" by Kraus, Marhefka, and a
>>> host of others is greatly expanded and improved. It is worth the
>>> investment.
>>>
>>> Being uncertain of what Art really wants, doesn`t stop me from advising
>>> him to start by having a look at the famous Sommerfeld formula on page
>>> 804 of Terman`s 1955 opus.
>>> It predicts 1 kilowatt will produce 186 mv per m at a distance of 1 mile

>>> from a short vertical transmitting antenna given a certain ground
>>> conductivity and other conditions.
>>>
>>> Best regards, Richard Harrison, KB5WZI
>> Richard, I have lots of books but as yet have not found the answer
>> even tho many have posted none appear to really have an answer other
>> than to throw stones. You apparently have found the answer! Could you
>> quote from the books that you are refering to the angle of radiation
>> relative to the radiator, thats it ? If you can't understand that then
>> relay to me the angle of a radiation front relative to a radiator, I'm
>> sure some other people are interested in what you found. Even better,
>> let me know the TOA of a dipole in free space and how much it varies
>> to that of the same dipole over a perfect ground. Use a computor
>> program if you like, anything that sheds light on the matter . The
>> books say that a horizontal "v" antenna should be tipped for max gain,
>> doesn't that raise your interest about the reasoning and mathematics
>> behind this? Jimmie D asked me to state this angle but I have only a
>> expensive computor program that doesn't give the math with the answer.
>> Please read off the angle and the specifics so we all can move on, I
>> don't want a 160 thread postings some thrust upon Walt
>> Art
>
> The V antenna is a terminated traveling wave antenna the dipoles that you
> have been refering to are standingwave antennas. You are comparing apples
> and oranges. The best I can tell is that all other references you made to
> tilt have been perpedicular to the direction of the wave front. The V
> antenna is tilted in the direction of the wave front, more apples and
> oranges. Throw in some grapes and pineapple and we will have fruit salad.
>
> Jimmie
>
>

3791. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 21:34:33 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <ev6eao$3qk$1@nnrp.linuxfan.it>
Source record: 43457

Cecil Moore wrote:

> ...

Will the fun never cease 8-)

http://www.ee.surrey.ac.uk/Personal/D.Jefferies/figures/koan.html

Regards,
JS

3792. Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 21:37:21 UTC
From: MRW <mr.whatever@gmail.com>
Message-ID: <1175895441.057915.95610@y66g2000hsf.googlegroups.com>
Source record: 43458

In my physics book, it mentions constructive and destructive wave interference especially in reference to the the one-slit diffraction experiment. From reading about radiowave propagation, they also mention diffraction effects on radiowaves.

To me, it sounds like with constructive interference, the wave's amplitude will have the chance of increasing more than what the source actually outputted. But I wonder if this is helpful in terms of radio communication.

In reference to a single frequency transmitted, when I think about constructive interference and radiowave propagation, I keep picturing a delayed signal transmitted at time_0 and another signal transmitted at time_1 later with the same phase arriving at the receiver at the same time.

In terms of AM, I would think this would be problematic.

Any comments? Really, what I'm trying to understand here is: if constructive interference does any good in radiowave propagation. I was thinking that with an increase in amplitude the signal would be able to travel a little further, but the signal received may not be accurate in terms of the information it is conveying.

Thanks!

3793. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 21:53:13 UTC
From: Bob <warthog9@pacbell.net>
Message-ID: <ppzRh.1773$Q23.59@newssvr17.news.prodigy.net>
Source record: 43460
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

Belden and Commscope are the top names in CATV/Satellite cables and
compression connectors are now the standard for all satellite installs.
T&B Snap-N Seal is considered the best of the compression connectors.
The two big satellite companies not only spec compression connectors but
also solid copper center conductor RG-6 due to the lower DC resistance
for powering equipment down the cable. If you use say, Belden 7915A
cable and T&B SNS1P6U connectors, nobody can ever say you skimped.
Bob

szilagyic wrote:
> Hello,
>
> I am just trying to get an updated list of the top brands of RG-6 quad
> shield coax cable. I have seen posts from a few years back mentioning
> Belden, Carol, and Commscope, but I just wanted to get an updated
> list. I have seen Carol and Zenith brands at local stores recently,
> are these any good? Mainly going to use this cable for running feeds
> from HDTV & analog TV antennas in the walls of a house.
>
> Thank you very much for all feedback,
> --
> Chris
>

3794. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 21:54:33 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131dgcvdkl2g401@corp.supernews.com>
Source record: 43459

MRW wrote:
> On Apr 5, 4:40 pm, Roy Lewallen <w...@eznec.com> wrote:
>> Yes. And it's very, very nearly the same for air.
>>
>> The 30,000 km would be a typo -- the wavelength in a vacuum at 10 kHz
>> would be 30 km.
>>
>> Roy Lewallen, W7EL
>
> Thanks again everyone! It makes sense to me to just treat c, in this
> case, as a relative speed dependent on the medium.

As others have pointed out, it's risky to treat c as a variable or medium-dependent speed. That letter is nearly always used to designate the speed of light (or any EM plane wave) in a vacuum. Using that nearly-universal definition, the speed of an EM wave in any other medium is VF * c where VF is the "velocity factor". It's important to realize that while there's a single value for the speed of all EM waves in a vacuum (c), this isn't true in many other media. In many media, the speed of the wave depends on its frequency, a phenomenon called "dispersion". So in many media there's no universal EM velocity equivalent to c, but rather a frequency-dependent velocity factor.

In environments where the field is confined such as a waveguide, the velocity can also depend on the mode, that is the orientation of the fields. So there's not even a single value for each frequency. And this can be true even if the waveguide is filled with a vacuum.

Roy Lewallen, W7EL

3795. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 22:23:32 UTC
From: Dave <noone@nowhere.com>
Message-ID: <ELzRh.24$FC5.1@trndny06>
Source record: 43461

"MRW" <mr.whatever@gmail.com> wrote in message
news:1175895441.057915.95610@y66g2000hsf.googlegroups.com...
> In my physics book, it mentions constructive and destructive wave
> interference especially in reference to the the one-slit diffraction
> experiment. From reading about radiowave propagation, they also
> mention diffraction effects on radiowaves.
>
> To me, it sounds like with constructive interference, the wave's
> amplitude will have the chance of increasing more than what the source
> actually outputted. But I wonder if this is helpful in terms of radio
> communication.

the amplitude can be more in one direction than another, but the total power can not exceed the transmitter output of course. for each constructive interference peak there must be an area of destructive interference to make up for it.

>
> In reference to a single frequency transmitted, when I think about
> constructive interference and radiowave propagation, I keep picturing
> a delayed signal transmitted at time_0 and another signal transmitted
> at time_1 later with the same phase arriving at the receiver at the
> same time.
>
> In terms of AM, I would think this would be problematic.

yep, that is what ghosts on tv signals are... if the delay is long with respect to the modulating signal you can get effects like that. the most common desirable uses are in antennas where there is a phase delay about equal to the spacing of the elements of the antenna which lets you create a stronger signal in one direction, and of course a weaker one in other directions, allowing you to put more of the transmitter power in the direction you want it to go. because the delays are small there is not the problem with ghosts.

>
> Any comments? Really, what I'm trying to understand here is: if
> constructive interference does any good in radiowave propagation. I
> was thinking that with an increase in amplitude the signal would be
> able to travel a little further, but the signal received may not be
> accurate in terms of the information it is conveying.

yes, constructive interference is what antenna design is all about... destructive interference has its part also to help reject interference from undesired sources as well.

3796. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 22:58:06 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <2gARh.136$2v1.27@newssvr14.news.prodigy.net>
Source record: 43462

Jim Kelley wrote:
> There
> is nothing wrong with the proper use of superposition and interference.
> Given that, what do you think the problem might be?

Please don't tell me you don't understand constructive
interference.

Quoting "Principles of Optics", 4th edition, by Born
and Wolf, page 257:
****
Suppose now that two monochromatic waves E1 and E2
are superposed at some point P. The total electric
field at P is

E = E1 + E2 (6) so that

E^2 = E1^2 + E2^2 + 2*E1*E2 (7)
****
[Note from w5dxp: Each one of those terms in
equation (7) is proportional to power which is
proportional to intensity! The last term in the
equation is certainly proportional to interference.

Resuming the quote from Born and Wolf:
****
Hence the total intensity at P is

I = I1 + I2 + J12 (8) where

I1 = <E1^2> and I2 = <E2^2> (9a)

are the intensities of the two waves, and

J12 = 2<E1*E2> (9b) is the *interference term*."
****
As you know, the power associated with the wave is
proportional to E^2 so if E1 = E2, the power in
the superposed waves is four times the power in
a single wave. That's the nature of total constructive
interference as explained by Hecht in "Optics", 4th
edition, page 388.

Hint: When two identical EM waves are superposed
in phase in free space, the ratio of the E-field
to the B-field must remain equal to 377. The E-field
doubles and the B-field doubles so the (power) in the

wave quadruples to

Ptot = (E1+E2)x(B1+B2) = 4*E1xB1

Such is the nature of constructive interference. If
Keith can get two IC-706's to do that, I will believe
that superposition is valid for IC-706's.
--
73, Cecil http://www.w5dxp.com

3797. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 23:03:42 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ilARh.137$2v1.87@newssvr14.news.prodigy.net>
Source record: 43463

MRW wrote:
> Any comments? Really, what I'm trying to understand here is: if
> constructive interference does any good in radiowave propagation. I
> was thinking that with an increase in amplitude the signal would be
> able to travel a little further, but the signal received may not be
> accurate in terms of the information it is conveying.

Antenna gain over isotropic is an application of
constructive interference. The constructive
interference must be balanced by an equal amount
of destructive interference elsewhere to avoid
violating the conservation of energy principle.
--
73, Cecil http://www.w5dxp.com

3798. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 23:06:47 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <boARh.138$2v1.75@newssvr14.news.prodigy.net>
Source record: 43464

Roy Lewallen wrote:
> Using that
> nearly-universal definition, the speed of an EM wave in any other medium
> is VF * c where VF is the "velocity factor".

If I remember correctly, at Texas A&M we used an
equation like:

c' = VF(c)

Writing c-prime like that told us that it wasn't
the speed of light in free space.
--
73, Cecil http://www.w5dxp.com

3799. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 23:12:25 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ev6k4qbos1@nntp1.jpl.nasa.gov>
Source record: 43470

Owen Duffy wrote:
> Jim Lux <james.p.lux@jpl.nasa.gov> wrote in
> news:ev5q81$rj8$1@nntp1.jpl.nasa.gov:
>
>
>>Owen Duffy wrote:
>>
>>>Owen Duffy <none@no.where> wrote in
>>>news:Xns990A51F2F8713nonenowhere@61.9.191.5:
>>>
>>>
>>>
>>>>This sets me thinking of a way to calculate a lower frequency limit
>>>>to the loss model when I generate it, so that I can store that limit
>>>>in the database and prevent calculation below that frequency.
>>>
>>>
>>>I have just analysed the tllc database contents to find cases where
>>>the modelled error is more than 10% different to the data points on
>>>which the regression was based.
>>>
>>>There are a few cases, they are all copper clad steel inner
>>>conductors (some of the RG6, RG59, RG174, RG316). I need to implement
>>>a lower frequency limit for model validity for each cable type.
>>>
>>>An alternative approach to retain some lower frequency results is to
>>>use a cubic spline interpolation... but it has its own problems.
>>
>>Not the least of which is that you (philosophically) want a model that
>>is based on the underlying physics (which the sqrt(f), f model is)..
>>The problem comes in because sqrt(f) doesn't model skin effect at low
>>frequencies very well, when the skin depth becomes an appreciable
>>fraction of the conductor diameter (because the conductor is no longer
>>a thin wall tube).. the cladding just throws another wrench into the
>>works.
>>
>>What might work is if you look at the generic curves for Rac/Rdc for
>>round and tubular conductors. The analytical formulation is quite
>>complex, but I'm pretty sure there's a simple polynomial
>>approximation.
>
>
> Hi Jim,
>

> I did some playing around comparing spline fits with manufacturers data
> points. The underlying problem is that the manufacturer might give a data
> point at say 50MHz where the skin effect appears well developed (the data
> point is a good fit to the simple loss model constructed with that data
> point and the ones at higher frequencies), and only one data point much
> lower (eg 5MHz) that is not a good fit to the model and suggests that
> skin effect is not well developed at that frequency.
>
> The lack of a good number of data points in the region where resistance
> is not proportional to f^0.5 prevents accurate modelling. The loss data
> doesn't provide enough information to infer the relative diameters of the
> high conductivity coating and the low conductivity core.

Prevents accurate modeling from measured data.. or, more accurately,
prevents you from validating your model with measured data.

I think you could develop the model from physics (which is how the
sqrt(f),f models were developed), and then determine the coefficients
for a particular type coax by measurement.

I would start by looking at Rac/Rdc for the center conductor for low
frequencies. Some reasonable assumptions are
a) dielectric loss is negligble
b) loss in the shield can be modeled by the infinite plane skin depth
formula.

References such as the ITT Reference Data For Radio Engineers have a
short table from which you can build a piecewise model. The analytic
model is a bit complex (hah.. as I recall, it involves Bessel functions
and elliptic integrals)

>
> The approach I have taken with tllc is:
> - explain the issue in the usage nots;
> - carry into the summarised data, the lowest frequency on which the model
> is based so that it can be displayed and users aware when the model
> results are an extrapolation;
> - the raw data has been analysed to find low frequency data points that
> are more than 10% different to forecast by the predicted loss model, and
> those points have been excised and the models recreated;
>
> For example, the data for Belden 1189A (a CCS inner conductor) has had a
> 5MHz data point excised, and the lowest data point used is now 55MHz. The
> calculator results shows that frequency, and the user must make his own
> mind up about the applicability of an extrapolated result.
>
> I use RG6 coax that has a hard drawn copper centre conductor, and tllc's
> results for Belden 1189A (an RG6 type) are probably quite reasonable at
> 3MHz, but the results would underestimate the loss in real Belden 1189A
> because of its use of CCS inner conductor.
>
> An interesting question is ladder lines. Taking Wireman's products, 552

> which uses a #16 19 strand copper clad steel conductor or unspecified
> coating thickness might well have higher loss than 551 which has a #18
> 30% single core copper clad steel conductor at sufficiently low
> frequency. The question is at what frequency does the effect of the
> thinner copper coating of the thicker conductor bundle manifest itself. I
> know that Wes measured these lines, and in the article I read he stated
> that the measurements were done between 50MHz and 150MHz which would
> probably not have shown the effects of the thin coating at low
> frequencies.

Stranded copperclad is a very tricky thing (much like measuring the RF resistance of braid) because you have both the skin effect in a single conductor issue and the proximity effect of adjacent conductors, and on top of that, the current flow among conductors (the inner conductors carry less current than the outer ones).. Much like trying to analyze Litz wire.

Maybe the thing to do is to actually measure some samples and bound the error.. (probably not worth going farther if the error is 0.1 dB in 1000 ft, for instance).

I'd start by just running the numbers for solid copper and see what the difference between the "thin walled tube model" (implied in the sqrt(f) term) and the actual "solid conductor with skin effect"

>
> Owen

3800. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 23:25:47 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131dlo1oech4464@corp.supernews.com>
Source record: 43465

The loss of real coax often doesn't fit simplified models for at least the following reasons:

1. Plated or tinned center conductor, where plating or tinning is thinner than several skin depths at the lowest frequency of analysis.
2. Roughness of a stranded center conductor.
3. Roughness of a braided shield and the necessity for the current to migrate from wire bundle to wire bundle.
4. Shield thickness which is less than several skin depths at the lowest frequency of analysis.
5. Tinned shield.
6. Multiple shields.

Numbers 1, 4, and 5 can be calculated, but require modified Bessel functions and often some mathematical trickery to prevent truncation or overflow errors even with extended precision calculation. The remainder are often empirically determined, are complex functions of frequency, and vary from one cable type or manufacturer to another. All can be significant with typical cables at HF.

Roy Lewallen, W7EL

3801. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 23:29:07 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <ev6l4o$7do$1@news.service.uci.edu>
Source record: 43466

Roy Lewallen wrote:

> As others have pointed out, it's risky to treat c as a variable or
> medium-dependent speed.

Roy -

The convenient thing about using medium dependent c in that equation is that we can use things such as index of refraction or velocity factor to convert from vacuum 'c' to 'c' in another medium. The fact that it makes the results of the calculation more accurate tends to mitigate any risk that might be encumbered when using it.

To require that only vacuum c be used in the equation to me seems overly authoritarian. I wonder how you feel about the speed of sound? :-)

73, Jim AC6XG

> That letter is nearly always used to designate
> the speed of light (or any EM plane wave) in a vacuum. Using that
> nearly-universal definition, the speed of an EM wave in any other medium
> is VF * c where VF is the "velocity factor". It's important to realize
> that while there's a single value for the speed of all EM waves in a
> vacuum (c), this isn't true in many other media. In many media, the
> speed of the wave depends on its frequency, a phenomenon called
> "dispersion". So in many media there's no universal EM velocity
> equivalent to c, but rather a frequency-dependent velocity factor.

> In environments where the field is confined such as a waveguide, the
> velocity can also depend on the mode, that is the orientation of the
> fields. So there's not even a single value for each frequency. And this
> can be true even if the waveguide is filled with a vacuum.
>
> Roy Lewallen, W7EL
>
>

3802. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 23:35:38 UTC
From: Ed Nielsen <eblcb@dslr.net>
Message-ID: <v9ydnVDLLOYJRIvbnZ2dnUVZ_rqhnZ2d@comcast.com>
Source record: 43468
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

Don't forget Times Fiber at the top right there with CommScope and Belden.
As far as compression fittings, Snap-N-Seal definitely is in the top group,
right along with PCT, Digicon, Gilbert, & PPC. The whole shebang started
with PPC.

--

CIAO!

Ed N.

"Bob" <warthog9@pacbell.net> wrote in message
news:ppzRh.1773$Q23.59@newssvr17.news.prodigy.net...
> Belden and Commscope are the top names in CATV/Satellite cables and
> compression connectors are now the standard for all satellite installs.
> T&B Snap-N Seal is considered the best of the compression connectors. The
> two big satellite companies not only spec compression connectors but also
> solid copper center conductor RG-6 due to the lower DC resistance for
> powering equipment down the cable. If you use say, Belden 7915A cable and
> T&B SNS1P6U connectors, nobody can ever say you skimped.
> Bob
>
>
> szilagyic wrote:
>> Hello,
>>
>> I am just trying to get an updated list of the top brands of RG-6 quad
>> shield coax cable. I have seen posts from a few years back mentioning
>> Belden, Carol, and Commscope, but I just wanted to get an updated
>> list. I have seen Carol and Zenith brands at local stores recently,
>> are these any good? Mainly going to use this cable for running feeds
>> from HDTV & analog TV antennas in the walls of a house.
>>
>> Thank you very much for all feedback,
>> --
>> Chris
>>

3803. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 23:36:28 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1175902588.565180.175300@e65g2000hsc.googlegroups.com>
Source record: 43467

On 6 abr, 23:37, "MRW" <mr.whate...@gmail.com> wrote:
> In my physics book, it mentions constructive and destructive wave
> interference especially in reference to the the one-slit diffraction
> experiment. From reading about radiowave propagation, they also
> mention diffraction effects on radiowaves.
>
> To me, it sounds like with constructive interference, the wave's
> amplitude will have the chance of increasing more than what the source
> actually outputted. But I wonder if this is helpful in terms of radio
> communication.
>
> In reference to a single frequency transmitted, when I think about
> constructive interference and radiowave propagation, I keep picturing
> a delayed signal transmitted at time_0 and another signal transmitted
> at time_1 later with the same phase arriving at the receiver at the
> same time.
>
> In terms of AM, I would think this would be problematic.
>
> Any comments? Really, what I'm trying to understand here is: if
> constructive interference does any good in radiowave propagation. I
> was thinking that with an increase in amplitude the signal would be
> able to travel a little further, but the signal received may not be
> accurate in terms of the information it is conveying.
>
> Thanks!
Hello MRW,

As long as the constructive interference occurs over the full bandwidth of your signal, it helps you without the need for equalizing. Another way to see it is that if the delay of the (reflected, refracted, etc) signal is far below 0.25/(RF bandwidth) the signals will add constructively when the carriers are in phase at the point of interference (inclusive the side bands generated by the modulation).

This becomes more difficult (or impossible) for wide band signals. One can see that in the frequency response of the propagation path. Imagine when you transmit a signal with uniform power distribution (brick wall spectrum). Receive it with an antenna and examine the signal wit a spectrum analyzer. When the spectrum is flat (as the original signal), then you will not have problems demodulating the signal. However when you see many dips and peaks in the spectrum, the information on the signal will be distorted. You will need an equalizer (inverse FFT, deconvolution) to remove the distortion.

Another test is to transmit a very narrow pulse (amplitude modulated). Receive the signal en show the demodulated version on an oscilloscope. When the demodulated pulse has been stretched, you have distortion in the modulation.

The effect of distortion in mobile systems due to multiple waves arriving at an antenna, results in so called "frequency selective fading".

About analog AM, the BW of the signal is about 8 kHz, As long as the delay of reflected/refracted waves is less then 30us (that is 9 km in distance), you will not have problems with signal distortion (valid for surface wave propagation). With propagation via the ionosphere, the situation is different; there the path length of several waves can be so different, that for example waves with frequency 13.720 MHz interfere constructively, but with frequency 13.722 MHz they interfere destructively.

So when you don't want distortion because of destructive and constructive interfering wave fronts, you should have a narrow bandwidth (that is low bitrate). This is done in multi carrier modulation (like COFDM [TDAB, DVBT]). Many or some carriers will suffer from destructive interference, but also many will be subjected to constructive interference. By adding sufficient redundancy, the data stream from the sub carriers having good signal strength can be demodulated to the original data stream.

Relative high baud rate systems (like the GSM system) use equalizers/ echo cancellators to mitigate the effect of multi-path reflections.

Best Regards,

Wim
PA3DJS

3804. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-06 23:41:56 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <ev6lsp$7v7$1@news.service.uci.edu>
Source record: 43469

Hi Cecil -

I'm glad to learn that you finally got yourself a decent optics text.
Now, please spend some time studying it. Take very careful note of
exactly what it says, and try to get rid of your preconceived notions.
Don't read between the lines, and don't selectively edit. If you
do, you will just end up leading yourself down another wrong path.

73 de ac6xg

Cecil Moore wrote:

> Jim Kelley wrote:
>
>> There is nothing wrong with the proper use of superposition and
>> interference. Given that, what do you think the problem might be?
>
>
> Please don't tell me you don't understand constructive
> interference.
>
> Quoting "Principles of Optics", 4th edition, by Born
> and Wolf, page 257:
> ***
> Suppose now that two monochromatic waves E1 and E2
> are superposed at some point P. The total electric
> field at P is
>
> E = E1 + E2 (6) so that
>
> E^2 = E1^2 + E2^2 + 2*E1*E2 (7)
> ***
> [Note from w5dxp: Each one of those terms in
> equation (7) is proportional to power which is
> proportional to intensity! The last term in the
> equation is certainly proportional to interference.
>
> Resuming the quote from Born and Wolf:
> ***
> Hence the total intensity at P is
>
> I = I1 + I2 + J12 (8) where
>
> I1 = <E1^2> and I2 = <E2^2> (9a)
>

> are the intensities of the two waves, and
>
> J12 = 2<E1*E2> (9b) is the *interference term*."
> **********
> As you know, the power associated with the wave is
> proportional to E^2 so if E1 = E2, the power in
> the superposed waves is four times the power in
> a single wave. That's the nature of total constructive
> interference as explained by Hecht in "Optics", 4th
> edition, page 388.
>
> Hint: When two identical EM waves are superposed
> *in phase* in free space, the ratio of the E-field
> to the B-field must remain equal to 377. The E-field
> doubles and the B-field doubles so the (power) in the
> wave quadruples to
>
> Ptot = (E1+E2)x(B1+B2) = 4*E1xB1
>
> Such is the nature of constructive interference. If
> Keith can get two IC-706's to do that, I will believe
> that superposition is valid for IC-706's.

3805. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 00:03:51 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <ev6n49oen1@nnrp.linuxfan.it>
Source record: 43471

Cecil Moore wrote:
> John Smith I wrote:
>> IBM extended ascii, ain't it great? <grin>
>
> What is surprising is that if I simply enter a
> Shift-6 and a '2', it somewhere gets changed
> to that IBM extended superscript squared
> character.

With an extended ascii chart (giving the decimal value of the character) and the alt-key combined with the number pad, it is possible to enter extended ascii. However, not all news servers will honor all extended ascii characters and not all news readers will represent them correctly (plus, you probably have to set the news reader to allow them in it's settings.)

Hold down the alt key while entering 2-5-3 (253) from the numeric keypad, release the alt key and "²" is presented--so can all extended ascii be created in notepad, dos edit, etc. ...

JS

3806. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 00:11:44 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <3lBRh.1603$zC.166@newssvr22.news.prodigy.net>
Source record: 43472

Jim Kelley wrote:
> I'm glad to learn that you finally got yourself a decent optics text.
> Now, please spend some time studying it. Take very careful note of
> exactly what it says, and try to get rid of your preconceived notions.
> Don't read between the lines, and don't selectively edit. If you do,
> you will just end up leading yourself down another wrong path.

Jim, it is obvious that you do not understand
constructive interference between coherent EM waves.

The stuff I quoted from Born and Wolf agrees with Hecht
and contradicts what you have said. In particular, equation
(7) on page 257 contradicts your earlier posting. Given
that power is proportional to E^2, please explain how the
following equation is possible in 377 ohm space in light
of your earlier posting.

E^2 = E1^2 + E2^2 + 2E1*E2

From that equation, Born and Wolf develop the interference
term which they call J12, same as Hecht's I12, same as
Dr. Best's 2*SQRT(P1*P2).

This is exactly what Hecht described in "Optics". Seems
that you don't realize that the square of the sum is
more than the sum of the squares when constructive
interference between two coherent EM waves occurs.

Two identical EM waves in free space must maintain the
377 ohm free space ratio. Therefore, if the E-field doubles,
the B-field must also double, contrary to your earlier posting
that said that voltage and current could not double
simultaneously but that is exactly what happens in a fixed
Z0 environment like free space or a transmission line.

I explained this to Dr. Best way back in 2001. That you
don't yet understand it is the cause of our many arguments.
--
73, Cecil http://www.w5dxp.com

3807. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 00:13:29 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4snd13l706ifkuaijv0hsj3pe78n91tj4t@4ax.com>
Source record: 43473

On 6 Apr 2007 09:04:59 -0700, "K7ITM" <k7itm@msn.com> wrote:
>Seems to me you're way off point here, Richard.

Hi Tom,

Hardly an unfamiliar comment.

>I'm in my lab, my
>inertial frame of reference. I send some EM waves through my vacuum
>chamber and I measure their speed as 2.997...*10^8 meters/second. The
>same waves continue on through the glass of the bell jar keeping air
>out of my vacuum, and I happen to notice that their speed through that
>glass is1.684*10^8 meters/second. I notice that light from my
>hydrogen light source contains certain well-defined spectral lines,
>but each of those passes through my vacuum at the same speed.

Same as what?

>However, I notice that those lines, in a short pulse of light, come
>out of the glass separated in time slightly, implying that they took
>different times to get through the glass, and were therefore not even
>travelling through the glass at the same velocity; I notice no such
>separation for the light passing through the vacuum.

Same as what? Different wavelengths respond to different inertial
frames of reference, a prism demonstrates this quite dramatically.
This happens quite commonly for wideband transmissions through fiber
optics. The solution has been to send them as Soliton waves. Another
solution is to employ micro channels.

>Further, I
>notice that light from a distant star has apparently the same set of
>spectral lines, but they are shifted to slightly longer wavelengths.

A typical frame of reference example.

>However, they take the same time to pass through the vacuum as my
>locally-generated hydrogen light.
>All my measurements are in the same
>frame of reference, and IN VACUUM the speed of em radiation appears
>from all my measurements to be the same, no matter its wavelength,
>even for very long wavelengths, but in other media, still the same
>inertial reference frame, it's different. I also happen to notice
>that the light from the distant star was created in a different
>inertial frame of reference...

There are a lot of "same"s here and some are being shown to be
different, and others same. I'm wondering what the point is that I'm
way off from.

73's
Richard Clark, KB7QHC

3808. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 00:15:32 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <4616e2a1$0$9935$4c368faf@roadrunner.com>
Source record: 43474

"art" <aunwin@insightbb.com> wrote in message
news:1175867925.134182.278270@d57g2000hsg.googlegroups.com...
> On 26 Mar, 19:27, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
>> "art" <aun...@insightbb.com> wrote in message
>>
>> news:1174918889.954850.13600@p77g2000hsh.googlegroups.com...
>>
>>
>>
>>
>>
>> > Antennas seemed to have evolved into structures that
>> > are parallel or at right angles to the earths surface
>> > Why is this or is it asthetics that is driving this thinking?
>> > My research on the subject evolves around the vector formation
>> > of radiation and where the addition of the vectors involved
>> > which creats radiation is at an angle to the radiator..
>> > This suggests that for best radiative advantage it is
>> > this vector that should be parallel to the earths surface
>> > and not the physical radiator. This appears to be born out
>> > by following my Gaussian approach to radiator design.
>> > So the question of habitual arrangement of antenna arrays
>> > parallel or at right angles to the earths surface as
>> > being the best arrangement needs some sort of validation.
>> > Any thoughts as to why it should be so and the scientific
>> > facts that support it?
>> > Art
>>
>> What angle did you derive was the best angle to mount an anenna? Please
>> show
>> experimental data to backup your conclusions.
>>
>> Jimmie- Hide quoted text -
>>
>> - Show quoted text -
>
> Heh Jimmie,
> I was looking at a book that showed the scanning lines of a tv.
> It also showed aperture as being bisected equally by these same
> scanning lines.
> Since aperture is directly related to gain one could probably state
> that the
> angle of the scan lines on a TV is directly related to the tipping
> angle for radiation. Both are magnetically related ie angle of release

> of an electron so you may get a better answer from a T.V. technician
> with respect to angles than ham radio operators. Isn't science great
> when your brain is nimble and curious!
> Art
>
It must be wonderful to wake up ina new world every morning.

Jimme

3809. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 00:15:56 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <0pBRh.441$2v1.13@newssvr14.news.prodigy.net>
Source record: 43475

John Smith I wrote:
> Hold down the alt key while entering 2-5-3 (253) from the numeric
> keypad, release the alt key and "ï¿½" is presented--so can all extended
> ascii be created in notepad, dos edit, etc. ...

I've got that chart hanging on my wall. It's just
interesting that if I type a shift-6 and then a 2,
it comes back as a superscript-2. Alt-253 doesn't
do anything in Thunderbird.
--
73, Cecil http://www.w5dxp.com

3810. DIY FIBERGLASS POLES

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 00:25:34 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <4616e4fa$0$27087$4c368faf@roadrunner.com>
Source record: 43476

I am lokking for someone who has experience in making their own fiberglass poles. I make some several years ago but gave awy the antenna after only a year or so and I dont know how well they held up. I used fiberglass rope used to decorate curtains I think and soaked it in resin. This seem to mke some pretty good spreaders for a 10M quad I was wondering if anyone else had ever tried something similar.and how well it worked.

Jimmie

3811. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 00:26:45 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <ev6of7rcp1@nnrp.linuxfan.it>
Source record: 43477

Cecil Moore wrote:
> John Smith I wrote:
>> Hold down the alt key while entering 2-5-3 (253) from the numeric
>> keypad, release the alt key and "²" is presented--so can all extended
>> ascii be created in notepad, dos edit, etc. ...
>
> I've got that chart hanging on my wall. It's just
> interesting that if I type a shift-6 and then a 2,
> it comes back as a superscript-2. Alt-253 doesn't
> do anything in Thunderbird.

Cecil:

Whoa! I am not arguing with you man.

I just thought I would toss that out, not everyone may be as savvy as yourself.

This conversation holds my interest, I just "look out the windows" from time to time, teacher used to scold me for that too ... I'll redouble my efforts to stay focused :-)

Regards,
JS

3812. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 00:32:06 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <ev6oqraat1@news.service.uci.edu>
Source record: 43479

Cecil Moore wrote:
> Jim Kelley wrote:
>
>> I'm glad to learn that you finally got yourself a decent optics text.
>> Now, please spend some time studying it. Take very careful note of
>> exactly what it says, and try to get rid of your preconceived notions.
>> Don't read between the lines, and don't selectively edit. If you do,
>> you will just end up leading yourself down another wrong path.
>
>
> Jim, it is obvious that you do not understand
> constructive interference between coherent EM waves.
>
> The stuff I quoted from Born and Wolf agrees with Hecht
> and contradicts what you have said.

Cecil - I have had Born and Wolf on my shelf for years. I use it regularly. I understand interference. It's not difficult. I work with it on a regular basis in fact - both optically, and at RF.

> In particular, equation
> (7) on page 257 contradicts your earlier posting. Given
> that power is proportional to E^2, please explain how the
> following equation is possible in 377 ohm space in light
> of your earlier posting.
>
> E^2 = E1^2 + E2^2 + 2E1*E2

Power doesn't interfere. It doesn't even propagate, Cecil. (You might note the distinct absence of any descriptions of how power propagates in the physics texts. Hopefully you'll also note the absence of any discussion of how power constructively and destructively interferes in Born and Wolf.) And as the above equation points out quite plainly, electric fields interfere. Electric fields do propagate, along with their counterpart: magnetic fields.

> From that equation, Born and Wolf develop the interference
> term which they call J12, same as Hecht's I12, same as
> Dr. Best's 2*SQRT(P1*P2).

I think you'll find the equations to be largely the same in most optics texts, Cecil. No need to point that out.

73, Jim AC6XG

3813. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 00:39:54 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990B6C7856904nonenowhere@61.9.191.5>
Source record: 43478

Jim Lux <james.p.lux@jpl.nasa.gov> wrote in
news:ev6k4qbos1@nntp1.jpl.nasa.gov:

Jim,

Comments noted.

My objective isn't so much trying to build a better loss model, but rather to use a simple loss model and build the coefficients from manufacturer's published data and make that available in the calculator.

Although I calculate the correlation coefficient when do the regressions on the manufacturers freq/loss tables, and had not used models with poor r^2, I hadn't explored the lower frequency data points for fit. I did just that a day or so ago, and interestingly the cases where low frequency points were not a good fit were all non-homogenous centre conductors.

I had previously explored thin homogenous centre conductors, and they should not be an issue for practical cables down to 0.1MHz.

I am also not obsessing about accuracy, because real cables have tolerances that set a limit to necessary accuracy.

So, to try and persevere with the simple model, I have excluded data points that appear to be a result of departure from the simple model due to composite conductor effects, and show the lower frequency that bounds extrapolated / interpolated results. Extrapolated results are always a risk, the user must make their own judgements about the applicability.

I noted Roy's comments on braids and composite conductor issues, and I thank him for his response. I may include some similar explanation in the calculator's usage notes.

It also occurs to me that some cable construction intended for 500MHz and above use a plastic film with a very thin metallic coating, and I wonder about its performance at low frequencies. Perhaps yet another departure from a simple loss model.

As noted above, the largest departures at low HF frequenciesfrom the simple loss model were all cables with steel cored inner conductors. There is a salutory lesson that when buying RG59 or RG6 for HF use, those cables with 100% copper inner conductors are likely to be better at the low end of HF. The same may apply for use of such cables for baseband applications like video.

Owen

> Owen Duffy wrote:
>> Jim Lux <james.p.lux@jpl.nasa.gov> wrote in
>> news:ev5q81$rj8$1@nntp1.jpl.nasa.gov:
>>
>>
>>>Owen Duffy wrote:
>>>
>>>>Owen Duffy <none@no.where> wrote in
>>>>news:Xns990A51F2F8713nonenowhere@61.9.191.5:
>>>>
>>>>
>>>>
>>>>>This sets me thinking of a way to calculate a lower frequency limit
>>>>>to the loss model when I generate it, so that I can store that
>>>>>limit in the database and prevent calculation below that frequency.
>>>>
>>>>
>>>>I have just analysed the tllc database contents to find cases where
>>>>the modelled error is more than 10% different to the data points on
>>>>which the regression was based.
>>>>
>>>>There are a few cases, they are all copper clad steel inner
>>>>conductors (some of the RG6, RG59, RG174, RG316). I need to
>>>>implement a lower frequency limit for model validity for each cable
>>>>type.
>>>>
>>>>An alternative approach to retain some lower frequency results is to
>>>>use a cubic spline interpolation... but it has its own problems.
>>>
>>>Not the least of which is that you (philosophically) want a model
>>>that is based on the underlying physics (which the sqrt(f), f model
>>>is).. The problem comes in because sqrt(f) doesn't model skin effect
>>>at low frequencies very well, when the skin depth becomes an
>>>appreciable fraction of the conductor diameter (because the conductor
>>>is no longer a thin wall tube).. the cladding just throws another
>>>wrench into the works.
>>>
>>>What might work is if you look at the generic curves for Rac/Rdc for
>>>round and tubular conductors. The analytical formulation is quite
>>>complex, but I'm pretty sure there's a simple polynomial
>>>approximation.
>>
>>
>> Hi Jim,
>>
>> I did some playing around comparing spline fits with manufacturers
>> data points. The underlying problem is that the manufacturer might
>> give a data point at say 50MHz where the skin effect appears well
>> developed (the data point is a good fit to the simple loss model
>> constructed with that data point and the ones at higher frequencies),
>> and only one data point much lower (eg 5MHz) that is not a good fit

>> to the model and suggests that skin effect is not well developed at
>> that frequency.
>>
>> The lack of a good number of data points in the region where
>> resistance is not proportional to f^0.5 prevents accurate modelling.
>> The loss data doesn't provide enough information to infer the
>> relative diameters of the high conductivity coating and the low
>> conductivity core.
>
> Prevents accurate modeling from measured data.. or, more accurately,
> prevents you from validating your model with measured data.
>
> I think you could develop the model from physics (which is how the
> sqrt(f),f models were developed), and then determine the coefficients
> for a particular type coax by measurement.
>
> I would start by looking at Rac/Rdc for the center conductor for low
> frequencies. Some reasonable assumptions are
> a) dielectric loss is negligble
> b) loss in the shield can be modeled by the infinite plane skin depth
> formula.
>
> References such as the ITT Reference Data For Radio Engineers have a
> short table from which you can build a piecewise model. The analytic
> model is a bit complex (hah.. as I recall, it involves Bessel
> functions and elliptic integrals)
>
>>
>> The approach I have taken with tllc is:
>> - explain the issue in the usage nots;
>> - carry into the summarised data, the lowest frequency on which the
>> model is based so that it can be displayed and users aware when the
>> model results are an extrapolation;
>> - the raw data has been analysed to find low frequency data points
>> that are more than 10% different to forecast by the predicted loss
>> model, and those points have been excised and the models recreated;
>>
>> For example, the data for Belden 1189A (a CCS inner conductor) has
>> had a 5MHz data point excised, and the lowest data point used is now
>> 55MHz. The calculator results shows that frequency, and the user
>> must make his own mind up about the applicability of an extrapolated
>> result.
>>
>> I use RG6 coax that has a hard drawn copper centre conductor, and
>> tllc's results for Belden 1189A (an RG6 type) are probably quite
>> reasonable at 3MHz, but the results would underestimate the loss in
>> real Belden 1189A because of its use of CCS inner conductor.
>>
>> An interesting question is ladder lines. Taking Wireman's products,
>> 552 which uses a #16 19 strand copper clad steel conductor or

>> unspecified coating thickness might well have higher loss than 551
>> which has a #18 30% single core copper clad steel conductor at
>> sufficiently low frequency. The question is at what frequency does
>> the effect of the thinner copper coating of the thicker conductor
>> bundle manifest itself. I know that Wes measured these lines, and in
>> the article I read he stated that the measurements were done between
>> 50MHz and 150MHz which would probably not have shown the effects of
>> the thin coating at low frequencies.
>
> Stranded copperclad is a very tricky thing (much like measuring the RF
> resistance of braid) because you have both the skin effect in a single
> conductor issue and the proximity effect of adjacent conductors, and
> on top of that, the current flow among conductors (the inner
> conductors carry less current than the outer ones).. Much like trying
> to analyze Litz wire.
>
> Maybe the thing to do is to actually measure some samples and bound
> the error.. (probably not worth going farther if the error is 0.1 dB
> in 1000 ft, for instance).
>
> I'd start by just running the numbers for solid copper and see what
> the difference between the "thin walled tube model" (implied in the
> sqrt(f) term) and the actual "solid conductor with skin effect"
>>
>> Owen

3814. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 00:48:49 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131dqjmrva0s66a@corp.supernews.com>
Source record: 43480

Jim Kelley wrote:
> Roy Lewallen wrote:
>
>> As others have pointed out, it's risky to treat c as a variable or
>> medium-dependent speed.
>
> Roy -
>
> The convenient thing about using medium dependent c in that equation is
> that we can use things such as index of refraction or velocity factor to
> convert from vacuum 'c' to 'c' in another medium. The fact that it
> makes the results of the calculation more accurate tends to mitigate any
> risk that might be encumbered when using it.
>
> To require that only vacuum c be used in the equation to me seems overly
> authoritarian. I wonder how you feel about the speed of sound? :-)
>
> 73, Jim AC6XG

What, the speed of sound in a vacuum? I'm afraid you'll have to ask Cecil or Art about that -- I'm not qualified to comment.

I'm not trying to be authoritarian about the use of "c", just reporting what I find in my textbooks. Grabbing just one for example, Kraus' _Electromagnetics_, on p. 352 I find that he uses v as the phase velocity, and says, "For free space (vacuum) the velocity is a well-known constant (usually designated by c and usually called the velocity of light)." and shows an equation for c. Then he gives an equation for the "relative phase velocity" p, as v/c.

In the back of R.K. Moore's _Traveling-wave Engineering_, c is listed as "Velocity of light in vacuum". He uses v-sub-p for phase velocity.

A number of authors avoid using c altogether, but those who do seem to universally use it to mean the speed of light in a vacuum. What texts do you have where it's used to mean the phase velocity in a medium other than air?

Of course, you can always go ahead and interpret c any way you want, even if it isn't what the author intended. Then you can progress from there to any number of bizarre conclusions. They'd fit right in with the ones being "debated" over and over on this newsgroup.

Roy Lewallen, W7EL

3815. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 01:42:32 UTC
From: Carl Navarro <cnavarro@wcnet.org>
Message-ID: <7ntd13lmd6eolfemibjjbc6qkmjj8nbdu9@4ax.com>
Source record: 43481
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

On Fri, 6 Apr 2007 15:58:29 -0500, "Steve Barker"
<ichasetrains@some.yahoo.com> wrote:

>Carl, is ebay item 320099467506 along the right lines?

Yep, that's the tool, here's the reference to my Detroit Connection

http://cgi.ebay.com/100-DIGICON-DS6Q-COMPRESSION-CONNECTORS-FOR-RG6-QUAD_W0QQitemZ160077032783QQihZ006QQcategoryZ39803QQcmdZViewItem

Carl

3816. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 02:07:54 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <_1DRh.745$2v1.2@newssvr14.news.prodigy.net>
Source record: 43482

John Smith I wrote:
> Whoa! I am not arguing with you man.

That's good, cuz I'm not arguing with you either.
What do we do now?
--
73, Cecil http://www.w5dxp.com

3817. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 02:18:26 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <SbDRh.747$2v1.302@newssvr14.news.prodigy.net>
Source record: 43483

Jim Kelley wrote:
>> E^2 = E1^2 + E2^2 + 2E1*E2
>
> Power doesn't interfere. It doesn't even propagate, Cecil.

Exactly as I said in my energy analysis article:
"The term "power flow" has been avoided in favor of "energy flow". Power is a measure of that energy flow per unit time through a plane. Likewise, the EM fields in the waves do the interfering. Powers, treated as scalars, are incapable of interference."

So please cease and desist with the straw man already.
You are simply quoting my article back to me.

And you are missing the point. When you said that voltage and current cannot both double during superposition you were 100% wrong. That error of yours is what our years long argument has been about. Keith is apparently making the same error as you.

Consider two identical EM waves superposing in free space. Contrary to what you asserted in your previous posting, the E-field doubles in magnitude AND the B-field doubles in magnitude. The result is a quadrupling of the power contained in the superposed wave compared to the power contained in each original wave.
--
73, Cecil http://www.w5dxp.com

3818. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 02:33:35 UTC
From: Bob <warthog9@pacbell.net>
Message-ID: <ewDRh.1680$w41.1352@newssvr19.news.prodigy.net>
Source record: 43485
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

Times make great cable but I donï¿½t see any used in CATV or direct to
home satellite installs in my area. If you get the Ripley CAT Universal
tool for the RG-6 compression connectors it will fit all the brands you
mention.
Bob

Ed Nielsen wrote:
> Don't forget Times Fiber at the top right there with CommScope and
> Belden. As far as compression fittings, Snap-N-Seal definitely is in the
> top group, right along with PCT, Digicon, Gilbert, & PPC. The whole
> shebang started with PPC.
>

3819. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 02:34:14 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131e0pcf2aq4g16@corp.supernews.com>
Source record: 43484

Owen Duffy wrote:
> . . .
> My objective isn't so much trying to build a better loss model, but
> rather to use a simple loss model and build the coefficients from
> manufacturer's published data and make that available in the calculator.
>. . .

Unfortunately, manufacturer's published loss data are often quite different than actual cable loss. Belden RG cable I measured long ago was routinely considerably better than the spec -- apparently the spec was dictated by the MIL SPEC, and the cable was manufactured to never exceed it. More recently, I've found that in trying to convince rather naive amateurs to purchase their cable, some manufacturers are claiming considerably lower loss than the cable actually has. So the bottom line is that manufacturer's published data are just so many numbers, and don't necessarily have any direct relationship to any real cable.

Careful scrutiny of real cable will also reveal that the characteristic impedance varies quite a bit, and the velocity factor of foamed dielectric cable is even more variable.

Roy Lewallen, W7EL

3820. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 02:49:48 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <bj1e13hr1iulbqngrs4qe9ngjv5brjr0db@4ax.com>
Source record: 43486

On Fri, 06 Apr 2007 16:29:07 -0700, Jim Kelley <jwkelley@uci.edu> wrote:

>Roy Lewallen wrote:
>
>> As others have pointed out, it's risky to treat c as a variable or
>> medium-dependent speed.
>
>Roy -
>
>The convenient thing about using medium dependent c in that equation
>is that we can use things such as index of refraction or velocity
>factor to convert from vacuum 'c' to 'c' in another medium. The fact
>that it makes the results of the calculation more accurate tends to
>mitigate any risk that might be encumbered when using it.
>
>To require that only vacuum c be used in the equation to me seems
>overly authoritarian. I wonder how you feel about the speed of sound? :-)
>
>73, Jim AC6XG

The speed of sound in a vacuum is measured using the sound of one hand clapping.

Walt

3821. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 02:51:20 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990B82C16462Enonenowhere@61.9.191.5>
Source record: 43487

Roy Lewallen <w7el@eznec.com> wrote in news:131e0pcf2aq4g16
@corp.supernews.com:

> Owen Duffy wrote:
>> . . .
>> My objective isn't so much trying to build a better loss model, but
>> rather to use a simple loss model and build the coefficients from
>> manufacturer's published data and make that available in the
calculator.
> >. . .
>
> Unfortunately, manufacturer's published loss data are often quite
> different than actual cable loss. Belden RG cable I measured long ago
> was routinely considerably better than the spec -- apparently the spec
> was dictated by the MIL SPEC, and the cable was manufactured to never
> exceed it. More recently, I've found that in trying to convince rather
> naive amateurs to purchase their cable, some manufacturers are claiming
> considerably lower loss than the cable actually has. So the bottom line
> is that manufacturer's published data are just so many numbers, and
> don't necessarily have any direct relationship to any real cable.

I understand. One of the cable types that I tried to fit to the loss
model was Davis Bury Flex, and it had the worst regression errors of all
of the 90 line types that I modelled. Of course, some manufacturers data
is an extremely good fit, and I suspect that is a result of fitting their
own measurement data to the same model, then publishing points from the
modelled performance.

>
> Careful scrutiny of real cable will also reveal that the characteristic
> impedance varies quite a bit, and the velocity factor of foamed
> dielectric cable is even more variable.

Agreed... but you have to start somewhere with design, and the
manufacturer's data isn't such a bad place to start. But, I hear your
point that obsessing about model accuracy isn't wise.

Owen

3822. Re: Convert reflection coefficient to Z

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 03:01:54 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131e2d7ojqqhg09@corp.supernews.com>
Source record: 43488

Owen Duffy wrote:
> . . .
> I understand. One of the cable types that I tried to fit to the loss
> model was Davis Bury Flex, and it had the worst regression errors of all
> of the 90 line types that I modelled. . .

Ah, yes, that stuff. It's easy to make it fit a model at about 200 MHz and above -- just flex it a bit until the loss matches your model. At 400 MHz, you'll have even more variation to work with.

Roy Lewallen, W7EL

3823. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 03:03:40 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <no1e13pjcm8o0adp30u3friddkgd1g2r4d@4ax.com>
Source record: 43489

On Fri, 06 Apr 2007 23:03:42 GMT, Cecil Moore <nospam@w5dxp.com> wrote:

>MRW wrote:
>> Any comments? Really, what I'm trying to understand here is: if
>> constructive interference does any good in radiowave propagation. I
>> was thinking that with an increase in amplitude the signal would be
>> able to travel a little further, but the signal received may not be
>> accurate in terms of the information it is conveying.
>
>Antenna gain over isotropic is an application of
>constructive interference. The constructive
>interference must be balanced by an equal amount
>of destructive interference elsewhere to avoid
>violating the conservation of energy principle.

This is what I've been trying to persuade the 'anti's' that whenthe radiation fields from two vertical dipoles
superpose at some point in space, where their magnitudes are equal and are 180ï¿½ out of phase, the wave
cancellation resulting from destructive interference produces a null in a predetermined direction, and thus
prevents those fields from propagating any further in that direction. At the precise instant the null is
produced, the constructive interference following the principle of energy conservation yields an increase in
the field strength in directions away from the null direction. This explains the concept of antenna-pattern
modification, and contradicts the notion that the two fields just plow through each other with no effect on
either.

Keep in mind that the two fields are coherent because they were developed simultaneously from the same source.
It is true, however, that two non-coherent fields from two different sources would just plow through each
other with no effect on either.

Walt, W2D

3824. Stealth antenna material???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 04:30:43 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <ev76n4tpe1@nnrp.linuxfan.it>
Source record: 43490

http://cgi.ebay.com/QUALITY-TELESCOPIC-20-FLAGPOLE-FLAG-POLE-TELESCOPING_W0QQitemZ190097704963QQihZ009QQcategoryZ43536QQssPageNameZWDVWQQrdZ1QQcmdZViewItem

watch the text-wrapping of the URL, it is a long one

JS

3825. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 04:38:06 UTC
From: Steve Barker <ichasetrains@some.yahoo.com>
Message-ID: <xdadnVsfb8WJvYrbnZ2dnUVZ_u-unZ2d@giganews.com>
Source record: 43491
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

cool. I already got the green connector today from another seller $16 for a hundred plus $16 to ship <G> . Still a deal. Going after the tool now.

thanks for the info.

--
Steve Barker

"Carl Navarro" <cnavarro@wcnet.org> wrote in message news:7ntd13lmd6eolfemibjjbc6qkmjj8nbdu9@4ax.com...
> On Fri, 6 Apr 2007 15:58:29 -0500, "Steve Barker"
> <ichasetrains@some.yahoo.com> wrote:
>
>>Carl, is ebay item 320099467506 along the right lines?
>
>
>
> Yep, that's the tool, here's the reference to my Detroit Connection
>
> http://cgi.ebay.com/100-DIGICON-DS6Q-COMPRESSION-CONNECTORS-FOR-RG6-QUAD_W0QQitemZ160077032783QQihZ006QQcategoryZ39803QQcmdZViewItem
>
> Carl

3826. Re: Stealth antenna material???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 04:58:31 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990B9851C6282nonenowhere@61.9.191.5>
Source record: 43492

John Smith I <assemblywizard@gmail.com> wrote in
news:ev76n4tpe1@nnrp.linuxfan.it:

> http://cgi.ebay.com/QUALITY-TELESCOPIC-20-FLAGPOLE-FLAG-POLE-TELESCOPIN
> G_W0QQitemZ190097704963QQihZ009QQcategoryZ43536QQssPageNameZWDVWQQrdZ1Q
> QcmdZViewItem
>
> watch the text-wrapping of the URL, it is a long one
>
> JS
>

At 6m in height, it is nearly long enough to have reasonably good
performance at 7MHz. You would want to ensure reliable, noise free
connection between the sections and devise a suitable insulated mounting.
You could brick a small pedestal at the base to house an auto tuner, and
there you go, a multiband vertical for 40m to 10m.

Fig 2 at http://www.vk1od.net/multibandunloadedvertical/FP-40C.htm might
give some insight into expected performance at 7Mhz.

Owen

3827. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 05:03:51 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990B9938E6143nonenowhere@61.9.191.5>
Source record: 43493

Walter Maxwell <walt@w2du.com> wrote in
news:no1e13pjcm8o0adp30u3friddkgd1g2r4d@4ax.com:

> On Fri, 06 Apr 2007 23:03:42 GMT, Cecil Moore <nospam@w5dxp.com>
> wrote:
>
>>MRW wrote:
>>> Any comments? Really, what I'm trying to understand here is: if
>>> constructive interference does any good in radiowave propagation. I
>>> was thinking that with an increase in amplitude the signal would be
>>> able to travel a little further, but the signal received may not be
>>> accurate in terms of the information it is conveying.
>>
>>Antenna gain over isotropic is an application of
>>constructive interference. The constructive
>>interference must be balanced by an equal amount
>>of destructive interference elsewhere to avoid
>>violating the conservation of energy principle.
>
> This is what I've been trying to persuade the 'anti's' that whenthe
> radiation fields from two vertical dipoles superpose at some point in
> space, where their magnitudes are equal and are 180° out of phase, the
> wave cancellation resulting from destructive interference produces a
> null in a predetermined direction, and thus prevents those fields from
> propagating any further in that direction. At the precise instant the
> null is produced, the constructive interference following the
> principle of energy conservation yields an increase in the field
> strength in directions away from the null direction. This explains the
> concept of antenna-pattern modification, and contradicts the notion
> that the two fields just plow through each other with no effect on
> either.
>

Walt, this seems inconsistent with the approach that I believe you seem
to use in analysing waves in transmission lines where you seem to want to
not only deal with the forward and reverse waves separately (ie to not
collapse them to a resultant V/I ratio at a point), but to deal with
multiply reflected waves travelling in the forward and reverse direction
(which is only necessary in the transient state).

Owen

3828. RG-6 Coaxial Cable for Ham use

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 05:31:53 UTC
From: Nod Dloyd <anon@anon>
Message-ID: <r3vt5.kv4.19.1@news.alt.net>
Source record: 43494
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

I've recently read comments that several Hams have been using the RG-6 coaxial cable instead of the standard RG-8 or other commonly accepted cables such as RG-58.
One said that he buys this RG-6 at one of the home warehouse stores and buys it in 500 foot spools. He said it is far less expensive than the commonly accepted cables we purchase from various Ham outlets.
Yes, it is 75 Ohm cable, but the users of same claim that it works quite well and can withstand higher voltages than advertised and more than one user claimed that they could run 1,500 watts through the cable with no apparent deterioration.

If this is so, then I missed this open *secret*. Any input would be welcome...especially the experiences of you who use it. I just happen to have a spool of this cable in my garage that I purchased at an estate auction some years ago and if it works as said, then I will cancel my order with The Wireman.

Thanks in advance for your comments.

Name and Call withheld to avoid spammers and Usenet flooders.

73

3829. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 06:52:15 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <t1fe13t284libo4npa4cjr1ooim3c8uq9v@4ax.com>
Source record: 43495

On Sat, 07 Apr 2007 03:03:40 GMT, Walter Maxwell <walt@w2du.com>
wrote:

>It is true, however, that two non-coherent fields from two different sources would just plow through each
>other with no effect on either.

Hi Walt,

Well, having broached the topic, it appears time to plunge in once
again.

Several but closely related questions:
What separates "effect" from "no effect?" (They are, afterall, a
rather strict binary outcome.)

Does the binary transition from a one micro-degree longer
cycle (non-coherent) to 0 (coherence) same length cycle really
plunge us into a new physical reality of waves colliding with
rebounds and caroms where formerly there was absolutely no
interaction before?

73's
Richard Clark, KB7QHC

3830. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 11:22:03 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175944923.837964.307360@o5g2000hsb.googlegroups.com>
Source record: 43496

On Apr 6, 11:03 pm, Walter Maxwell <w...@w2du.com> wrote:

> It is true, however, that two non-coherent fields from two different sources would just plow through each
> other with no effect on either.

Can one not change the location of the nulls by changing
the phase relationship of the two sources?

If so, it would seem to me that two non-coherent fields are
simply fields without a constant phase relationship and as
such, the nulls are constantly moving; still present, but
not stationary.

...Keith

3831. Re: Revisiting the Power Explanation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 12:14:14 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <ev81tknqa2@nnrp.linuxfan.it>
Source record: 43497

Cecil Moore wrote:

Cecil:

Put on yer shades, here come some chicks!

8-)
JS

3832. Re: RG-6 Coaxial Cable for Ham use

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 12:22:40 UTC
From: Dee Flint <deeflint01@comcast.net>
Message-ID: <3dqdnYhcma6tEIrbnZ2dnUVZ_hSdnZ2d@comcast.com>
Source record: 43499
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

"Nod Dloyd" <anon@anon> wrote in message news:r3vt5.kv4.19.1@news.alt.net...
> I've recently read comments that several Hams have been using the RG-6
> coaxial cable instead of the standard RG-8 or other commonly accepted
> cables
> such as RG-58.
> One said that he buys this RG-6 at one of the home warehouse stores and
> buys
> it in 500 foot spools. He said it is far less expensive than the commonly
> accepted cables we purchase from various Ham outlets.
> Yes, it is 75 Ohm cable, but the users of same claim that it works quite
> well and can withstand higher voltages than advertised and more than one
> user claimed that they could run 1,500 watts through the cable with no
> apparent deterioration.
>

The 75 ohm part should not (in general) be a problem. You could always use a tuner if there is an issue. However, here are the things you should check.

1. Loss per hundred feet (see the ARRL antenna book) for the frequencies you are going to use. A long run at VHF/UHF might be an issue.
2. Check its rated power versus the power you plan to run. If it's TV cable (which it probably is), I doubt that it is rated very high. I've never checked so can't really say. However, just because some people get away with running 1500 watts through it doesn't mean you should. The deterioration may not be immediately evident. It may simply shorten its life and you'ld be replacing it more often.
3. Check to see it's UV rating. Outdoor environments are hard enough on coax. Some are designed for indoor use and others for outdoor use. If this is the indoor kind, it will deteriorate much faster if used outdoors and you will be replacing it more often.

The antenna system (and this includes the coax) is perhaps the most important part of your setup. It's best to do it right so check on the items I mention. Don't be like the classic case of the fisherman who buys a $500 rod but puts on a $5 reel and nickel fishing line and then is always cussing that the line snarls and the reel jams.

In other words don't be penny wise and pound foolish. Make sure that the coax is suitable for the application.

> If this is so, then I missed this open *secret*. Any input would be
> welcome...especially the experiences of you who use it. I just happen to
> have a spool of this cable in my garage that I purchased at an estate
> auction some years ago and if it works as said, then I will cancel my

> order
> with The Wireman.

I haven't bought coax in a long time (probably due to replace the old by now) but I believe his is rated for outdoor environments and UV exposure.

Dee, N8UZE

3833. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 12:23:06 UTC
From: AndyS <andysharpe@juno.com>
Message-ID: <1175948586.912785.271200@y66g2000hsf.googlegroups.com>
Source record: 43498

Keith Dysart wrote:
> On Apr 6, 11:03 pm, Walter Maxwell <w...@w2du.com> wrote:
>
> > It is true, however, that two non-coherent fields from two different sources would just plow through each
> > other with no effect on either.
>
> Can one not change the location of the nulls by changing
> the phase relationship of the two sources?
>
> If so, it would seem to me that two non-coherent fields are
> simply fields without a constant phase relationship and as
> such, the nulls are constantly moving; still present, but
> not stationary.
>
> ...Keith

Andy writes:
Correct. One example is a television signal that is received from two
sources : 1) a direct line to the transmitting tower and 2) a reflection
from an airplane flying .

Even tho both received signals are generated from the same source,
the reflected signal will be changing in amplitude and phase as the reflector,
the airplane, moves along it's flight path.

The two signals combine at the receiving antenna and the
resultant signal into the receiver will rise and fall, depending on
the resultant amplitude and phase. The maximum can be several
db above the direct signal and the null can be many many db
BELOW the direct signal.

Hence, you see the image come and go for several seconds on
your screen. After several seconds the plane will have moved to a position
such that the reflection doesn't hit your antenna anymore, and the
problem goes away. We've all seen this. In fact, 70 years ago, this
effect (on radio signals) was what inspired the development of
radar.....

Andy W4OAH

3834. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 13:08:49 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <AJMRh.1639$zC.1503@newssvr22.news.prodigy.net>
Source record: 43500

Richard Clark wrote:
> Walter Maxwell <walt@w2du.com> wrote:
>> It is true, however, that two non-coherent fields from two different sources would just plow through each
>> other with no effect on either.
>
> Does the binary transition from a one micro-degree longer
> cycle (non-coherent) to 0 (coherence) same length cycle really
> plunge us into a new physical reality of waves colliding with
> rebounds and caroms where formerly there was absolutely no
> interaction before?

Of course, you are being facetious but the answer is simple.
If the two signals are mutually incoherent, they don't
interfere. Permanent wave cancellation is impossible
between two waves that are not coherent. Hecht in "Optics"
devotes an entire chapter to the "Basics of Coherence Theory".
So do Born and Wolf in "Principles of Optics". Here is what
Walt was obviously saying except in Born and Wolf's words:

"If the two beams originate in the same source, the fluctuations
in the two beams are in general correlated, and the beams are
said to be completely or partially *coherent* depending on
whether the correlation is complete or partial. In beams from
different sources, the fluctuations are completely uncorrelated,
and the beams are said to be mutually *incoherent*. When such
beams from different sources are superposed, no interference is
observed under ordinary experimental conditions, the total intensity
being everywhere the sum of the intensities of the individual beams."

In case you missed it, that says *NO INTERFERENCE* between mutually
incoherent waves. Seems reasonable to say that "no interference"
means the same thing as "no effect".
--
73, Cecil http://www.w5dxp.com

3835. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 13:17:33 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <NRMRh.1640$zC.1185@newssvr22.news.prodigy.net>
Source record: 43501

Keith Dysart wrote:
> On Apr 6, 11:03 pm, Walter Maxwell <w...@w2du.com> wrote:
>
>> It is true, however, that two non-coherent fields from two different sources would just plow through each
>> other with no effect on either.
>
> Can one not change the location of the nulls by changing
> the phase relationship of the two sources?
>
> If so, it would seem to me that two non-coherent fields are
> simply fields without a constant phase relationship and as
> such, the nulls are constantly moving; still present, but
> not stationary.

If the waves are mutually incoherent, there is
NO interference which means no effect on each other.
Constructive and destructive interference is
impossible between two mutually incoherent waves
(under ordinary experimental conditions).
--
73, Cecil http://www.w5dxp.com

3836. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 13:21:15 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <eVMRh.1641$zC.1308@newssvr22.news.prodigy.net>
Source record: 43502

AndyS wrote:
> Hence, you see the image come and go for several seconds on
> your screen.

This seems to fall under the concept of partial
coherence. In "Principles of Optics", Born and Wolf
devote an entire chapter to it.
--
73, Cecil http://www.w5dxp.com

3837. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 13:40:41 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <tbNRh.12768$JZ3.4046@newssvr13.news.prodigy.net>
Source record: 43503

Richard Clark wrote:
> Several but closely related questions:
> What separates "effect" from "no effect?" (They are, afterall, a
> rather strict binary outcome.)

It is a rather strict binary outcome when we are
discussing coherent vs mutually incoherent waves
as Walt obviously was. The gray area in between
to which you are alluding is called "partial
coherence". It is the region between "coherent"
and "mutually incoherent" which makes it three-state,
not binary, much like a logic 0 vs a logic 1 with
an in between region.

We generally would not have to worry about "partial
coherence" in a transmission line but if you want to
nit-pick that subject on rraa, be our guest.
--
73, Cecil http://www.w5dxp.com

3838. Re: RG-6 Coaxial Cable for Ham use

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 14:23:19 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <rPNRh.566$3P3.166@newsread3.news.pas.earthlink.net>
Source record: 43504
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

"Nod Dloyd" <anon@anon> wrote in message news:r3vt5.kv4.19.1@news.alt.net...
> I've recently read comments that several Hams have been using the RG-6
> coaxial cable instead of the standard RG-8 or other commonly accepted
> cables
> such as RG-58.
> One said that he buys this RG-6 at one of the home warehouse stores and
> buys
> it in 500 foot spools. He said it is far less expensive than the commonly
> accepted cables we purchase from various Ham outlets.
> Yes, it is 75 Ohm cable, but the users of same claim that it works quite
> well and can withstand higher voltages than advertised and more than one
> user claimed that they could run 1,500 watts through the cable with no
> apparent deterioration.
>
> If this is so, then I missed this open *secret*. Any input would be
> welcome...especially the experiences of you who use it. I just happen to
> have a spool of this cable in my garage that I purchased at an estate
> auction some years ago and if it works as said, then I will cancel my
> order
> with The Wireman.
>

The 75 ohm cable is fine for usage. There are several minor problems to
watch out for. The major one is most of it is aluminum shielding and can
not be soldered to. The center conductor is often copper coated steel which
is another mechanical problem.
I am not sure about the power rating for the rg-6 but should be fine for the
100 watt rigs. The swr meters may not act correctly with the 77 ohm
cable, but you can still adjust for minimum swr.

3839. Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 14:39:37 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <J2ORh.12771$JZ3.7427@newssvr13.news.prodigy.net>
Source record: 43505

Seems that some people are confused about EM wave interference. Here's a quote from "Optics", by Hecht:

"Optical interference corresponds to the interaction of two or more lightwaves yielding a resultant irradiance that deviates from the sum of the component irradiances."

The units of irradiance are joules/sec/unit-area which are the same units as the Poynting (power flow) vector. So putting Hecht's interference statement into words familiar to RF engineers, we can say:

RF wave interference corresponds to the interaction of two or more RF waves yielding a total Poynting vector that deviates from the sum of the component Poynting vectors.

It follows that if the total Poynting vector does not deviate from the sum of the component Poynting vectors, then there is no interference, by definition.

Here's the kicker to this discussion of interference. Assuming the following wave components are moving in the same path in the same direction:

1. Superposing two mutually incoherent EM waves of equal magnitudes results in a maximum possible intensity that is the sum of the maximum intensities of the two waves, i.e. two times the maximum intensity of a single wave.

2. Superposing two coherent EM waves of equal magnitudes results in a maximum possible intensity that is greater than the sum of the maximum intensities of the two waves, i.e. four times the maximum intensity of a single wave.

In a nutshell, that is the difference between waves that interfere and waves that do not interfere. Light waves that interfere can be twice as bright as light waves that do not interfere. The constructive interference term can double the intensity of the sum of the intensities of the component waves. The extra energy is supplied from areas of destructive interference (or by a local source).
--
73, Cecil http://www.w5dxp.com

3840. Re: RG-6 Coaxial Cable for Ham use

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 14:41:45 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <J4ORh.12772$JZ3.3916@newssvr13.news.prodigy.net>
Source record: 43506
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

Ralph Mowery wrote:
> The 75 ohm cable is fine for usage. There are several minor problems to
> watch out for. The major one is most of it is aluminum shielding and can
> not be soldered to.

There was a guy at the Fort Tuthill hamfest who was
soldering aluminum. Has anyone ever tried his technique
on aluminum coax? I still have some of that aluminum
solder.
--
73, Cecil http://www.w5dxp.com

3841. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 14:47:51 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <a0bf13hbilov100763a147g5bf17gudq08@4ax.com>
Source record: 43507

On Sat, 07 Apr 2007 05:03:51 GMT, Owen Duffy <none@no.where> wrote:

>Walter Maxwell <walt@w2du.com> wrote in
>news:no1e13pjcm8o0adp30u3friddkgd1g2r4d@4ax.com:
>
>> On Fri, 06 Apr 2007 23:03:42 GMT, Cecil Moore <nospam@w5dxp.com>
>> wrote:
>>
>>>MRW wrote:
>>>> Any comments? Really, what I'm trying to understand here is: if
>>>> constructive interference does any good in radiowave propagation. I
>>>> was thinking that with an increase in amplitude the signal would be
>>>> able to travel a little further, but the signal received may not be
>>>> accurate in terms of the information it is conveying.
>>>
>>>Antenna gain over isotropic is an application of
>>>constructive interference. The constructive
>>>interference must be balanced by an equal amount
>>>of destructive interference elsewhere to avoid
>>>violating the conservation of energy principle.
>>
>> This is what I've been trying to persuade the 'anti's' that whenthe
>> radiation fields from two vertical dipoles superpose at some point in
>> space, where their magnitudes are equal and are 180ï¿½ out of phase, the
>> wave cancellation resulting from destructive interference produces a
>> null in a predetermined direction, and thus prevents those fields from
>> propagating any further in that direction. At the precise instant the
>> null is produced, the constructive interference following the
>> principle of energy conservation yields an increase in the field
>> strength in directions away from the null direction. This explains the
>> concept of antenna-pattern modification, and contradicts the notion
>> that the two fields just plow through each other with no effect on
>> either.
>>
>
>Walt, this seems inconsistent with the approach that I believe you seem
>to use in analysing waves in transmission lines where you seem to want to
>not only deal with the forward and reverse waves separately (ie to not
>collapse them to a resultant V/I ratio at a point), but to deal with
>multiply reflected waves travelling in the forward and reverse direction
>(which is only necessary in the transient state).
>
>Owen
>

Owen, it appears that you've misinterpreted my approach. In developing a condition for impedance matching,
such as adding a series or shunt stub at the proper place on a transmission line, the object has always been
to generate a new reflection at the stub point of the opposite phase to that appearing on the line at the stub
point. Thus when the stub reflection and the load reflection superpose at the stub point, the resulting
reflection coefficients of voltage and current form either a virtual open circuit or a virtual short circuit.
These conditions are produced because when the load impedance is greater than Zo, the resultant reflection
coefficient angles at the stub point are 0ï¿½ for voltage and 180ï¿½ for current, establishing a virtual open
circuit at the stub point to rearward traveling waves. When the load impedance is less than Zo, the resultant
reflection coefficient angles are 180ï¿½ for voltage and 0ï¿½ for current, establishing a virtual short circuit at
the stub point for rearward traveling waves.

If you want more details on how the resultant reflection coefficients are developed I'll be glad to furnish
it.

Walt, W2DU

3842. Re: RG-6 Coaxial Cable for Ham use

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 15:12:10 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <ev8cbaeut1@nnrp.linuxfan.it>
Source record: 43508
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc

Cecil Moore wrote:
> Ralph Mowery wrote:
>> The 75 ohm cable is fine for usage. There are several minor problems
>> to watch out for. The major one is most of it is aluminum shielding
>> and can not be soldered to.
>
> There was a guy at the Fort Tuthill hamfest who was
> soldering aluminum. Has anyone ever tried his technique
> on aluminum coax? I still have some of that aluminum
> solder.

Cecil:

Has been my lot that the "solder" is the least important part (got 60/40
to work) ...

Aluminum has the nasty habit of oxidizing almost immediately on
cleaning/brightening. I have had some luck by using a silicone oil/lub
on the braid and scrubbing/sanding the braid clean and then soldering.

Your milage may vary ...

Regards,
JS

3843. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 15:14:25 UTC
From: Ed Nielsen <eblcb@dslr.net>
Message-ID: <n4OdnR5DpKADKIrbnZ2dnUVZ_silnZ2d@comcast.com>
Source record: 43509
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

I started using Times when I started in cable in '85. Have used the other 2 aforementioned brands, but still spec Times for our systems.

That tool, as well as three of the ones listed here http://www.cencom94.com/gpage.html2.html (CT-FBR, PCT-DRS-CT, & PCT-DRS-CT-AS), Cable Pro's LCCT-1, and many others fit those fittings. Only sort of exception in that group of fittings is PPC. They originally started out with the EX Series, which is about 19mm in length. Then others started making compression connectors that were 21mm in length, which is what the majority of them are. A few years ago, AT&T Broadband pushed PPC into making a 21mm fitting, which they labeled EXXL. PCT also has a Universal connector (TRS Series) which is a different length.
--

CIAO!

Ed N.

"Bob" <warthog9@pacbell.net> wrote in message news:ewDRh.1680$w41.1352@newssvr19.news.prodigy.net...
> Times make great cable but I doni¿½t see any used in CATV or direct to home
> satellite installs in my area. If you get the Ripley CAT Universal tool
> for the RG-6 compression connectors it will fit all the brands you
> mention.
> Bob
>
>
> Ed Nielsen wrote:
>> Don't forget Times Fiber at the top right there with CommScope and
>> Belden. As far as compression fittings, Snap-N-Seal definitely is in the
>> top group, right along with PCT, Digicon, Gilbert, & PPC. The whole
>> shebang started with PPC.
>>

3844. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 15:24:06 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <qIORh.260259$5j1.242440@bgtnsc04-news.ops.worldnet.att.net>
Source record: 43510

Cecil Moore wrote:
> AndyS wrote:
>> Hence, you see the image come and go for several seconds on
>> your screen.
>
> This seems to fall under the concept of partial
> coherence. In "Principles of Optics", Born and Wolf
> devote an entire chapter to it.

Cecil,

In my line of work I get to deal with partial coherence every day. The fading of TV signals due to multipath reflections from airplanes is not at all what B&W are describing.

73,
Gene
W4SZ

3845. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 15:55:58 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1175961358.730495.236970@b75g2000hsg.googlegroups.com>
Source record: 43511

On Apr 7, 9:17 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > On Apr 6, 11:03 pm, Walter Maxwell <w...@w2du.com> wrote:
>
> >> It is true, however, that two non-coherent fields from two different sources would just plow through each
> >> other with no effect on either.
>
> > Can one not change the location of the nulls by changing
> > the phase relationship of the two sources?
>
> > If so, it would seem to me that two non-coherent fields are
> > simply fields without a constant phase relationship and as
> > such, the nulls are constantly moving; still present, but
> > not stationary.
>
> If the waves are mutually incoherent, there is
> NO interference which means no effect on each other.
> Constructive and destructive interference is
> impossible between two mutually incoherent waves
> (under ordinary experimental conditions).

By "NO interference" did you mean "sufficiently close to zero
that it can be ignored for engineering purposes", or "exactly
zero"?

If the former, a bit more precision in your writing would be
valuable. The use of CAPITALs certainly suggests the latter.

If the latter, how incoherent do the waves have to be before
the interference suddenly drops to ZERO.

...Keith

3846. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 16:06:15 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <XjPRh.3085$H_5.1682@newssvr23.news.prodigy.net>
Source record: 43512

Keith Dysart wrote:
> By "NO interference" did you mean "sufficiently close to zero
> that it can be ignored for engineering purposes", or "exactly
> zero"?

If *mutually incoherent*, then exactly zero, according to
Born and Wolf. "Mutually incoherent" excludes any possibility
of coherency.

> If the former, a bit more precision in your writing would be
> valuable. The use of CAPITALs certainly suggests the latter.

Note that I didn't say anything about partially coherent
waves or partially incoherent waves. Whether two waves are
coherent or mutually incoherent is indeed a binary situation.
Any middle ground is thus excluded from my statements.

> If the latter, how incoherent do the waves have to be before
> the interference suddenly drops to ZERO.

I believe mutually incoherent means the same thing as
perfectly incoherent.
--
73, Cecil http://www.w5dxp.com

3847. Aerial mounting on Freelander

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 16:07:08 UTC
From: Demon News <martin@g1gyc.demon.co.uk>
Message-ID: <ev8fjcpie1$8300dec7@news.demon.co.uk>
Source record: 43513
Cross-posted to: rec.radio.amateur.antenna,uk.radio.amateur

Hi all,
Looks like time to exchange cars and have an interest in a Landrover
Freelander
was woundering if any one in the group has experience of aerila mounting on
this
vehicle ?
looking for several mountting positions ideally .....
VHF / UHF (2m and 70cm), VHF (4m and/or 6m) and an HF aerial (80m - 10m)

I know I can use a magmount but I want a couple of permant mounts and was
woundering what others have done.

TTFN es 73 Martin

3848. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 16:10:03 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <vnPRh.23150$VU4.8044@bgtnsc05-news.ops.worldnet.att.net>
Source record: 43514

Walter Maxwell wrote:
> On Fri, 06 Apr 2007 23:03:42 GMT, Cecil Moore <nospam@w5dxp.com> wrote:
>
>> MRW wrote:
>>> Any comments? Really, what I'm trying to understand here is: if
>>> constructive interference does any good in radiowave propagation. I
>>> was thinking that with an increase in amplitude the signal would be
>>> able to travel a little further, but the signal received may not be
>>> accurate in terms of the information it is conveying.
>> Antenna gain over isotropic is an application of
>> constructive interference. The constructive
>> interference must be balanced by an equal amount
>> of destructive interference elsewhere to avoid
>> violating the conservation of energy principle.
>
> This is what I've been trying to persuade the 'anti's' that whenthe radiation fields from
two vertical dipoles
> superpose at some point in space, where their magnitudes are equal and are 180ï¿½ out of
phase, the wave
> cancellation resulting from destructive interference produces a null in a predetermined
direction, and thus
> prevents those fields from propagating any further in that direction. At the precise
instant the null is
> produced, the constructive interference following the principle of energy conservation
yields an increase in
> the field strength in directions away from the null direction. This explains the concept
of antenna-pattern
> modification, and contradicts the notion that the two fields just plow through each other
with no effect on
> either.
>
> Keep in mind that the two fields are coherent because they were developed simultaneously
from the same source.
> It is true, however, that two non-coherent fields from two different sources would just
plow through each
> other with no effect on either.
>
> Walt, W2D

Walt,

Your observation is "correct" only in the case that most people consider
for practical reasons. The calculation showing the null behavior is
almost invariably performed at infinite distant from the sources, i.e.,
far field condition. The path from each source to the observation point

is considered to be exactly parallel.

As you know, there are usually three or more linear dimensions that enter into radiation calculations. In the case of two sources there are four:

Wavelength
Size of each source
Distance between sources
Distance to the observation point

In the typical "null" presentation, such as that shown in the ARRL publications, the distance to the observation point in always large.

Lets take another case, however. Suppose the distance between the sources is some what larger than the wavelength. Make it large enough so there is a region between the sources that would be considered far field from each of the sources. Now calculate the phase differences along some direction from the center point between the sources that eventually points to a null region in the infinite distance. Don't pick an obviously symmetric direction, such as broadside or end-fire, as that would be a special case.

What you will find is that when looking at the phase difference along the ultimate null direction is that there is no such null much closer to the sources. The paths from the individual sources are not parallel in this case. The null "line" is actually a curve. The waves pass right through each other in the closer region. The "passing waves" then go on to form nulls in the infinite distance. The nulls in the closer region are not in the same directions as the nulls in the far field.

Again, the ground rules:

Totally coherent, monochromatic sources
Fixed phase difference
Far field conditions for each source

There are no "tricks" here; this is just a matter of simple geometry. However, it shows that the null you believe demonstrates some permanent interaction and annihilation of EM waves is simply a special case.

In classical, non-cosmic, non-relativistic conditions EM waves do not interact in free space. This condition is so widely understood in the scientific world that it becomes a prime candidate for argument on RRAA.

8-)

73,
Gene
W4SZ

3849. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 16:17:04 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <eagf13966qm36jdhfv15jqredgiq6volv2@4ax.com>
Source record: 43515

On 7 Apr 2007 08:55:58 -0700, "Keith Dysart" <kd1@sympatico.ca> wrote:

>> If the waves are mutually incoherent, there is
>> NO interference which means no effect on each other.
>> Constructive and destructive interference is
>> impossible between two mutually incoherent waves
>> (under ordinary experimental conditions).
>
>By "NO interference" did you mean "sufficiently close to zero
>that it can be ignored for engineering purposes", or "exactly
>zero"?

Hi Keith,

Your question of parsing "NO" reveals one of those binary shifts in an otherwise analog word that has me puzzled too. There is also the amusing "mutually incoherent" redundancy. Aside from these sophisms, there is a conceptual, quixotic tilting at windmills in the phrase:
>>no effect on each other
as if waves ever affected each other (irrespective of coherence - mutuality notwithstanding).

If the past is an indicator of future activity, this topic is about to split into other discussion with a desperate attempt to appear to be answering for these strange theses.

73's
Richard Clark, KB7QHC

3850. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 16:43:07 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <vSPRh.6251$YL5.655@newssvr29.news.prodigy.net>
Source record: 43516

Gene Fuller wrote:
> However, it shows that the null you believe demonstrates some permanent
> interaction and annihilation of EM waves is simply a special case.

http://micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/waveinteractions/index.html

"... when two waves of equal amplitude and wavelength that are
180-degrees ... out of phase with each other meet, they are not
actually annihilated, ... All of the photon energy present in
these waves must somehow be recovered or redistributed in a new
direction, according to the law of energy conservation ... Instead,
upon meeting, the photons are redistributed to regions that permit
constructive interference, so the effect should be considered as a
redistribution of light waves and photon energy rather than the
spontaneous construction or destruction of light."

> In classical, non-cosmic, non-relativistic conditions EM waves do not
> interact in free space. This condition is so widely understood in the
> scientific world that it becomes a prime candidate for argument on RRAA.

Florida State University seems to disagree. "Upon meeting"
in free space, the interfering photons are "redistributed".
RF waves are EM waves. Just because we cannot see them is
no reason to assert that they act differently from EM waves
that we can see.

Hecht, in "Optics", says about interference:

"At various points in space, the resultant irradiance can
be greater, less than, or equal to I1 + I2 depending on
the value of I12 ..." I12 is previously defined as the
interference term. Hecht's "various points in space"
seem to contradict your assertion that waves "do not
interact in free space".

From Born and Wolf: "Thus if light from a source is divided
by suitable apparatus into two beams which are then superposed,
the intensity in the region of superposition is found to vary
from point to point between maxima which exceed the sum of the
intensities in the beams, and minima which may be zero."

If "region of superposition" is not referring to the free
space point of interference, to what is it referring?

When one can see with one's own eyes the interaction of
two light beams in free space, how can you possibly deny

the existence of that interaction?
--
73, Cecil http://www.w5dxp.com

3851. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 16:48:23 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <qXPRh.1824$Q23.782@newssvr17.news.prodigy.net>
Source record: 43517

Richard Clark wrote:
> There is also the
> amusing "mutually incoherent" redundancy.

Not my words, Richard - they are straight from Born and Wolf.
Do you really think Born and Wolf would engage in "redundancy"
if it were meaningless. Suggest that you learn the difference
between mutually inclusive and mutually exclusive.

> Aside from these sophisms,
> there is a conceptual, quixotic tilting at windmills in the phrase:
>>> no effect on each other
> as if waves ever affected each other (irrespective of coherence -
> mutuality notwithstanding).

Coherent waves can and do affect each other. It's called
interference where the sum of the intensities is different
from the intensity of the sums. Incidentally, the intensity
of the sums is the mistake you made when you calculated
the reflection from non-reflective glass to be brighter
than the surface of the sun.
--
73, Cecil http://www.w5dxp.com

3852. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 16:56:19 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <S2QRh.1826$Q23.1245@newssvr17.news.prodigy.net>
Source record: 43518

Cecil Moore wrote:
> Incidentally, the intensity of the sums
^^^^^^^^^^^^^^^^^^^^
> is the mistake you made when you calculated
> the reflection from non-reflective glass to be brighter
> than the surface of the sun.

Sorry, that should be the "sum of the intensities".
The intensity of the sums is the way to correctly
calculate total intensity. The sum of the intensities
yields an incorrect answer as Richard earlier discovered
with his "reflections brighter than the surface of the
sun" calculation.
--
73, Cecil http://www.w5dxp.com

3853. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 16:57:42 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <65jf13p4g6al22au9nu7mv6i2oa3kouhi7@4ax.com>
Source record: 43519

On Sat, 07 Apr 2007 16:10:03 GMT, Gene Fuller <W4SZzzzzzz@att.net> wrote:

>Walter Maxwell wrote:
>> On Fri, 06 Apr 2007 23:03:42 GMT, Cecil Moore <nospam@w5dxp.com> wrote:
>>
>>> MRW wrote:
>>>> Any comments? Really, what I'm trying to understand here is: if
>>>> constructive interference does any good in radiowave propagation. I
>>>> was thinking that with an increase in amplitude the signal would be
>>>> able to travel a little further, but the signal received may not be
>>>> accurate in terms of the information it is conveying.
>>> Antenna gain over isotropic is an application of
>>> constructive interference. The constructive
>>> interference must be balanced by an equal amount
>>> of destructive interference elsewhere to avoid
>>> violating the conservation of energy principle.
>>
>> This is what I've been trying to persuade the 'anti's' that whenthe radiation fields
from two vertical dipoles
>> superpose at some point in space, where their magnitudes are equal and are 180ï¿½ out of
phase, the wave
>> cancellation resulting from destructive interference produces a null in a predetermined
direction, and thus
>> prevents those fields from propagating any further in that direction. At the precise
instant the null is
>> produced, the constructive interference following the principle of energy conservation
yields an increase in
>> the field strength in directions away from the null direction. This explains the concept
of antenna-pattern
>> modification, and contradicts the notion that the two fields just plow through each
other with no effect on
>> either.
>>
>> Keep in mind that the two fields are coherent because they were developed simultaneously
from the same source.
>> It is true, however, that two non-coherent fields from two different sources would just
plow through each
>> other with no effect on either.
>>
>> Walt, W2D
>
>Walt,
>
>Your observation is "correct" only in the case that most people consider

> for practical reasons. The calculation showing the null behavior is
>almost invariably performed at infinite distant from the sources, i.e.,
>far field condition. The path from each source to the observation point
>is considered to be exactly parallel.
>
>As you know, there are usually three or more linear dimensions that
>enter into radiation calculations. In the case of two sources there are
>four:
>
>Wavelength
>Size of each source
>Distance between sources
>Distance to the observation point
>
>In the typical "null" presentation, such as that shown in the ARRL
>publications, the distance to the observation point in always large.
>
>Lets take another case, however. Suppose the distance between the
>sources is some what larger than the wavelength. Make it large enough so
>there is a region between the sources that would be considered far field
>from each of the sources. Now calculate the phase differences along some
>direction from the center point between the sources that eventually
>points to a null region in the infinite distance. Don't pick an
>obviously symmetric direction, such as broadside or end-fire, as that
>would be a special case.
>
>What you will find is that when looking at the phase difference along
>the ultimate null direction is that there is no such null much closer to
>the sources. The paths from the individual sources are not parallel in
>this case. The null "line" is actually a curve. The waves pass right
>through each other in the closer region. The "passing waves" then go on
>to form nulls in the infinite distance. The nulls in the closer region
>are not in the same directions as the nulls in the far field.
>
>Again, the ground rules:
>
>Totally coherent, monochromatic sources
>Fixed phase difference
>Far field conditions for each source
>
>There are no "tricks" here; this is just a matter of simple geometry.
>However, it shows that the null you believe demonstrates some permanent
>interaction and annihilation of EM waves is simply a special case.
>
>In classical, non-cosmic, non-relativistic conditions EM waves do not
>interact in free space. This condition is so widely understood in the
>scientific world that it becomes a prime candidate for argument on RRAA.
>
>8-)
>

>73,
>Gene
>W4SZ

Gene, at this point I can't disagree with you. However, in your next to the last paragraph in your post above,
if I interpret you correctly, you are saying that all directional arrays, such as are used in AM broadcasting,
are considered 'special' cases. Is that what you mean't to infer?

Walt, W2DU

3854. Re: RG-6 Coaxial Cable for Ham use

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 17:03:23 UTC
From: Mark@kb9rqz.org
Message-ID: <rljf131fuc18bitebcsds2ncnucdo2hud0@4ax.com>
Source record: 43520
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

On Sat, 7 Apr 2007 12:48:25 -0400, "an old friend two some a nightmare
two marqueer" <mork@marqueer.com> wrote:

>

more threadjacking amazing how the forgers will leave nothing alone
and that is just fine with Dloyd

http://kb9rqz.blogspot.com
stealing data from my wifes accounts is unaccaptable

demdning I do what you conceed I can not or suffer
further attack is unacepteable
Dloyd Lavies renagade cyber theif and terroist

--
Posted via a free Usenet account from http://www.teranews.com

3855. only in your dreams woger

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 17:30:54 UTC
From: Mark@kb9rqz.org
Message-ID: <0alf13h4dph8aohntdjnjdm5t1vulup76c@4ax.com>
Source record: 43521
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.policy

On Sat, 7 Apr 2007 12:50:25 -0400, "an old friend two some a nightmare
two marqueer" <mork@marqueer.com> wrote:

>

only in your dreams woger

http://kb9rqz.blogspot.com
stealing data from my wifes accounts is unaccaptable

demdning I do what you conceed I can not or suffer
further attack is unacepteable
Dloyd Lavies renagade cyber theif and terroist

--
Posted via a free Usenet account from http://www.teranews.com

3856. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 17:43:15 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <bulf135d8p8et97iemtpamf42cop8vdfsk@4ax.com>
Source record: 43522

On Sat, 07 Apr 2007 11:48:23 -0500, Cecil Moore <nospam@w5dxp.com>
wrote:

>> There is also the
>> amusing "mutually incoherent" redundancy.
>
>Not my words, Richard - they are straight from Born and Wolf.
>Do you really think Born and Wolf would engage in "redundancy"
>if it were meaningless.

Poor language is not excused by example. Being meaningless I leave to
your interpretations, however.

This only reveal two incidents that are amusements.

Are you sleeping with Born and Wolf now?

3857. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 17:59:03 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <HZQRh.6259$YL5.5888@newssvr29.news.prodigy.net>
Source record: 43523

Richard Clark wrote:
> Poor language is not excused by example. Being meaningless I leave to
> your interpretations, however.

You seem to have missed (Born and Wolf)'s point.
Between coherent and mutually incoherent is
a span of signals which they call partially
incoherent. There are degrees of incoherency
as can be seen from your postings. :-)
--
73, Cecil http://www.w5dxp.com

3858. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 18:44:58 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <KERRh.6616$u03.5688@newssvr21.news.prodigy.net>
Source record: 43524

Owen Duffy wrote:
> Walt, this seems inconsistent with the approach that I believe you seem
> to use in analysing waves in transmission lines where you seem to want to
> not only deal with the forward and reverse waves separately (ie to not
> collapse them to a resultant V/I ratio at a point), but to deal with
> multiply reflected waves travelling in the forward and reverse direction
> (which is only necessary in the transient state).

I think what Walt is trying to do is explain that there is
no interference at power up. As the reflections build up,
the interference builds up, until there is total
destructive interference toward the source during steady-
state and total constructive interference toward the load.
Without interference, a Z0-match would not be possible.

The principle of superposition gives us permission to
analyze the forward and reverse separately and collapse
them to a resultant V/I ratio later. If one wants
to use the simplified mashed-potatoes approach, that is
OK since the results are the same in either case.
--
73, Cecil http://www.w5dxp.com

3859. Re: Aerial mounting on Freelander

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 19:42:32 UTC
From: Ken Ward <ken.g1itv@MTLworld.com>
Message-ID: <IuSRh.656$tl2.104@newsfe4-win.ntli.net>
Source record: 43525
Cross-posted to: rec.radio.amateur.antenna,uk.radio.amateur

"Demon News" <martin@g1gyc.demon.co.uk> wrote in message
news:ev8fjcpie1$8300dec7@news.demon.co.uk...
> Hi all,
> Looks like time to exchange cars and have an interest in a Landrover
> Freelander
> was woundering if any one in the group has experience of aerila mounting
> on this
> vehicle ?
> looking for several mountting positions ideally .....
> VHF / UHF (2m and 70cm), VHF (4m and/or 6m) and an HF aerial (80m - 10m)
>
> I know I can use a magmount but I want a couple of permant mounts and was
> woundering what others have done.

Martin, I have a Black & Decker D500 you can borrow if your passing.

Ken G1ITV.

3860. Re: RG-6 Coaxial Cable for Ham use

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 19:51:00 UTC
From: Tam/WB2TT <t-tammaru@c0mca$t.net>
Message-ID: <bPCdndJf5YiSa4rbnZ2dnUVZ_s2vnZ2d@comcast.com>
Source record: 43526
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

"Nod Dloyd" <anon@anon> wrote in message news:r3vt5.kv4.19.1@news.alt.net...
> I've recently read comments that several Hams have been using the RG-6
> coaxial cable instead of the standard RG-8 or other commonly accepted
> cables
> such as RG-58.
> One said that he buys this RG-6 at one of the home warehouse stores and
> buys
> it in 500 foot spools. He said it is far less expensive than the commonly
> accepted cables we purchase from various Ham outlets.
> Yes, it is 75 Ohm cable, but the users of same claim that it works quite
> well and can withstand higher voltages than advertised and more than one
> user claimed that they could run 1,500 watts through the cable with no
> apparent deterioration.
>
> If this is so, then I missed this open *secret*. Any input would be
> welcome...especially the experiences of you who use it. I just happen to
> have a spool of this cable in my garage that I purchased at an estate
> auction some years ago and if it works as said, then I will cancel my
> order
> with The Wireman.
>
> Thanks in advance for your comments.
>
> Name and Call withheld to avoid spammers and Usenet flooders.
>
> 73
>
>
I would not run it up the tower, or anywhere else that is hard to get at.
Without spending an arm and a leg, use crimp on connectors. I have some
PL259 type crimp ons (Digikey), and they work fine, even at a KW+. I did
solder the center conductor on the LMR240 (same diameter as RG6). The center
conductor might be way too small for the hole in the connector; in that case
stuff some pieces of wire in next to the center conductor so you are not
connected through solder only.

Tam/WB2TT

3861. Re: RG-6 Coaxial Cable for Ham use

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 19:58:28 UTC
From: "Mrak@kb9rqz.org" <anon@anon>
Message-ID: <r5ilu.g5v.17.1@news.alt.net>
Source record: 43377
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

"Tam/WB2TT" <t-tammaru@c0mca$t.net> wrote in message
news:bPCdndJf5YiSa4rbnZ2dnUVZ_s2vnZ2d@comcast.com...
>
> "Nod Dloyd" <anon@anon> wrote in message
news:r3vt5.kv4.19.1@news.alt.net...
> > I've recently read comments that several Hams have been using the RG-6
> > coaxial cable instead of the standard RG-8 or other commonly accepted
> > cables
> > such as RG-58.
> > One said that he buys this RG-6 at one of the home warehouse stores and
> > buys
> > it in 500 foot spools. He said it is far less expensive than the
commonly
> > accepted cables we purchase from various Ham outlets.
> > Yes, it is 75 Ohm cable, but the users of same claim that it works quite
> > well and can withstand higher voltages than advertised and more than one
> > user claimed that they could run 1,500 watts through the cable with no
> > apparent deterioration.
> >
> > If this is so, then I missed this open *secret*. Any input would be
> > welcome...especially the experiences of you who use it. I just happen to
> > have a spool of this cable in my garage that I purchased at an estate
> > auction some years ago and if it works as said, then I will cancel my
> > order
> > with The Wireman.
> >
> > Thanks in advance for your comments.
> >
> > Name and Call withheld to avoid spammers and Usenet flooders.
> >
> > 73
> >
> >
> I would not run it up the tower, or anywhere else that is hard to get at.
> Without spending an arm and a leg, use crimp on connectors. I have some
> PL259 type crimp ons (Digikey), and they work fine, even at a KW+. I did
> solder the center conductor on the LMR240 (same diameter as RG6). The
center
> conductor might be way too small for the hole in the connector; in that
case
> stuff some pieces of wire in next to the center conductor so you are not
> connected through solder only.
>

> Tam/WB2TT
>
I might point out to Dee that the RG-6 I see is indeed meant for outdoor
use. Our local dish installers us it as their standard feedline.

3862. Re: RG-6 Coaxial Cable for Ham use

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 20:35:22 UTC
From: Tam/WB2TT <t-tammaru@c0mca$t.net>
Message-ID: <bOqdnUC_PYbpnYXbnZ2dnUVZ_g-dnZ2d@comcast.com>
Source record: 43378
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

"Mrak@kb9rqz.org" <anon@anon> wrote in message
news:r5ilu.g5v.17.1@news.alt.net...
>
> "Tam/WB2TT" <t-tammaru@c0mca$t.net> wrote in message
> news:bPCdndJf5YiSa4rbnZ2dnUVZ_s2vnZ2d@comcast.com...
>>
>> "Nod Dloyd" <anon@anon> wrote in message
> news:r3vt5.kv4.19.1@news.alt.net...
>> > I've recently read comments that several Hams have been using the RG-6
>> > coaxial cable instead of the standard RG-8 or other commonly accepted
>> > cables
>> > such as RG-58.
>> > One said that he buys this RG-6 at one of the home warehouse stores and
>> > buys
>> > it in 500 foot spools. He said it is far less expensive than the
> commonly
>> > accepted cables we purchase from various Ham outlets.
>> > Yes, it is 75 Ohm cable, but the users of same claim that it works
>> > quite
>> > well and can withstand higher voltages than advertised and more than
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>> > apparent deterioration.
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>> > If this is so, then I missed this open *secret*. Any input would be
>> > welcome...especially the experiences of you who use it. I just happen
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>> I would not run it up the tower, or anywhere else that is hard to get at.
>> Without spending an arm and a leg, use crimp on connectors. I have some
>> PL259 type crimp ons (Digikey), and they work fine, even at a KW+. I did
>> solder the center conductor on the LMR240 (same diameter as RG6). The

> center
>> conductor might be way too small for the hole in the connector; in that
> case
>> stuff some pieces of wire in next to the center conductor so you are not
>> connected through solder only.
>>
>> Tam/WB2TT
>>
> I might point out to Dee that the RG-6 I see is indeed meant for outdoor
> use. Our local dish installers us it as their standard feedline.
>
Of the few samples that I looked at, the black RG6 was outdoor rated, the white jacketed was not. Kind of makes sense. Didn't see any power ratings at the Belden site, but I seem to recall seeing ratings in the few hundred W range.

Tam/WB2TT

3863. Re: Aerial mounting on Freelander

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 20:44:49 UTC
From: Theo <theodore.twyler@ntlworld.com>
Message-ID: <5pTRh.8948$cj.5466@newsfe6-gui.ntli.net>
Source record: 43379
Cross-posted to: rec.radio.amateur.antenna,uk.radio.amateur

I know I can use a magmount but I want a couple of permant mounts and was
woundering what others have done.

Martin, I have a Black & Decker D500 you can borrow if your passing.

You will certainly inflict plenty of "woundering" to the Freelander body
work using that!!

3864. advertize your web busibess

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 20:58:30 UTC
From: h <w@w.biz>
Message-ID: <131g1g05bjs1243@corp.supernews.com>
Source record: 43380
Cross-posted to: alt.ham-radio.morse,alt.ham-radio.uwave,alt.ham-radio.vhf-uhf,alt.radio.cb.skip,alt.radio.networks.cbc,fido.ger.shortwave,rec.radio.amateur.antenna

http://www.adsubmission.net

3865. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 21:16:06 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990C49EB6CF92nonenowhere@61.9.191.5>
Source record: 43381

Walter Maxwell <walt@w2du.com> wrote in
news:a0bf13hbilov100763a147g5bf17gudq08@4ax.com:

> On Sat, 07 Apr 2007 05:03:51 GMT, Owen Duffy <none@no.where> wrote:
>
>>Walter Maxwell <walt@w2du.com> wrote in
>>news:no1e13pjcm8o0adp30u3friddkgd1g2r4d@4ax.com:
>>
>>> On Fri, 06 Apr 2007 23:03:42 GMT, Cecil Moore <nospam@w5dxp.com>
>>> wrote:
>>>
>>>>MRW wrote:
>>>>> Any comments? Really, what I'm trying to understand here is: if
>>>>> constructive interference does any good in radiowave propagation.
>>>>> I was thinking that with an increase in amplitude the signal would
>>>>> be able to travel a little further, but the signal received may
>>>>> not be accurate in terms of the information it is conveying.
>>>>
>>>>Antenna gain over isotropic is an application of
>>>>constructive interference. The constructive
>>>>interference must be balanced by an equal amount
>>>>of destructive interference elsewhere to avoid
>>>>violating the conservation of energy principle.
>>>
>>> This is what I've been trying to persuade the 'anti's' that whenthe
>>> radiation fields from two vertical dipoles superpose at some point
>>> in space, where their magnitudes are equal and are 180° out of
>>> phase, the wave cancellation resulting from destructive interference
>>> produces a null in a predetermined direction, and thus prevents
>>> those fields from propagating any further in that direction. At the
>>> precise instant the null is produced, the constructive interference
>>> following the principle of energy conservation yields an increase in
>>> the field strength in directions away from the null direction. This
>>> explains the concept of antenna-pattern modification, and
>>> contradicts the notion that the two fields just plow through each
>>> other with no effect on either.
>>>
>>
>>Walt, this seems inconsistent with the approach that I believe you
>>seem to use in analysing waves in transmission lines where you seem to
>>want to not only deal with the forward and reverse waves separately
>>(ie to not collapse them to a resultant V/I ratio at a point), but to
>>deal with multiply reflected waves travelling in the forward and

>>reverse direction (which is only necessary in the transient state).
>>
>>Owen
>>
> Owen, it appears that you've misinterpreted my approach. In developing
> a condition for impedance matching, such as adding a series or shunt
> stub at the proper place on a transmission line, the object has always
> been to generate a new reflection at the stub point of the opposite
> phase to that appearing on the line at the stub point. Thus when the
> stub reflection and the load reflection superpose at the stub point,
> the resulting reflection coefficients of voltage and current form
> either a virtual open circuit or a virtual short circuit. These
> conditions are produced because when the load impedance is greater
> than Zo, the resultant reflection coefficient angles at the stub point
> are 0° for voltage and 180° for current, establishing a virtual open
> circuit at the stub point to rearward traveling waves. When the load
> impedance is less than Zo, the resultant reflection coefficient angles
> are 180° for voltage and 0° for current, establishing a virtual short
> circuit at the stub point for rearward traveling waves.

Hi Walt,

I read the above, and I think I can see what you are getting at, however I think it is flawed.

If you were to try to extend this method to explain the common two stub tuner (where the length of the stubs is adjustable and the distance between them is fixed), you will have to deal with a situation where the load end stub junction does not present the "virtual o/c or s/c" you describe, your "total re-reflector concept" and you come to need to calculate the situation on the source side of the load end stub (possibly by conventional methods?).

Walk your explanation around a Smith chart, and explain why, if the principles on which your explanation are based are correct, why energy fills a 3/4 wave hi Q coaxial resonator rather than being blocked by the virtual s/c or o/c at the first voltage minimum or current minimum.

Someone else persuing the theme that reflected waves always travel all the way back to the source, seems to come to a position that some kinds of matching produce a complementary reflected wave, and that really there are two (or more) reflected waves, its just that they have zero net energy. Some of us would accept that if the resultant is zero, there is no wave. Otherwise, you would see a multitude of net-zero waves all around us to complicate every analysis.

These "new" and alternative explanations are questionable and don't seem better than the conventional explanations of a transmission line that are set out in just about any reputable transmission lines text. What advantages do these explanation have, who are they targeted at? Is the "total re-reflector" concept to appeal to a dumbed down audience who can get their mind around a bunch of words that describe specific situations

in a simple and appealing way, but an incorrect explanation nonetheless?

I think it is a real challenge to teach people a simple explanation of what happens without telling them convenient lies that have to be unlearned to develop further. The "reflected wave is (always) dissipated in the PA as heat" is an example of one of those convenient lies.

Owen

3866. Re: Aerial mounting on Freelander

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 21:24:24 UTC
From: Martin g1gyc <News.Martin@g1gyc.demon.co.uk>
Message-ID: <ev926p$nd0$1$8302bc10@news.demon.co.uk>
Source record: 43382
Cross-posted to: rec.radio.amateur.antenna,uk.radio.amateur

>
> Martin, I have a Black & Decker D500 you can borrow if your passing.
>
> Ken G1ITV.
>
Not what I had in mind ....
but I have a DeWalt but I am not going to get into Power Tool Envy

Martin

3867. Re: Aerial mounting on Freelander

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 21:32:44 UTC
From: Smiffy <not@home.adress.invalid>
Message-ID: <r5o6t.781.19.1@news.alt.net>
Source record: 43383
Cross-posted to: rec.radio.amateur.antenna,uk.radio.amateur

Martin g1gyc wrote:
>> Martin, I have a Black & Decker D500 you can borrow if your passing.
>>
>> Ken G1ITV.
>>
> Not what I had in mind ....
> but I have a DeWalt

Is that a QSL from G3NYY ? :-)

3868. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 21:46:44 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990C4F1D31CA7nonenowhere@61.9.191.5>
Source record: 43384

Cecil Moore <nospam@w5dxp.com> wrote in news:J2ORh.12771$JZ3.7427
@newssvr13.news.prodigy.net:

clipped... a logically developed argument

> is the sum of the maximum intensities of the two waves,

Now runs loose on a term ("intensity") not linked the the previous
development.

Owen

3869. Re: Interference

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 22:24:14 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1175984654.405254.261850@o5g2000hsb.googlegroups.com>
Source record: 43385

On Apr 7, 4:46 pm, Owen Duffy <n...@no.where> wrote:
> Cecil Moore <nos...@w5dxp.com> wrote in news:J2ORh.12771$JZ3.7427
> @newssvr13.news.prodigy.net:
>
> clipped... a logically developed argument
>
> > is the sum of the maximum intensities of the two waves,
>
> Now runs loose on a term ("intensity") not linked the the previous
> development.

A term from "Principles of Optics", by Born and Wolf. It was
apparently
replaced by "irradiance" in "Optics", by Hecht. Intensity, irradiance,
and
Poynting vectors are all power densities, joules/sec/unit-area.
--
73, Cecil, w5dxp.com

3870. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 22:32:37 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1175985157.173791.235480@e65g2000hsc.googlegroups.com>
Source record: 43386

On Apr 7, 4:16 pm, Owen Duffy <n...@no.where> wrote:
> The "reflected wave is (always) dissipated
> in the PA as heat" is an example of one of those convenient lies.

Are you sure that's not a straw man? Who, exactly, has voiced that lie
(besides Keith and his ten cent resistor?) :-)
--
73, Cecil, w5dxp.com

3871. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 22:36:17 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <B1VRh.262093$5j1.194262@bgtnsc04-news.ops.worldnet.att.net>
Source record: 43387

Cecil Moore wrote:
> Gene Fuller wrote:
>> However, it shows that the null you believe demonstrates some
>> permanent interaction and annihilation of EM waves is simply a special
>> case.
>
> http://micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/waveinteractions/index.html
>
>
> "... when two waves of equal amplitude and wavelength that are
> 180-degrees ... out of phase with each other meet, they are not
> actually annihilated, ... All of the photon energy present in
> these waves must somehow be recovered or redistributed in a new
> direction, according to the law of energy conservation ... Instead,
> upon meeting, the photons are redistributed to regions that permit
> constructive interference, so the effect should be considered as a
> redistribution of light waves and photon energy rather than the
> spontaneous construction or destruction of light."
>
>> In classical, non-cosmic, non-relativistic conditions EM waves do not
>> interact in free space. This condition is so widely understood in the
>> scientific world that it becomes a prime candidate for argument on RRAA.
>
> Florida State University seems to disagree. "Upon meeting"
> in free space, the interfering photons are "redistributed".
> RF waves are EM waves. Just because we cannot see them is
> no reason to assert that they act differently from EM waves
> that we can see.
>
> Hecht, in "Optics", says about interference:
>
> "At various points in space, the resultant irradiance can
> be greater, less than, or equal to I1 + I2 depending on
> the value of I12 ..." I12 is previously defined as the
> interference term. Hecht's "various points in space"
> seem to contradict your assertion that waves "do not
> interact in free space".
>
> From Born and Wolf: "Thus if light from a source is divided
> by suitable apparatus into two beams which are then superposed,
> the intensity in the region of superposition is found to vary
> from point to point between maxima which exceed the sum of the
> intensities in the beams, and minima which may be zero."

>
> If "region of superposition" is not referring to the free
> space point of interference, to what is it referring?
>
> When one can see with one's own eyes the interaction of
> two light beams in free space, how can you possibly deny
> the existence of that interaction?

Cecil,

Wake up!

You are not even on topic. None of those quotes are related to the
discussion at hand.

73,
Gene
W4SZ

3872. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 22:51:45 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <5gVRh.24082$VU4.5518@bgtnsc05-news.ops.worldnet.att.net>
Source record: 43388

Walter Maxwell wrote:
> On Sat, 07 Apr 2007 16:10:03 GMT, Gene Fuller <W4SZzzzzzz@att.net> wrote:

[snipped]

>> Walt,
>>
>> Your observation is "correct" only in the case that most people consider
>> for practical reasons. The calculation showing the null behavior is
>> almost invariably performed at infinite distant from the sources, i.e.,
>> far field condition. The path from each source to the observation point
>> is considered to be exactly parallel.
>>
>> As you know, there are usually three or more linear dimensions that
>> enter into radiation calculations. In the case of two sources there are
>> four:
>>
>> Wavelength
>> Size of each source
>> Distance between sources
>> Distance to the observation point
>>
>> In the typical "null" presentation, such as that shown in the ARRL
>> publications, the distance to the observation point in always large.
>>
>> Lets take another case, however. Suppose the distance between the
>> sources is some what larger than the wavelength. Make it large enough so
>> there is a region between the sources that would be considered far field
>>from each of the sources. Now calculate the phase differences along some
>> direction from the center point between the sources that eventually
>> points to a null region in the infinite distance. Don't pick an
>> obviously symmetric direction, such as broadside or end-fire, as that
>> would be a special case.
>>
>> What you will find is that when looking at the phase difference along
>> the ultimate null direction is that there is no such null much closer to
>> the sources. The paths from the individual sources are not parallel in
>> this case. The null "line" is actually a curve. The waves pass right
>> through each other in the closer region. The "passing waves" then go on
>> to form nulls in the infinite distance. The nulls in the closer region
>> are not in the same directions as the nulls in the far field.
>>
>> Again, the ground rules:
>>
>> Totally coherent, monochromatic sources

>> Fixed phase difference
>> Far field conditions for each source
>>
>> There are no "tricks" here; this is just a matter of simple geometry.
>> However, it shows that the null you believe demonstrates some permanent
>> interaction and annihilation of EM waves is simply a special case.
>>
>> In classical, non-cosmic, non-relativistic conditions EM waves do not
>> interact in free space. This condition is so widely understood in the
>> scientific world that it becomes a prime candidate for argument on RRAA.
>>
>> 8-)
>>
>> 73,
>> Gene
>> W4SZ
>
> Gene, at this point I can't disagree with you. However, in your next to the last paragraph in your post above,
> if I interpret you correctly, you are saying that all directional arrays, such as are used in AM broadcasting,
> are considered 'special' cases. Is that what you mean't to infer?
>
> Walt, W2DU

Hi Walt,

Yes, those are special cases, but those special cases are the only ones
that most people care about.

What I was trying to say might be better illustrated by the following:

Two coherent laser beams from the same source can be arranged by
suitable mirrors to intersect at some angle. There will most definitely
be interference in the region of intersection, but the beams will
continue through unchanged. If one measured a beam somewhere downstream
from the intersection region it would not be possible to determine that
it had crossed another beam earlier.

The beams "interfere" but they do not "interact". I know this sounds
goofy, and it is critical to keep the definitions straight. When I say
the beams do not interact I mean that they do not cause any changes in
the other beam. The fact that the beams interfere means that the sum of
the fields shows the characteristic constructive and destructive
behavior. It does not mean that the waves are henceforth changed.

OK, so how does this square with the observation that there are nulls in
patterns from two or more RF sources? It is actually very
straightforward. In the far field the waves from the separate sources
are virtually parallel. Just like Timex, they interfere and they keep on
interfering. They never really pass beyond the intersection region.

I know it seems like a subtle, or even meaningless, distinction. Do the waves interfere forever or do they actually annihilate each other? For many purposes it does not matter. However, the non-interaction of waves in free space is pretty basic to all of EM analysis.

73,
Gene
W4SZ

3873. Coaxial Cable considerations for HF

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 22:54:07 UTC
From: jawod <jawod@fuse.net>
Message-ID: <68ca4$46182214$d066b697$10313@FUSE.NET>
Source record: 43389

Having re-entered ham radio after a 30 year hiatus, I would like to ask about RG/8U versus other cable types for use in a simple dipole or G5RV installation with 100W max. transmitter output. In the "good old days" Low loss "8U" was sort of the standard. There are some newer cable designations now.

Is there a better "standard" cable for the above use than RG/8U (specifically Belden 9913 low loss)?

John
AB8O

3874. Can anyone ID this beam??

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 23:20:24 UTC
From: Michael Herron <hurricane145@comcast.net>
Message-ID: <3KidnROnYoGpuoXbnZ2dnUVZ_uSgnZ2d@comcast.com>
Source record: 43390

I am trying to help a German ham with IDing it so he can get the correct dimensions for it
http://www.db0kja.de/include.php?path=content/content.php&contentid=25&PHPKITSID=48a7888e42fbc43fac7c86b6a7c298eb

K7MH@arrl.net

3875. Re: RG-6 Coaxial Cable for Ham use

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 23:25:56 UTC
From: Dave Heil <k8mn@earthlink.net>
Message-ID: <8MVRh.135366$_73.113156@newsread2.news.pas.earthlink.net>
Source record: 43391
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

Tam/WB2TT wrote:

>> I might point out to Dee that the RG-6 I see is indeed meant for outdoor
>> use. Our local dish installers us it as their standard feedline.
>>
> Of the few samples that I looked at, the black RG6 was outdoor rated, the
> white jacketed was not. Kind of makes sense. Didn't see any power ratings at
> the Belden site, but I seem to recall seeing ratings in the few hundred W
> range.

RG-6 will take the legal limit on at least 80 and 160m and probably on
40m. It is available in direct burial type. The new, weather-proof
crimp on connectors are wonderful.

Several companies make or sell the PL-251 to F connector adaptors.

W8JI had some informative technical posts on the subject on the topband
reflector a few months back.
Dave K8MN

3876. How much does a counterpoise radiate?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 23:35:31 UTC
From: HB9DST <pgschreier@swissonline.ch>
Message-ID: <1175988931.788981.282780@n59g2000hsh.googlegroups.com>
Source record: 43392

Antenna restrictions here in HB9-land are severe, but I want to get on the air from my 3rd-floor apartment. I have draped a horizontal longwire outside along the wall of the building. This wire is now just short of 20m.

Before I transmit, I want to make sure to minimize any RFI that bothers the neighbors' stereo systems and other electronic equipment. First, I will put on a lowpass filter at the tx.

Past experience at other QTHs tell me that I will also need a counterpoise. But here's the question: does the counterpoise radiate, even if it's cut to 1/4 wavelength? Then, if I put the counterpoise on the floor in my shack I haven't really solved the problem because the CP radiates into my shack and my neighbors' apartments?

I realize that a counterpoise is the "second half" of an antenna. That being the case, what's the difference between a traditional dipole and a longwire/counterpoise configuration? Both legs radiate, correct?

Thanks for any clarification anyone can shed on this mystery!

73,
Paul HB9DST
An expat-American cliffdweller in Switzerland

3877. Re: Coaxial Cable considerations for HF

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 23:50:12 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <U6WRh.19363$PL.3533@newsread4.news.pas.earthlink.net>
Source record: 43393

"jawod" <jawod@fuse.net> wrote in message
news:68ca4$46182214$d066b697$10313@FUSE.NET...
> Having re-entered ham radio after a 30 year hiatus, I would like to ask
> about RG/8U versus other cable types for use in a simple dipole or G5RV
> installation with 100W max. transmitter output. In the "good old days"
> Low loss "8U" was sort of the standard. There are some newer cable
> designations now.
>
> Is there a better "standard" cable for the above use than RG/8U
> (specifically Belden 9913 low loss)?
>
> John
> AB8O

For feeding a G5RV if the feedline is not much over 100 feet almost any coax is good enough. Probably would not use the rg-58 , but would use rg-8X or any of the rg-8 type coax. Would not waste the money on anything beter as you would only gain a couple of tenths of a db if that much.

The 9913 is hollow inside and may be hard to keep the water out of. I had some up for about 10 years and used it on 2 meters for ssb. It never did get any wate rin it for me. I don't like the LMR 400 as the center conductor is copper coated aluminum. Nothing wrong with that when it is installed correctly, but I just do not like it. Davis makes some Burry Flex that is very good, but over kill for the dipole. I just installed 4 beams using about 500 feet of it, triband for 20,15,10, a 432 mhz, 144 mhz and a 6 meter beam. Would not have used it on the triband but wanted to just buy one type of coax for the job.

Think I would use the rg-8X for the g5rv. I am feeding an 80 meter dipole and also an off center fed dipole with the rg-8x running about 700 watts out of a Heathkit sb200 amp.

3878. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-07 23:50:26 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <46182e46$0$5196$4c368faf@roadrunner.com>
Source record: 43394

"Thomas Horne" <hornetd@mindspring.com> wrote in message
news:jl%Ph.18775$tD2.6269@newsread1.news.pas.earthlink.net...
> Jimmie D wrote:
>> "Dave" <noone@nowhere.com> wrote in message
>> news:r42dnQKD8rIImATYnZ2dnUVZ_rGinZ2d@crocker.com...
>>> <wizard12342002@yahoo.com> wrote in message
>>> news:1167655229.508078.212740@h40g2000cwb.googlegroups.com...
>>>> I would like to propose a grounding arrangement for my [hypothetical]
>>>> antenna and get some feedback on it. I have access to the solid-copper
>>>> cold-water pipe that enters my home through the basement wall close to
>>>> the basement floor.
>>> bad start
>>>
>>>> This pipe is used [in addition to cold water] for
>>>> the service entrance [circuit breaker box] ground.
>>> thats bad news
>>>
>>>> I was thinking of putting an antenna outside on a pole and running the
>>>> coax into the
>>>> basement.
>>> nope, not the way to do it right.
>>>
>>>> Then I would strip back several inches of the outer jacket
>>>> of the coax [axposing the braided shield] and connect the coax braid to
>>>> the cold water pipe using several hose clamps. This should ground the
>>>> coax directly to the service ground - the single point ground for the
>>>> house.
>>> except the single point shouldn't be 'inside' the house.
>>>
>>>> I would add an arrester near the ground point. I would then run
>>>> the coax upstairs [about 10 feet] to the radio, where it would [via the
>>>> PL-259] connect to the transceiver chassis. The radio chassis will be
>>>> electrically bonded to peripheral equipment chassis'.
>>> the radio chassis should be connected to the same single point ground,
>>> and not via just the coax shield.
>>>
>>>> It seems that in the unlikely event [low altitude, semi-urban area]
>>>> that the antenna were struck by lightning, the energy [albeit
>>>> significant] would have no reason to propagate up to my station. Even
>>>> though it may elevate my house ground by thousands of volts [with
>>>> respect to some other ground point], the station should ride up with it
>>>> - and little current should flow in the coax at the station.
>>>>
>>>> Am I whistling Dixie?

>>>
>>>
>>>
>>
>> Hopefully you are not really using the water pipe for a ground for your
>> electrical service. Hopefully your plumbing is just bonded to the
>> electrical ground. Dont even think about using this for lightning
>> protection. Nothing like having lightning run in on your plumbing while
>> taking a bath or have it run in on yor ground and eat about $7K worth of
>> test equipment(my bad).
>>
>> Jimmie
>
> Jimmie
>
> DE KB3OPR
>
> I am an electrician by craft. The US National Electric Code Requires that
> underground metal water piping on the premise be used as a grounding
> electrode for the electrical system. There is no way around it. No
> matter how fast people talk you cannot avoid using an underground metal
> piping system as a grounding electrode unless the electrical inspector is
> incompetent.
> --
> Tom Horne

Tom you are confusing grounding with bonding, the plumbing should be bonded to ground but not used for ground, at least this is getting to be the rule in most places. I know that using the plumbing for ground is still acceptaable in places and in a lot of places it is still acceptable if if the local code permitted it at the time it was installed(grandfathering)..

3879. Re: RG-6 Coaxial Cable for Ham use

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 00:05:56 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <ElWRh.19364$PL.6992@newsread4.news.pas.earthlink.net>
Source record: 43395
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

"Dave Heil" <k8mn@earthlink.net> wrote in message
news:8MVRh.135366$_73.113156@newsread2.news.pas.earthlink.net...
> Tam/WB2TT wrote:
>
>>> I might point out to Dee that the RG-6 I see is indeed meant for outdoor
>>> use. Our local dish installers us it as their standard feedline.
>>>
>> Of the few samples that I looked at, the black RG6 was outdoor rated, the
>> white jacketed was not. Kind of makes sense. Didn't see any power ratings
>> at the Belden site, but I seem to recall seeing ratings in the few
>> hundred W range.
>
> RG-6 will take the legal limit on at least 80 and 160m and probably on
> 40m. It is available in direct burial type. The new, weather-proof crimp
> on connectors are wonderful.
>
> Several companies make or sell the PL-251 to F connector adaptors.
>
> W8JI had some informative technical posts on the subject on the topband
> reflector a few months back.
> Dave K8MN
>
>

I would think the power level would be more voltage limiated. Most of the
rg6 is rated around 300 to 350 volts. This is about 1200 watts on a matched
line. derate for a swr of say 3 or 4 to 1 and you get to run about 300 to
400 watts into it,

3880. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 00:07:35 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <46183245$0$5199$4c368faf@roadrunner.com>
Source record: 43396

"Thomas Horne" <hornetd@mindspring.com> wrote in message
news:sjxQh.20692$Jl.1939@newsread3.news.pas.earthlink.net...
> Roger wrote:
>> On Mon, 02 Apr 2007 04:08:47 GMT, Thomas Horne
>> <hornetd@mindspring.com> wrote:
>>
>>> Jimmie D wrote:
>>>> "Dave" <noone@nowhere.com> wrote in message
>>>> news:r42dnQKD8rIImATYnZ2dnUVZ_rGinZ2d@crocker.com...
>>>>> <wizard12342002@yahoo.com> wrote in message
>>>>> news:1167655229.508078.212740@h40g2000cwb.googlegroups.com...
>>>>>> I would like to propose a grounding arrangement for my [hypothetical]
>>>>>> antenna and get some feedback on it. I have access to the
>>>>>> solid-copper
>>>>>> cold-water pipe that enters my home through the basement wall close
>>>>>> to the basement floor.
>>>>> bad start
>>>>>
>>>>>> This pipe is used [in addition to cold water] for
>>>>>> the service entrance [circuit breaker box] ground.
>>>>> thats bad news
>>>>>
>>>>>> I was thinking of putting an antenna outside on a pole and running
>>>>>> the coax into the
>>>>>> basement.
>>>>> nope, not the way to do it right.
>>>>>
>>>>>> Then I would strip back several inches of the outer jacket
>>>>>> of the coax [axposing the braided shield] and connect the coax braid
>>>>>> to
>>>>>> the cold water pipe using several hose clamps. This should ground
>>>>>> the
>>>>>> coax directly to the service ground - the single point ground for the
>>>>>> house.
>>>>> except the single point shouldn't be 'inside' the house.
>>>>>
>>>>>> I would add an arrester near the ground point. I would then run
>>>>>> the coax upstairs [about 10 feet] to the radio, where it would [via
>>>>>> the
>>>>>> PL-259] connect to the transceiver chassis. The radio chassis will
>>>>>> be
>>>>>> electrically bonded to peripheral equipment chassis'.
>>>>> the radio chassis should be connected to the same single point ground,
>>>>> and not via just the coax shield.

>>>>>
>>>>>> It seems that in the unlikely event [low altitude, semi-urban area]
>>>>>> that the antenna were struck by lightning, the energy [albeit
>>>>>> significant] would have no reason to propagate up to my station.
>>>>>> Even
>>>>>> though it may elevate my house ground by thousands of volts [with
>>>>>> respect to some other ground point], the station should ride up with
>>>>>> it
>>>>>> - and little current should flow in the coax at the station.
>>>>>>
>>>>>> Am I whistling Dixie?
>>>>>
>>>>>
>>>> Hopefully you are not really using the water pipe for a ground for your
>>>> electrical service. Hopefully your plumbing is just bonded to the
>>>> electrical ground. Dont even think about using this for lightning
>>>> protection. Nothing like having lightning run in on your plumbing while
>>>> taking a bath or have it run in on yor ground and eat about $7K worth
>>>> of test equipment(my bad).
>>>>
>>>> Jimmie
>>> Jimmie
>>>
>>> DE KB3OPR
>>>
>>> I am an electrician by craft. The US National Electric Code Requires
>>> that underground metal water piping on the premise be used as a
>>> grounding electrode for the electrical system. There is no way around
>>
>> Ahhh...The water pipe must be bonded to the electrical system, but the
>> main ground must be at the entrance. Here, we have plastic water pipe
>> all the way to the main from the meter, yet we have to bond the meters
>> which are metal with plastic running in and plastic running out.
>>
>>> it. No matter how fast people talk you cannot avoid using an
>>> underground metal piping system as a grounding electrode unless the
>>> electrical inspector is incompetent.
>>
>> It's really easy to avoid here. We do not have metal piping available
>> for grounding.
>> Roger Halstead (K8RI & ARRL life member)
>> (N833R, S# CD-2 Worlds oldest Debonair)
>> www.rogerhalstead.com
>
> That has nothing to do with not using an underground metal water pipe that
> is present on the premises.
> --
> Tom Horne

Sure it does, what happens when a plumber replaces a piece of metal pipe with plastic and opens your ground. The plumber has no responsibility to see if the plumbing is being used for ground. Mrtal plumbing should be bonded to the electrical ground, not be the ground.

3881. Re: Aerial mounting on Freelander

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 00:13:24 UTC
From: Ken Ward <ken.g1itv@MTLworld.com>
Message-ID: <EsWRh.5022$nM6.4712@newsfe2-win.ntli.net>
Source record: 43397
Cross-posted to: rec.radio.amateur.antenna,uk.radio.amateur

"Martin g1gyc" <News.Martin@g1gyc.demon.co.uk> wrote in message
news:ev926p$nd0$1$8302bc10@news.demon.co.uk...
> >
>> Martin, I have a Black & Decker D500 you can borrow if your passing.
>>
>> Ken G1ITV.
>>
> Not what I had in mind ....
> but I have a DeWalt but I am not going to get into Power Tool Envy

I would not recommend putting very long aerials on to a Freelander as they
can easily hit bridges when the car is on the back of a breakdown.

Ken G1ITV.

3882. Re: Coaxial Cable considerations for HF

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 00:15:35 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990C6859D6985nonenowhere@61.9.191.5>
Source record: 43398

jawod <jawod@fuse.net> wrote in news:68ca4$46182214$d066b697$10313
@FUSE.NET:

> Having re-entered ham radio after a 30 year hiatus, I would like to ask
> about RG/8U versus other cable types for use in a simple dipole or G5RV
> installation with 100W max. transmitter output. In the "good old
days"
> Low loss "8U" was sort of the standard. There are some newer cable
> designations now.
>
> Is there a better "standard" cable for the above use than RG/8U
> (specifically Belden 9913 low loss)?

My article at http://www.vk1od.net/G5RV/index.htm models the efficiency
of a number of feed options for G5RV, it may provide the answer to your
questions.

Re a "simple dipole" (if that means a half wave dipole, a one band
antenna), I currently use an inverted V dipole on 40m. It is shortened to
cause VSWR=1.5 on RG6 feedline (75 ohm), and the RG6 feedline is of
length (21m) that transforms the feedpoint impedance to nominal 50 ohms
to connect directly to the amplifier (AL-811H) (VSWR<1.1 at band centre).
The RG6 has a heap of suppression sleeves threaded over the load end as a
W2DU style balun. Total feedline + balun loss is 0.4dB. There are simple
solutions out there, and feedline doesn't come cheaper than RG6 at US
$0.20/m here in Oz (but you need to be selective in choosing RG6 for this
purpose).

Owen

3883. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 00:31:12 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4tdg13h74lsjpbqobhb4q7kcc3dl7hkchm@4ax.com>
Source record: 43399

On Sat, 07 Apr 2007 17:59:03 GMT, Cecil Moore <nospam@w5dxp.com>
wrote:

>Between coherent and mutually incoherent is
>a span of signals which they call partially
>incoherent.

As Reggie would say

"BAFFLEGAB!"

3884. Re: How much does a counterpoise radiate?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 00:34:53 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <80eg13pb63fuue8ini28qmro5c4ieaj60b@4ax.com>
Source record: 43400

On 7 Apr 2007 16:35:31 -0700, "HB9DST" <pgschreier@swissonline.ch>
wrote:

>does the counterpoise radiate

Hi Paul,

Yes, absolutely. How much the contribute to radiation is a matter of
phase contributions. The many elements (or spokes) of a ground plane
will tend to cancel their radiations in the far field, but absolutely
every inch of everyone of them radiates. For "the other half" you
will not achieve this cancellation, except in some directions (given
the classic dipole's figure 8 pattern).

73's
Richard Clark, KB7QHC

3885. Re: Stealth antenna material???

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 01:25:25 UTC
From: Sum Ting Wong <sumtingwong@privacy.net>
Message-ID: <i2hg1399cpl9bu32kppbht9goclhcn7gpa@4ax.com>
Source record: 43401

On Fri, 06 Apr 2007 21:30:43 -0700, John Smith I
<assemblywizard@gmail.com> wrote:

>watch the text-wrapping of the URL, it is a long one

Check out www.tinyurl.com to solve that problem with similar future
posts.

S.T.W.

3886. help- CDE H3 rotor + controller

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 01:27:44 UTC
From: amdx <amdx@knology.net>
Message-ID: <71c7a$4618452e$45011502$23587@KNOLOGY.NET>
Source record: 43402

I bought a rotor and controller at a hamfest.
It is a Cornel Dublier Electronics H3/CD44 Series 2.
The position indicator doesn't move with rotation,
the indicator needle is almost full scale and can be moved
with the calibration adjustment.
I suspect the problem is in the rotor.
I need a description of operation, to try and troubleshoot the unit.
The function of the 8 connections would help.
A schematic would be even better.

Thanks, Mike

3887. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 01:54:39 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <46184b6d$0$17199$39cecf19@news.twtelecom.net>
Source record: 43403

Phil wrote:

> Some of the best reasons are empirical. Numerous studies have shown
> that the clutter return from the sea surface is considerably higher in
> horizontal polarization. I am on vacation, so I don't have my Skolnik
> handy to say exactly how much. Anyway, this favors a vertical
> polarization.
>
> Similarly, practical considerations make vertical polarization the best
> for mobile applications. The 1/4 whip is the simplest antenna structure
> on a mobile platform. While base stations could as easily use
> horizontal or vertical, any mobile horizontal antenna will require extra
> structure to implement.
>
> In both of these applications there is nothing be gained by going to any
> other polarization than vertical for these uses. In cases where
> horizontal polarization has an advantage, there is no reason to go
> partly vertical. So that is why the world end up either being vertical
> or horizontal for the most part. Where it doesn't, polarization usually
> doesn't matter or is less of a concern than other reasons (see inverted
> vees and sloping dipoles).
>
> Erich
> KA6AMD
>

Interesting that you think that vertical is the best polarization for mobile operation. I have done a lot of testing on 2 meters with equal gain end to end that would indicate that you are quite mistaken. Horizontal polarization from a fixed station to a mobile, or a mobile station to a mobile is much more effective if horizontally polarized. The reasons for this are well documented, so I won't go into that. The most obvious notable difference is that "picket fence" fading is much worse when vertically polarized.

The major reason vertical polarization is used (for FM) is that it is easy. SSB/CW on VHF/UHF is still horizontal when mobile.

tom
K0TAR

3888. Re: help- CDE H3 rotor + controller

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 01:56:24 UTC
From: amdx <amdx@knology.net>
Message-ID: <e4653$46184be5$45011502$26248@KNOLOGY.NET>
Source record: 43404

"amdx" <amdx@knology.net> wrote in message
news:71c7a$4618452e$45011502$23587@KNOLOGY.NET...
> I bought a rotor and controller at a hamfest.
> It is a Cornel Dublier Electronics H3/CD44 Series 2.
> The position indicator doesn't move with rotation,
> the indicator needle is almost full scale and can be moved
> with the calibration adjustment.
> I suspect the problem is in the rotor.
> I need a description of operation, to try and troubleshoot the unit.
> The function of the 8 connections would help.

I have recently found that terminals 3 and 7 are a 500 ohm pot in the
rotor, don't yet know which is the wiper. Also 4 and 8 are the motor
capacitor.

> A schematic would be even better.
>
> Thanks, Mike
>
>
>
>

3889. Re: help- CDE H3 rotor + controller

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 02:15:35 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <bfYRh.19397$PL.10796@newsread4.news.pas.earthlink.net>
Source record: 43405

"amdx" <amdx@knology.net> wrote in message
news:71c7a$4618452e$45011502$23587@KNOLOGY.NET...
> I bought a rotor and controller at a hamfest.
> It is a Cornel Dublier Electronics H3/CD44 Series 2.
> The position indicator doesn't move with rotation,
> the indicator needle is almost full scale and can be moved
> with the calibration adjustment.
> I suspect the problem is in the rotor.
> I need a description of operation, to try and troubleshoot the unit.
> The function of the 8 connections would help.
> A schematic would be even better.
>
> Thanks, Mike

Go here and download the manual. It is for a Hy-gain 45 but it should be
the same schematic for the 8 wire rotator. Most of the CDE and Hy-gain
rotators ues the same basic electric design and the mechanical part is
differant .

http://www.hy-gain.com/man/pdf/CD-45II.pdf

3890. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 02:32:20 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <5gjg139bpolboek2tqcn4svsgo1gcgoul2@4ax.com>
Source record: 43406

On Sat, 07 Apr 2007 21:16:06 GMT, Owen Duffy <none@no.where> wrote:

>Walter Maxwell <walt@w2du.com> wrote in
>news:a0bf13hbilov100763a147g5bf17gudq08@4ax.com:
>
>> On Sat, 07 Apr 2007 05:03:51 GMT, Owen Duffy <none@no.where> wrote:
>>
>>>Walter Maxwell <walt@w2du.com> wrote in
>>>news:no1e13pjcm8o0adp30u3friddkgd1g2r4d@4ax.com:
>>>
>>>> On Fri, 06 Apr 2007 23:03:42 GMT, Cecil Moore <nospam@w5dxp.com>
>>>> wrote:
>>>>
>>>>>MRW wrote:
>>>>>> Any comments? Really, what I'm trying to understand here is: if
>>>>>> constructive interference does any good in radiowave propagation.
>>>>>> I was thinking that with an increase in amplitude the signal would
>>>>>> be able to travel a little further, but the signal received may
>>>>>> not be accurate in terms of the information it is conveying.
>>>>>
>>>>>Antenna gain over isotropic is an application of
>>>>>constructive interference. The constructive
>>>>>interference must be balanced by an equal amount
>>>>>of destructive interference elsewhere to avoid
>>>>>violating the conservation of energy principle.
>>>>
>>>> This is what I've been trying to persuade the 'anti's' that whenthe
>>>> radiation fields from two vertical dipoles superpose at some point
>>>> in space, where their magnitudes are equal and are 180ï¿½ out of
>>>> phase, the wave cancellation resulting from destructive interference
>>>> produces a null in a predetermined direction, and thus prevents
>>>> those fields from propagating any further in that direction. At the
>>>> precise instant the null is produced, the constructive interference
>>>> following the principle of energy conservation yields an increase in
>>>> the field strength in directions away from the null direction. This
>>>> explains the concept of antenna-pattern modification, and
>>>> contradicts the notion that the two fields just plow through each
>>>> other with no effect on either.
>>>>
>>>
>>>Walt, this seems inconsistent with the approach that I believe you
>>>seem to use in analysing waves in transmission lines where you seem to
>>>want to not only deal with the forward and reverse waves separately
>>>(ie to not collapse them to a resultant V/I ratio at a point), but to

>>>deal with multiply reflected waves travelling in the forward and
>>>reverse direction (which is only necessary in the transient state).
>>>
>>>Owen
>>>
>> Owen, it appears that you've misinterpreted my approach. In developing
>> a condition for impedance matching, such as adding a series or shunt
>> stub at the proper place on a transmission line, the object has always
>> been to generate a new reflection at the stub point of the opposite
>> phase to that appearing on the line at the stub point. Thus when the
>> stub reflection and the load reflection superpose at the stub point,
>> the resulting reflection coefficients of voltage and current form
>> either a virtual open circuit or a virtual short circuit. These
>> conditions are produced because when the load impedance is greater
>> than Zo, the resultant reflection coefficient angles at the stub point
>> are 0ï¿½ for voltage and 180ï¿½ for current, establishing a virtual open
>> circuit at the stub point to rearward traveling waves. When the load
>> impedance is less than Zo, the resultant reflection coefficient angles
>> are 180ï¿½ for voltage and 0ï¿½ for current, establishing a virtual short
>> circuit at the stub point for rearward traveling waves.
>
>Hi Walt,
>
>I read the above, and I think I can see what you are getting at, however
>I think it is flawed.
>
>If you were to try to extend this method to explain the common two stub
>tuner (where the length of the stubs is adjustable and the distance
>between them is fixed), you will have to deal with a situation where the
>load end stub junction does not present the "virtual o/c or s/c" you
>describe, your "total re-reflector concept" and you come to need to
>calculate the situation on the source side of the load end stub (possibly
>by conventional methods?).
>
>Walk your explanation around a Smith chart, and explain why, if the
>principles on which your explanation are based are correct, why energy
>fills a 3/4 wave hi Q coaxial resonator rather than being blocked by the
>virtual s/c or o/c at the first voltage minimum or current minimum.
>
>Someone else persuing the theme that reflected waves always travel all
>the way back to the source, seems to come to a position that some kinds
>of matching produce a complementary reflected wave, and that really there
>are two (or more) reflected waves, its just that they have zero net
>energy. Some of us would accept that if the resultant is zero, there is
>no wave. Otherwise, you would see a multitude of net-zero waves all
>around us to complicate every analysis.
>
>These "new" and alternative explanations are questionable and don't seem
>better than the conventional explanations of a transmission line that are
>set out in just about any reputable transmission lines text. What

>advantages do these explanation have, who are they targeted at? Is the
>"total re-reflector" concept to appeal to a dumbed down audience who can
>get their mind around a bunch of words that describe specific situations
>in a simple and appealing way, but an incorrect explanation nonetheless?
>
>I think it is a real challenge to teach people a simple explanation of
>what happens without telling them convenient lies that have to be
>unlearned to develop further. The "reflected wave is (always) dissipated
>in the PA as heat" is an example of one of those convenient lies.
>
>Owen

Owen,

Are you saying that those who support my explanation of stub matching are telling lies!? I can't believe you said that.

I explained this exact matching function in great detail in October 1974 QST. It was repeated in Reflections
edition 1 in 1990, and again in edition 2 in 2001. It was also published in QEX in the Mar/Apr 1998 issue.

I had to submit my manuscripts to the engineering departments of four different divisions of RCA for approval
before being allowed to even submit them to QST to determine if they were interested in publishing them. One
of the RCA engineers who reviewed my text was Jack Young, then the chief engineer of the transmitter section
of the RCA Broadcast Engineering Division. He complimented me on my explanation of stub matching using the
reflection coefficients as the parameters. On accepting my papers for publication in QST, the former Technical
Director of the League, George Grammer, W1DF, also complimented me on the unique approach explaining stub
matching, and also for my explanation of conjugate matching. Grammer was probably the most highly educated
engineer ever gracing the ARRL.

It's been 33 years since I published my presentation using reflection coefficients, and to date no one except
some of the posters on this NG have disputed it. Are you saying that all who reviewed my writings that
appeared in QST and in Reflection were being lied to?

You suggested walking through the Smith Chart with the problem. Owen, the Smith Chart is Fig. 1 in my
presentation that proves my position is correct. Please review the QEX article I referenced above to see it.
With all due respect, Owen, I believe you have misunderstood, or perhaps misconstrued the procedure I
presented. Would you please review it again to see where you might have gone wrong?

Walt

3891. Re: Coaxial Cable considerations for HF

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 02:40:30 UTC
From: jawod <jawod@fuse.net>
Message-ID: <66ab0$46185723$d066b697$27093@FUSE.NET>
Source record: 43407

Owen
Thanks for the advice.
My new second antenna is the original I put up: specifically a
store-bought folded dipole from DX Engineering. It is placed orthogonal
(90 deg away from) to the existing G5RV and about 20 feet closer to the
ground. I am using RG / 8U to a 4:1 Balun to 300 Ohm balanced feedline
to the folded dipole. I cut the 300 ohm feedline to optimize the folded
dipole fo 30M and above.

I appreciate the response.

John
AB8O

Owen Duffy wrote:
>
>
> My article at http://www.vk1od.net/G5RV/index.htm models the efficiency
> of a number of feed options for G5RV, it may provide the answer to your
> questions.
>
> Re a "simple dipole" (if that means a half wave dipole, a one band
> antenna), I currently use an inverted V dipole on 40m. It is shortened to
> cause VSWR=1.5 on RG6 feedline (75 ohm), and the RG6 feedline is of
> length (21m) that transforms the feedpoint impedance to nominal 50 ohms
> to connect directly to the amplifier (AL-811H) (VSWR<1.1 at band centre).
> The RG6 has a heap of suppression sleeves threaded over the load end as a
> W2DU style balun. Total feedline + balun loss is 0.4dB. There are simple
> solutions out there, and feedline doesn't come cheaper than RG6 at US
> $0.20/m here in Oz (but you need to be selective in choosing RG6 for this
> purpose).
>
> Owen

3892. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 03:32:48 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990C89C91C87Bnonenowhere@61.9.191.5>
Source record: 43408

Walter Maxwell <walt@w2du.com> wrote in
news:5gjg139bpolboek2tqcn4svsgo1gcgoul2@4ax.com:

> is correct. Please review the QEX article I referenced above to see
> it. With all due respect, Owen, I believe you have misunderstood, or
> perhaps misconstrued the procedure I presented. Would you please
> review it again to see where you might have gone wrong?

Hi Walt,

I have reviewed Chapter 3 of Reflections II which you kindly sent me. I think it contains the deveopment to which you refer.

It seems to me that Chapter 3 depends entirely on an assumption that the phase relationship of the current and voltage of a travelling wave is 0 deg or 180 deg, depending on the direction. This only holds true for lossless lines and distortionless lines, and so the "proofs" developed in the chapter are not general proofs. For example, the proof that reflected power is purely real and of magnitude |E-|^2/Zc is not developed for the general case, and happens to not be correct for the general case.

Owen

3893. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 03:45:04 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1176003904.593194.251520@y66g2000hsf.googlegroups.com>
Source record: 43409

On Apr 7, 7:31 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Sat, 07 Apr 2007 17:59:03 GMT, Cecil Moore <nos...@w5dxp.com>
> wrote:
>
> >Between coherent and mutually incoherent is
> >a span of signals which they call partially
> >incoherent.

That should have been "partially coherent".

> As Reggie would say "BAFFLEGAB!"

Don't blame me - blame Born and Wolf - whom a lot of people respect.
--
73, Cecil, w5dxp.com

3894. Re: Coaxial Cable considerations for HF

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 03:59:02 UTC
From: Bryan <bryan.swadenerNOSPAM@comcast.net>
Message-ID: <s6-dnYoA38IX9YXbnZ2dnUVZ_g-dnZ2d@giganews.com>
Source record: 43410

John wrote:
> Having re-entered ham radio after a 30 year hiatus, I would like to ask
> about RG/8U versus other cable types for use in a simple dipole or G5RV
> installation with 100W max. transmitter output. In the "good old days"
> Low loss "8U" was sort of the standard. There are some newer cable
> designations now.
>
> Is there a better "standard" cable for the above use than RG/8U
> (specifically Belden 9913 low loss)?
>
> John
> AB8O

Hi John,

Some useful information and history is here:
http://en.wikipedia.org/wiki/Coaxial_cable. For a given type, you'll find quality all over the map, from decent to downright crummy. That said, I recommend a looking at a prospective manufacturer's datasheet before buying. If there are no specifications available, keep looking!

When it comes to loss/length (for a given cable type), foamed polyethylene dielectric will be better. Percentage of shielding is probably the next determining factor. An aluminum foil shield of course will be 100%, but won't take much flexing before fracturing. Save it for long runs that are secured in place, and use braided copper or braided copper + foil for other uses. You'll find most all manufacturers make cables with as much as 97% braided copper shielding. The last item of concern will be the outer jacket. PVC is the most common. Some are "non contaminating" or "UV resistant" types that degrade much slower in sunlight. Use a UV-resistant type for outdoor applications.

Belden 9913 has a "Semi-Solid Polyethylene" dielectric and can't handle tight-radius bend. It also has a solid center conductor, which doesn't like repeated flexing. The shield is "100% coverage Duobond tape" (foil), which also doesn't like repeated flexing.

RG-58 types are rated to 250W (under matched conditions) safely. If you plan on running higher power and/or longer runs and/or high standing waves on the feedline, you should consider something larger. Many hams have used RG-8X (also called "mini RG-8") with good success. If you're cost-conscious, this might be a good choice.

Ralph mentioned LMR400 as having a copper coated aluminum center conductor. It's made by Times Microwave Systems (http://www.timesmicrowave.com/) and is a solid conductor. Their Ultraflex version (LMR400UF) has a stranded bare

copper inner conductor. He also mentioned Davis RF
(http://www.davisrf.com/) having Buryflex available. As far as I can see,
it's LMR400UF with a different brand name on it. By the way, I've dealt
with them once... very good folks.

Vy 73,
Bryan WA7PRC

3895. Re: How much does a counterpoise radiate?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 06:22:06 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <p2PxIKDOoIGGFAkG@ifwtech.co.uk>
Source record: 43411

HB9DST wrote:
>
>Past experience at other QTHs tell me that I will also need a
>counterpoise. But here's the question: does the counterpoise radiate,
>even if it's cut to 1/4 wavelength?

Yes, it will radiate - *especially* if it's cut to a quarter-wavelength.

>Then, if I put the counterpoise on the floor in my shack I haven't
>really solved the problem because the CP radiates into my shack and my
>neighbors' apartments?
>
>I realize that a counterpoise is the "second half" of an antenna. That
>being the case, what's the difference between a traditional dipole and
>a longwire/counterpoise configuration? Both legs radiate, correct?
>
Correct. If you call it a "counterpoise" instead of "the second half of
the antenna", it changes nothing but the name. It is still the same
wire, and will radiate exactly the same in both cases.

However much RF current you manage to push into the part of the antenna
that you do want to radiate, you can be sure that an equal current is
flowing into the other part... or maybe into the mains wiring.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

3896. Re: How much does a counterpoise radiate?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 06:45:19 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990CAA6CBB706nonenowhere@61.9.191.5>
Source record: 43412

Ian White GM3SEK <gm3sek@ifwtech.co.uk> wrote in
news:p2PxIKDOoIGGFAkG@ifwtech.co.uk:

> However much RF current you manage to push into the part of the antenna
> that you do want to radiate, you can be sure that an equal current is
> flowing into the other part... or maybe into the mains wiring.

... or the dirt, as the case may be.

Owen

3897. Re: RG-6 Coaxial Cable for Ham use

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 07:54:49 UTC
From: "mike-c@bulldoghome.com" <mike-c@bulldoghome.com>
Message-ID: <1176018889.225251.210890@o5g2000hsb.googlegroups.com>
Source record: 43413
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

On Apr 8, 1:05 am, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
> "Dave Heil" <k...@earthlink.net> wrote in message
>
> news:8MVRh.135366$_73.113156@newsread2.news.pas.earthlink.net...
>
>
>
> > Tam/WB2TT wrote:
>
> >>> I might point out to Dee that the RG-6 I see is indeed meant for outdoor
> >>> use. Our local dish installers us it as their standard feedline.
>
> >> Of the few samples that I looked at, the black RG6 was outdoor rated, the
> >> white jacketed was not. Kind of makes sense. Didn't see any power ratings
> >> at the Belden site, but I seem to recall seeing ratings in the few
> >> hundred W range.
>
> > RG-6 will take the legal limit on at least 80 and 160m and probably on
> > 40m. It is available in direct burial type. The new, weather-proof crimp
> > on connectors are wonderful.
>
> > Several companies make or sell the PL-251 to F connector adaptors.
>
> > W8JI had some informative technical posts on the subject on the topband
> > reflector a few months back.
> > Dave K8MN
>
> I would think the power level would be more voltage limiated. Most of the
> rg6 is rated around 300 to 350 volts. This is about 1200 watts on a matched
> line. derate for a swr of say 3 or 4 to 1 and you get to run about 300 to
> 400 watts into it,

personally I dont consider it for ham work it appears too far out of
spec and cannot be gaurentead to be outdoor rated ie if ordered and
the supplier does not have they may send the wrong type. In a
warehouse you pay peanuts get monkeys. power wise take the 300 watts
and 1/2 it for safety limits.

3898. Re: RG-6 Coaxial Cable for Ham use

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 08:59:20 UTC
From: "Mrak@kb9rqz.bi" <anon@anon>
Message-ID: <r70e2.ttk.19.1@news.alt.net>
Source record: 43414
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

<mike-c@bulldoghome.com> wrote in message
news:1176018889.225251.210890@o5g2000hsb.googlegroups.com...
> On Apr 8, 1:05 am, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
> > "Dave Heil" <k...@earthlink.net> wrote in message
> >
> > news:8MVRh.135366$_73.113156@newsread2.news.pas.earthlink.net...
> >
> >
> >
> > > Tam/WB2TT wrote:
> >
> > >>> I might point out to Dee that the RG-6 I see is indeed meant for
outdoor
> > >>> use. Our local dish installers us it as their standard feedline.
> >
> > >> Of the few samples that I looked at, the black RG6 was outdoor rated,
the
> > >> white jacketed was not. Kind of makes sense. Didn't see any power
ratings
> > >> at the Belden site, but I seem to recall seeing ratings in the few
> > >> hundred W range.
> >
> > > RG-6 will take the legal limit on at least 80 and 160m and probably on
> > > 40m. It is available in direct burial type. The new, weather-proof
crimp
> > > on connectors are wonderful.
> >
> > > Several companies make or sell the PL-251 to F connector adaptors.
> >
> > > W8JI had some informative technical posts on the subject on the
topband
> > > reflector a few months back.
> > > Dave K8MN
> >
> > I would think the power level would be more voltage limiated. Most of
the
> > rg6 is rated around 300 to 350 volts. This is about 1200 watts on a
matched
> > line. derate for a swr of say 3 or 4 to 1 and you get to run about 300
to
> > 400 watts into it,
>
> personally I dont consider it for ham work it appears too far out of

> spec and cannot be gaurentead to be outdoor rated ie if ordered and
> the supplier does not have they may send the wrong type. In a
> warehouse you pay peanuts get monkeys. power wise take the 300 watts
> and 1/2 it for safety limits.

Lucky Mark. He has copycats who also do not use a spell check program. This guy could be vying to be his twin.
And the comment was made that RG-6 is easily purchased in many of the local Big Box home outlet stores.
And had you researched this further, you'd have seen the comments by Hams who have succesfully used RG-6 for HF use that includes power outputs of up to 1,500 watts with no deleterious effects upon the cable.
One Ham claims that he has been using this very cable for many years with no problems whatsoever.
Sorry, but I will use this cable and find out for myself. And, no, I won't "1/2 it for safety limits."
Wherever did you come up with this out-of-the-hat number, anyway?

Name and Callsign withheld to avoid spamming and stalking by You-Know-Who.

3899. Re: How much does a counterpoise radiate?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 11:04:53 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1176030293.330580.42230@w1g2000hsg.googlegroups.com>
Source record: 43415

On 8 abr, 01:35, "HB9DST" <pgschre...@swissonline.ch> wrote:
> Antenna restrictions here in HB9-land are severe, but I want to get on
> the air from my 3rd-floor apartment. I have draped a horizontal
> longwire outside along the wall of the building. This wire is now just
> short of 20m.
>
> Before I transmit, I want to make sure to minimize any RFI that
> bothers the neighbors' stereo systems and other electronic equipment.
> First, I will put on a lowpass filter at the tx.
>
> Past experience at other QTHs tell me that I will also need a
> counterpoise. But here's the question: does the counterpoise radiate,
> even if it's cut to 1/4 wavelength? Then, if I put the counterpoise on
> the floor in my shack I haven't really solved the problem because the
> CP radiates into my shack and my neighbors' apartments?
>
> I realize that a counterpoise is the "second half" of an antenna. That
> being the case, what's the difference between a traditional dipole and
> a longwire/counterpoise configuration? Both legs radiate, correct?
>
> Thanks for any clarification anyone can shed on this mystery!
>
> 73,
> Paul HB9DST
> An expat-American cliffdweller in Switzerland

Hello Paul,

You are fully right, the current that goes into your CP wire does radiate. With regards to nearby interference, you also have to incorporate the near fields.

First you can reduce the current into the CP by using a halve wave radiator. That has kOhms of input impedance, hence reducing the current into your CP by about 8. So the 20m wire is not a good choice for 80m.

Other option is to use more wires to emulate a star configuration, the current in the wires reduce and the resistive part of the CP (reducing losses). But there is more. When you use for example 4 wires, the currents in the opposite CP wires, flow in opposite directions, reducing total radiated field. Because of lower current, near field does reduce also.

I think the best option is to connect as much as metal (fences, concrete wire grid, etc) to each other. The goal is to spread the CP

current as much as possible over the apartment building (in both horizontal and vertical direction).

How far is the antenna wire from the wall? If it runs parallel, the radiation will go into the building again (if there is no reinforcing wire mesh present). When it runs too close to the wall, the wall will absorb significant part of the power and/or unintended radiation from domestic electronic equipment will enter your antenna.

Best Regards,

Wim
PA3DJS

3900. Re: help- CDE H3 rotor + controller

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 11:56:53 UTC
From: amdx <amdx@knology.net>
Message-ID: <acbf2$4618d8a2$45011502$7921@KNOLOGY.NET>
Source record: 43417

"Ralph Mowery" <rmowery28146@earthlink.net> wrote in message
news:bfYRh.19397$PL.10796@newsread4.news.pas.earthlink.net...
>
> "amdx" <amdx@knology.net> wrote in message
> news:71c7a$4618452e$45011502$23587@KNOLOGY.NET...
>> I bought a rotor and controller at a hamfest.
>> It is a Cornel Dublier Electronics H3/CD44 Series 2.
>> The position indicator doesn't move with rotation,
>> the indicator needle is almost full scale and can be moved
>> with the calibration adjustment.
>> I suspect the problem is in the rotor.
>> I need a description of operation, to try and troubleshoot the unit.
>> The function of the 8 connections would help.
>> A schematic would be even better.
>>
>> Thanks, Mike
>
> Go here and download the manual. It is for a Hy-gain 45 but it should be
> the same schematic for the 8 wire rotator. Most of the CDE and Hy-gain
> rotators ues the same basic electric design and the mechanical part is
> different .
>
> http://www.hy-gain.com/man/pdf/CD-45II.pdf
>
Thanks Ralph,
At first glance the manual seems to be identical except for the mechanical
as you mentioned.
Interesting how they grounded the wiper of the positioning pot. That's not
what I would have been looking for if I started troubleshooting without a
schematic.
Thanks again, Mike

3901. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 11:57:16 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176033436.910655.4280@n59g2000hsh.googlegroups.com>
Source record: 43416

On Apr 7, 11:45 pm, "Cecil Moore" <w...@hotmail.com> wrote:
> On Apr 7, 7:31 pm, Richard Clark <kb7...@comcast.net> wrote:
>
> > On Sat, 07 Apr 2007 17:59:03 GMT, Cecil Moore <nos...@w5dxp.com>
> > wrote:
>
> > >Between coherent and mutually incoherent is
> > >a span of signals which they call partially
> > >incoherent.
>
> That should have been "partially coherent".
>
> > As Reggie would say "BAFFLEGAB!"
>
> Don't blame me - blame Born and Wolf - whom a lot of people respect.

Do Born and Wolf offer crisp definitions of the boundaries
between coherent, partially coherent, and mutually incoherent?

Or is it a continuum arbitrarily divided into 3 regions for
the purposes of discussion?

...Keith

3902. Re: RG-6 Coaxial Cable for Ham use

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 13:13:34 UTC
From: Tam/WB2TT <t-tammaru@c0mca$t.net>
Message-ID: <p-ydnXlRbOv7d4XbnZ2dnUVZ_hKdnZ2d@comcast.com>
Source record: 43418
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.policy

<mike-c@bulldoghome.com> wrote in message
news:1176018889.225251.210890@o5g2000hsb.googlegroups.com...
> On Apr 8, 1:05 am, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
>> "Dave Heil" <k...@earthlink.net> wrote in message
>>
>> news:8MVRh.135366$_73.113156@newsread2.news.pas.earthlink.net...
>>
>>
>>
>> > Tam/WB2TT wrote:
>>
>> >>> I might point out to Dee that the RG-6 I see is indeed meant for
>> >>> outdoor
>> >>> use. Our local dish installers us it as their standard feedline.
>>
>> >> Of the few samples that I looked at, the black RG6 was outdoor rated,
>> >> the
>> >> white jacketed was not. Kind of makes sense. Didn't see any power
>> >> ratings
>> >> at the Belden site, but I seem to recall seeing ratings in the few
>> >> hundred W range.
>>
>> > RG-6 will take the legal limit on at least 80 and 160m and probably on
>> > 40m. It is available in direct burial type. The new, weather-proof
>> > crimp
>> > on connectors are wonderful.
>>
>> > Several companies make or sell the PL-251 to F connector adaptors.
>>
>> > W8JI had some informative technical posts on the subject on the topband
>> > reflector a few months back.
>> > Dave K8MN
>>
>> I would think the power level would be more voltage limiated. Most of
>> the
>> rg6 is rated around 300 to 350 volts. This is about 1200 watts on a
>> matched
>> line. derate for a swr of say 3 or 4 to 1 and you get to run about 300 to
>> 400 watts into it,
>
> personally I dont consider it for ham work it appears too far out of
> spec and cannot be gaurentead to be outdoor rated ie if ordered and
> the supplier does not have they may send the wrong type. In a

> warehouse you pay peanuts get monkeys. power wise take the 300 watts
> and 1/2 it for safety limits.
>
The local Home Depot here sells RCA branded RG6 that is meant for outside use. As far as power goes, skinny little RG174 is rated at ~200W. The RG6 has got to be at least that good.

Tam

3903. Re: How much does a counterpoise radiate?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 14:19:25 UTC
From: Bob Miller <NOSPAM@neosoft.com>
Message-ID: <j1uh13tnhsq6u8ufa85f9c5lnflei0bdnt@4ax.com>
Source record: 43419

On 7 Apr 2007 16:35:31 -0700, "HB9DST" <pgschreier@swissonline.ch>
wrote:

>Antenna restrictions here in HB9-land are severe, but I want to get on
>the air from my 3rd-floor apartment. I have draped a horizontal
>longwire outside along the wall of the building. This wire is now just
>short of 20m.
>
>Before I transmit, I want to make sure to minimize any RFI that
>bothers the neighbors' stereo systems and other electronic equipment.
>First, I will put on a lowpass filter at the tx.
>
>Past experience at other QTHs tell me that I will also need a
>counterpoise. But here's the question: does the counterpoise radiate,
>even if it's cut to 1/4 wavelength? Then, if I put the counterpoise on
>the floor in my shack I haven't really solved the problem because the
>CP radiates into my shack and my neighbors' apartments?
>
>I realize that a counterpoise is the "second half" of an antenna. That
>being the case, what's the difference between a traditional dipole and
>a longwire/counterpoise configuration? Both legs radiate, correct?
>
>Thanks for any clarification anyone can shed on this mystery!
>
>73,
>Paul HB9DST
>An expat-American cliffdweller in Switzerland

Another way to look at it, without the counterpoise, you may have
trouble getting the swr down to a reasonable level, and the rig may be
very rf-hot. I recently played with an end-fed wire on 20 meters, I
believe it was 3/4 wavelength long, and without a 1/4 wave
counterpoise on the tuner's ground lug, it was untuneable. With the
counterpoise, it worked.

bob
k5qwg

3904. Watson W-881

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 15:07:24 UTC
From: Iain Kelly <no.spam@m0pcb.co.uk>
Message-ID: <evb0dk$7tq$1@netty.york.ac.uk>
Source record: 43420
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Just on the off chance does anyone know what these antennas have inside them?

I could do with knowing and am not really in a position right now to pull one apart and find out.

To me logic says they're just simple monopoles, and they definitely don't present 50 Ohms across the frequency coverage in the specification (25-1900MHz), which suggests to me that there isn't any matching network in the base.

I've stuck one on my analyser, but of course that wouldn't show up any matching network, though it does show the main resonance at 145MHz ;-)

Comments would be appreciated. :-)

--
73, Iain M0PCB/P

3905. Re: help- CDE H3 rotor + controller

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 16:08:30 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <2s8Sh.45040$aG1.7093@pd7urf3no>
Source record: 43421

amdx wrote:
> I bought a rotor and controller at a hamfest.
> It is a Cornel Dublier Electronics H3/CD44 Series 2.
> The position indicator doesn't move with rotation,
> the indicator needle is almost full scale and can be moved
> with the calibration adjustment.
> I suspect the problem is in the rotor.
> I need a description of operation, to try and troubleshoot the unit.
> The function of the 8 connections would help.
> A schematic would be even better.
>
> Thanks, Mike
>
>
>
>
Once you have the schematic you will be able to troubleshoot the
problem easily. It is most likely the wirewound pot in the rotator
mechanism. I simply cleaned mine for years of continued good operation.
Be careful when you open the rotator though -- do it over a baking pan
or something with a lip on it as some bearings are likely to fall out.
They are easy to set back during reassembly.

Irv VE6BP

3906. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 16:22:49 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <bj5i13tj06fi39mpqq71g1vr5aol4oossa@4ax.com>
Source record: 43422

On Sun, 08 Apr 2007 03:32:48 GMT, Owen Duffy <none@no.where> wrote:

>Walter Maxwell <walt@w2du.com> wrote in
>news:5gjg139bpolboek2tqcn4svsgo1gcgoul2@4ax.com:
>
>> is correct. Please review the QEX article I referenced above to see
>> it. With all due respect, Owen, I believe you have misunderstood, or
>> perhaps misconstrued the procedure I presented. Would you please
>> review it again to see where you might have gone wrong?
>
>Hi Walt,
>
>I have reviewed Chapter 3 of Reflections II which you kindly sent me. I
>think it contains the deveopment to which you refer.
>
>It seems to me that Chapter 3 depends entirely on an assumption that the
>phase relationship of the current and voltage of a travelling wave is 0 deg
>or 180 deg, depending on the direction. This only holds true for lossless
>lines and distortionless lines, and so the "proofs" developed in the
>chapter are not general proofs. For example, the proof that reflected power
>is purely real and of magnitude |E-|^2/Zc is not developed for the general
>case, and happens to not be correct for the general case.
>
>Owen

Owen, your statement that my writings in Reflections are flawed is shocking. The feeling I get from it is like
getting sucker punched in the stomach.

Are you so narrowly oriented academically that the difference between lossless and low-loss conditions is so
great that general principles cannot be applied to situations where real-world low-loss elements are involved?

It is generally accepted that voltage and current travel forward on a low-loss line with 0ï¿½ phase difference.
In low-loss lines the effect of the small negative-reactance component in the Z0 due to the loss is routinely
disregarded as insignificant. Likewise, when voltage and current travel rearward on a low-loss line, resulting
from reflection at a mismatched termination, it is generally accepted that they travel with a 180ï¿½ phase
difference, disregarding the small error caused by the insignificantly-small reactance in the Z0.

Calculations performed when disregarding the small error still yield practical results in hands-on operations.
On the other hand, if everyday practical operations required calculating with the academically-perfect
conditions of the Z0, time would be lost due to the unnecessary complications involved in the calculations.

Your stated position is that applying general principles that are academically correct only with lossless
elements to operations involving low-loss elements is flawed.

C'mon, Owen, let's get practical and rescind your impeachment of Reflections.

Walt

3907. Re: Watson W-881

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 16:50:11 UTC
From: JM <johnny@melvin.com>
Message-ID: <K29Sh.30140$042.17871@newsfe02.ams>
Source record: 43423
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

"Iain Kelly" <no.spam@m0pcb.co.uk> wrote in message
news:evb0dk$7tq$1@netty.york.ac.uk...
> Just on the off chance does anyone know what these antennas have inside
> them?
>
> I could do with knowing and am not really in a position right now to pull
> one apart and find out.
>
> To me logic says they're just simple monopoles, and they definitely don't
> present 50 Ohms across the frequency coverage in the specification
> (25-1900MHz), which suggests to me that there isn't any matching network
> in the base.
>
> I've stuck one on my analyser, but of course that wouldn't show up any
> matching network, though it does show the main resonance at 145MHz ;-)
>
> Comments would be appreciated. :-)
>
> --
> 73, Iain M0PCB/P

I had a W-50
It only showed a resonance at 156 MHz.
Deaf toboot.

de Johnny G3LIV.

3908. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 17:34:35 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1176053675.096430.127410@y80g2000hsf.googlegroups.com>
Source record: 43424

On Apr 7, 5:51 pm, Gene Fuller <W4SZzzz...@att.net> wrote:
> The beams "interfere" but they do not "interact".

Of course, you can give examples where the waves survive the
superposition. But what we are talking about is when the waves do
NOT survive the superposition.

How about wave cancellation, Gene? When two coherent waves traveling
in the same direction in the same path with equal magnitudes and
opposite
phases interact, they cease to exist in the direction of the original
travel.
Ir's senseless to argue that waves that cease to exist during the
process
of superposition have not interacted with each other, don't you think?
--
73, Cecil, w5dxp.com

3909. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 17:39:37 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1176053977.476834.76430@n59g2000hsh.googlegroups.com>
Source record: 43425

On Apr 8, 6:57 am, "Keith Dysart" <k...@sympatico.ca> wrote:
> Do Born and Wolf offer crisp definitions of the boundaries
> between coherent, partially coherent, and mutually incoherent?
> Or is it a continuum arbitrarily divided into 3 regions for
> the purposes of discussion?

I don't have Born and Wolf with me at the moment but I seem
to recall that they said that any signal that was not single
frequency could not be 100% coherent. Presumably a signal
with modulation would be partially coherent.
--
73, Cecil, w5dxp.com

3910. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 20:00:12 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <gRbSh.266959$5j1.48427@bgtnsc04-news.ops.worldnet.att.net>
Source record: 43426

Cecil Moore wrote:
> On Apr 7, 5:51 pm, Gene Fuller <W4SZzzz...@att.net> wrote:
>> The beams "interfere" but they do not "interact".
>
> Of course, you can give examples where the waves survive the
> superposition. But what we are talking about is when the waves do
> NOT survive the superposition.
>
> How about wave cancellation, Gene? When two coherent waves traveling
> in the same direction in the same path with equal magnitudes and
> opposite
> phases interact, they cease to exist in the direction of the original
> travel.
> Ir's senseless to argue that waves that cease to exist during the
> process
> of superposition have not interacted with each other, don't you think?
> --
> 73, Cecil, w5dxp.com
>

Cecil,

It is easy to give examples where the waves survive the superposition, because they always do. It is rather strange that you are making this argument after all the back and forth about traveling waves and standing waves. Do we now have multiple flavors of EM waves? Some that obey superposition and some that don't?

I must have missed class the day they went over the theory of "cancellation". Is this another one of those convenient descriptions of results that you keep trying to remold into fundamental physical laws?

I stand 100% behind my two messages to Walt. If you actually read them you would note that I said for most cases it makes no difference whether the waves interfere forever or whether they interact and "cancel". As Owen pointed out a little while ago, we generally don't want to carry around lots of zero components in an analysis.

The bottom line is that EM waves do not interact in free space. Linearity and superposition could not hold if that were the case. Maxwell's equations would need to be recast.

There are exactly enough physical laws and principles now. There is no need to invent more on RRAA.

73,
Gene
W4SZ

3911. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 20:26:41 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990D418A68309nonenowhere@61.9.191.5>
Source record: 43327

Walter Maxwell <walt@w2du.com> wrote in
news:bj5i13tj06fi39mpqq71g1vr5aol4oossa@4ax.com:

Walt, I can see that you have taken my comment as personal criticism. That was not intended, and to the extent that I may have caused that, I apologise. In that context, it is better that I refrain from further comment.

Regards
Owen

3912. Re: gamma match 70cm handheld

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 21:02:55 UTC
From: Kurt <ksaves2@sbcglobal.net>
Message-ID: <3McSh.7893$YL5.5717@newssvr29.news.prodigy.net>
Source record: 43328

Hi,

I made the antenna out of a wood beam and 1/4" brass stock.
I used the QY4 program and the utilities program. Used some solid
18 gauge wire for the gamma match with a 4.7pf capacitor.
QY4 recommended 4.2pf. I used a small plastic box to house the
BNC connector, the gamma wire and the capacitor. Looks pretty
professional actually.
Well, I had set the program to optimize the antenna for 433Mhz
as that is what I was going to start with on my tracking transmitter.
Plugged the Yagi into my handheld, set the power to low, set the fwd
indication on my SWR meter and then did the ref reading. I was shocked
to see that it was 1:1.2. Set it up to 450Mhz and saw it was 1:1. For
this new ham, it was pretty surprising for a first project.
Will be using the antenna mainly to track an RDF beacon in an amateur
rocket. The link is here if your curious to see the unit. They make one
that transmits GPS data too. http://bigredbee.com/BeeLine.htm
Did some testing and I don't have as much directivity but I sure as
heck have plenty of gain with this setup. I might have to get a loop
if a model gets lost in some high weeds so I can get a better bearing
close-in.
I probably won't need an attenuator as I know the Foxhunt RDF folks
intentionally hide their transmitters in some weird places. Our rockets
most of the time land in an open area where our launchsite is.
Sometimes a high powered ship simply disappears off the pad and no one
sees it land. That's when the onboard RDF transmitter earns it's keep.
So far no one has lost a transmitter equipped rocket and there have
been several occasions where this has happened.
One person taped his transmitter to the shock cord that tethers the
pieces of the rocket under the parachute. He recovered his rocket,
brought it back and discovered no transmitter. They had been receiving a
signal all along but the model landed within sight. They went back out
into the field and found the still beeping transmitter with the loop
equipped receiver. Seems it was ripped off the shock cord and fell a
few thousand feet unharmed. This is where amateur rocketry can become
like an RDF foxhunt. :-)

Kurt

Sal M. Onella wrote:
> "Kurt" <ksaves2@sbcglobal.net> wrote in message
> news:%FPQh.1209$zC.237@newssvr22.news.prodigy.net...
>
>>Hi,
>>

>> Am trying a homemade 7 element handheld beam I'm making for 70cm
>>with .25" brass stock. Have a little junction box I have mounted on
>>the beam with a male socket so I can use a BNC cable for the radio
>>connection. Does it matter what size/type wire I use to connect the
>>socket to the brass element and the Gamma match element inside the
>>junction box? I want to use a socket so I can use different lengths of
>>cable as opposed to hardwiring the cable to the antenna.
>
>
>
> I read the other responses and have no quarrel with them. However,
> I have seen a commercial uhf yagi with a gamma match. It was on
> the side of a building and was probably cut for the 450 - 470 MHz
> business band; it looked just a bit smaller than my 70 cm antennas.
>
> My point: It can be done, assuming the antenna I saw wasn't a
> total POS!
>
> 73
> "Sal"
> (KD6VKW)
>
>

3913. Re: gamma match 70cm handheld

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 21:26:46 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990D4BBA2118nonenowhere@61.9.191.5>
Source record: 43329

Kurt <ksaves2@sbcglobal.net> wrote in news:3McSh.7893$YL5.5717
@newssvr29.news.prodigy.net:

...
> Did some testing and I don't have as much directivity but I sure as
> heck have plenty of gain with this setup. I might have to get a loop

Kurt,

Congratulations on your success.

Gain and directivity are related, Gain=Directivity/Loss, or in dB, Gain(dB)
=Directivity(dB)-Loss(dB).

So whilst it is possible to have gain without directivity (due to high
loss), the reverse doesn't happen.

Owen

3914. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 21:52:56 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1176069176.042757.195320@y66g2000hsf.googlegroups.com>
Source record: 43330

On 6 Apr, 08:48, richardharri...@webtv.net (Richard Harrison) wrote:
> Art wrote:
>
> "Frankly a lot of people on this net need to get up to speed with
> respect to radiation such as tipped antennas ---."
>
> Yesterday`s response seems to have been gobbled in cyber space.
>
> Not all my reference books are over 50 years old. One of my best was
> published in 2003 although its principal author was born in 1910. He is
> J.D. Kraus, but he had numerous and likely younger collaborators, 6 of
> whom are listed as co-authors. The title: "Antennas For All
> Applications. 3rd edition".
>
> On page 297 is found an item which illustrates what happens when you tip
> an antenna. It is titled: "Antenna Rotation Experiments":
> "Consider the radio circuit shown in Fig. 8-74a in which one antenna is
> circularly polarized (a turnstile?) and the other is linearly polarized.
> If one of the antennas is rotated about its axis a frequency f (r/s),
> the received signal is shifted to F + or - f, where F is the transmitter
> frequency."
>
> Fig. 8-74 notes:
> "Antenna rotation produces amplitude modulation."
>
> Of course it does. When the linear antenna is aligned parallel to one
> axis of the CP antenna, the signal is maximum. When the linear antenna
> is most misaligned with either axis of the CP antenna, signal is a
> minimum. The example demonstrates why polarization alignment, not
> tipping or tilt, is usually important.
>
> Best regards, Richard Harrison, KB5WZI

Richard, I couldn't find my Kraus book so I will have to let your
comment go.
I did look in the Jasik book on parasitic elements.
It said"A parrasitic element properly tuned will operate in phase-and-
field relationships
approximating those computed.In multi element arrays, independent
control and phase and amplitude is required and parasitics should be
avoided. However, they may be employed in antennas
designed primarily for power gain" To me this describes a yagi with
parasitic elements designed for power gain regardless of the mix of
polarisation. The Gauss system which does not use parasitics and

therefore pursues the independent control AND PHASE AND AMPLITUDE.
A yagi in a 90 degree multiple of earth does operate in a field
relationship because of its multi phase radiation where as the
gaussion tilts to remove unwanted phase and keeps only the required
phase. This is extremely important in cell transmittions since
channels are only of use when the polarisation is correct and any area
that does not comprise of the correct polarisation results in a
dropped call.
In my last post I mentioned the slope between scanning lines on a T.V.
as a reference line for true polarity. Any comment with respect to the
veracity of that statement since I see a direct corrorally between
that and radiation tilt angles?
Best regards
Art

3915. high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 22:40:57 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <ir2dnSnmS_Dh8oTbnZ2dnUVZ_vCknZ2d@comcast.com>
Source record: 43331

All,

This question is: How can the ground system for a vertical be improved?

The RF ground calculates to about 52 Ohms. It consists of 16 radials varying in length from 24 to 45 feet. Four are buried and 12 are on ground. The location is the Pacific Northwest part way up a hillside. The surface is grass, the subsurface is clay. The value varies a little with rain, it has measured as low as 46 to 48 Ohms.

Just as additional information, the antenna is a loaded vertical, overall about 4 meters. The coil is about 35% from the base. The antenna is raised about 1 meter. I am aware the configuration is not optimum and a top hat would help, those changes will be made independently.

Several articles indicate this radial system should yield well under 20 Ohms, some estimates are under 8 Ohms. At this point my first target is under 20 Ohms. Little that I do seems to affect it. My question is:

What am I missing?

The problem is the value does not appear to change very much. I started with 4 radials and have been adding them periodically. Those changes do not seem to have a measurable effect. (However I must admit that earlier numbers not as good as the current measurement. I believe the current measurements are better then 10%.)

Thanks - Dan

3916. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 22:53:55 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990D5A808D250nonenowhere@61.9.191.5>
Source record: 43332

dansawyeror <dansawyeror@comcast.net> wrote in
news:ir2dnSnmS_Dh8oTbnZ2dnUVZ_vCknZ2d@comcast.com:

Dan,

You refer to calculation of ground resistance and later to measurements.
It would help if you explained what you measured, the frequency of
measurement, and how you measured it, then how you calculated your
results.

Perhaps the regimen of that might help you to an answer.

Owen

> All,
>
> This question is: How can the ground system for a vertical be improved?
>
> The RF ground calculates to about 52 Ohms. It consists of 16 radials
> varying in length from 24 to 45 feet. Four are buried and 12 are on
> ground. The location is the Pacific Northwest part way up a hillside.
> The surface is grass, the subsurface is clay. The value varies a little
> with rain, it has measured as low as 46 to 48 Ohms.
>
> Just as additional information, the antenna is a loaded vertical,
> overall about 4 meters. The coil is about 35% from the base. The
antenna
> is raised about 1 meter. I am aware the configuration is not optimum
and
> a top hat would help, those changes will be made independently.
>
> Several articles indicate this radial system should yield well under 20
> Ohms, some estimates are under 8 Ohms. At this point my first target is
> under 20 Ohms. Little that I do seems to affect it. My question is:
>
> What am I missing?
>
> The problem is the value does not appear to change very much. I started
> with 4 radials and have been adding them periodically. Those changes do
> not seem to have a measurable effect. (However I must admit that
earlier
> numbers not as good as the current measurement. I believe the current
> measurements are better then 10%.)
>
> Thanks - Dan
>

3917. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 22:55:47 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <TpeSh.6782$u03.5794@newssvr21.news.prodigy.net>
Source record: 43333

Gene Fuller wrote:
> It is easy to give examples where the waves survive the superposition,
> because they always do. It is rather strange that you are making this
> argument after all the back and forth about traveling waves and standing
> waves. Do we now have multiple flavors of EM waves? Some that obey
> superposition and some that don't?

They all obey superposition which can occur with or
without interference. And you are wrong about all
waves surviving superposition. Canceled waves do
not survive wave cancellation in the direction that
they are traveling. Access this web page and set
the two waves to equal frequencies, equal magnitudes,
and opposite phases, i.e. 0 and 180 degrees.

http://micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/waveinteractions/index
.html

When you do that, the waves are canceled in their
original direction of travel. The energy in those
canceled waves certainly survives, but those two
original waves cease to exist never to be seen
again.

> I must have missed class the day they went over the theory of
> "cancellation".

You must have. Please run the above java application
and alleviate your ignorance about what you missed. Why
do the waves disappear when they are of equal magnitude
and opposite phase?

> I stand 100% behind my two messages to Walt. If you actually read them
> you would note that I said for most cases it makes no difference whether
> the waves interfere forever or whether they interact and "cancel".

Of course it makes all the difference in the world. That's
what the entire argument is all about. You simply cannot
sweep the truth under the "does not matter" rug. And until
you can say "all cases" instead of "most cases" your
argument is irrelevant. If it doesn't work for all, it
doesn't work at all.

> The bottom line is that EM waves do not interact in free space.

It is indeed difficult to get two beams of light collinear
in space space. But it is not difficult at all to get two

RF waves collinear in a transmission line. It happens every
time someone adjusts his antenna tuner for a Z0-match.
--
73, Cecil http://www.w5dxp.com

3918. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-08 23:09:05 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ICeSh.6783$u03.4@newssvr21.news.prodigy.net>
Source record: 43334

Keith Dysart wrote:
> Do Born and Wolf offer crisp definitions of the boundaries
> between coherent, partially coherent, and mutually incoherent?
> Or is it a continuum arbitrarily divided into 3 regions for
> the purposes of discussion?

The IEEE Dictionary has an interesting definition for
"degree of coherence". Imax means intensity maximum
and Imin means intensity minimum.

Visibility = (Imax-Imin)/(Imax+Imin)

Light is considered "highly coherent" when Visibility
exceeds 0.88 and "partially coherent" when Visibility
is less than 0.88. Incoherent for "very small values"
of Visibility.
--
73, Cecil http://www.w5dxp.com

3919. Re: gamma match 70cm handheld

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 00:36:48 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <46198a85$0$16704$4c368faf@roadrunner.com>
Source record: 43335

Kurt wrote:

Well, I had set the program to optimize the antenna for 433Mhz
as that is what I was going to start with on my tracking transmitter.
Plugged the Yagi into my handheld, set the power to low, set the fwd
indication on my SWR meter and then did the ref reading. I was shocked
to see that it was 1:1.2. Set it up to 450Mhz and saw it was 1:1. For
this new ham, it was pretty surprising for a first project.

This is exactly why I never trusted gamma matches on 70 cm. I consistently
got nearly perfectly flat matches all the way across the band using a gamma
match. This usally something aint right. and the antenna is probably
radiating more in the infra-red region than at the desire frequency. No
doubt there are others more skilled than I who can make it work For me the
quagi has worked to damned well for me to bother.

Jimmie.

3920. Re: help- CDE H3 rotor + controller

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 00:52:24 UTC
From: amdx <amdx@knology.net>
Message-ID: <7d6bc$46198e65$45011502$18874@KNOLOGY.NET>
Source record: 43337

"Irv Finkleman" <finkirv@shaw.ca> wrote in message
news:2s8Sh.45040$aG1.7093@pd7urf3no...
> amdx wrote:
>> I bought a rotor and controller at a hamfest.
>> It is a Cornel Dublier Electronics H3/CD44 Series 2.
>> The position indicator doesn't move with rotation,
>> the indicator needle is almost full scale and can be moved
>> with the calibration adjustment.
>> I suspect the problem is in the rotor.
>> I need a description of operation, to try and troubleshoot the unit.
>> The function of the 8 connections would help.
>> A schematic would be even better.
>>
>> Thanks, Mike
>>
>>
> Once you have the schematic you will be able to troubleshoot the
> problem easily. It is most likely the wirewound pot in the rotator
> mechanism. I simply cleaned mine for years of continued good operation.
> Be careful when you open the rotator though -- do it over a baking pan
> or something with a lip on it as some bearings are likely to fall out.
> They are easy to set back during reassembly.
>

Thanks Irv, now you tell me about the baking pan :-)
I now have it working. When I opened the controller, I first noticed a radio
shack
transformer that cost $1.98, pretty old, it would probably cost $9.00 now. I
assumed
it must have worked with the transformer at some point. Then I noticed the
full scale
trimpot was a pot/switch combo with the switch part inoperative. But both of
these
where doing what they should do though, so I continued and found a wire
connected where
it shouldn't be. I cut that wire and made the connection to the proper wire.
The unit works fine.
I thought I'd check the lubrication before I installed the rotor. Two hours
later, after picking
up ball bearings, learning how to get the bell properly aligned with the
wiper driver, getting
the ring gear aligned right, etc. The lube was good.
Well, I now know more about controllers and rotors than I did yesterday.
Thanks, Mike

3921. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 00:52:26 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <46198e30$0$1366$4c368faf@roadrunner.com>
Source record: 43336

"art" <aunwin@insightbb.com> wrote in message
news:1176069176.042757.195320@y66g2000hsf.googlegroups.com...
> On 6 Apr, 08:48, richardharri...@webtv.net (Richard Harrison) wrote:
>> Art wrote:
>>
>> "Frankly a lot of people on this net need to get up to speed with
>> respect to radiation such as tipped antennas ---."
>>
>> Yesterday`s response seems to have been gobbled in cyber space.
>>
>> Not all my reference books are over 50 years old. One of my best was
>> published in 2003 although its principal author was born in 1910. He is
>> J.D. Kraus, but he had numerous and likely younger collaborators, 6 of
>> whom are listed as co-authors. The title: "Antennas For All
>> Applications. 3rd edition".
>>
>> On page 297 is found an item which illustrates what happens when you tip
>> an antenna. It is titled: "Antenna Rotation Experiments":
>> "Consider the radio circuit shown in Fig. 8-74a in which one antenna is
>> circularly polarized (a turnstile?) and the other is linearly polarized.
>> If one of the antennas is rotated about its axis a frequency f (r/s),
>> the received signal is shifted to F + or - f, where F is the transmitter
>> frequency."
>>
>> Fig. 8-74 notes:
>> "Antenna rotation produces amplitude modulation."
>>
>> Of course it does. When the linear antenna is aligned parallel to one
>> axis of the CP antenna, the signal is maximum. When the linear antenna
>> is most misaligned with either axis of the CP antenna, signal is a
>> minimum. The example demonstrates why polarization alignment, not
>> tipping or tilt, is usually important.
>>
>> Best regards, Richard Harrison, KB5WZI
>
> Richard, I couldn't find my Kraus book so I will have to let your
> comment go.
> I did look in the Jasik book on parasitic elements.
> It said"A parrasitic element properly tuned will operate in phase-and-
> field relationships
> approximating those computed.In multi element arrays, independent
> control and phase and amplitude is required and parasitics should be
> avoided. However, they may be employed in antennas
> designed primarily for power gain" To me this describes a yagi with

> parasitic elements designed for power gain regardless of the mix of
> polarisation. The Gauss system which does not use parasitics and
> therefore pursues the independent control AND PHASE AND AMPLITUDE.
> A yagi in a 90 degree multiple of earth does operate in a field
> relationship because of its multi phase radiation where as the
> gaussion tilts to remove unwanted phase and keeps only the required
> phase. This is extremely important in cell transmittions since
> channels are only of use when the polarisation is correct and any area
> that does not comprise of the correct polarisation results in a
> dropped call.
> In my last post I mentioned the slope between scanning lines on a T.V.
> as a reference line for true polarity. Any comment with respect to the
> veracity of that statement since I see a direct corrorally between
> that and radiation tilt angles?
> Best regards
> Art
>

Perhaps you should actually make an effort to explain why you see the relationships you see. I can think of no reason why anyone should be expected to go into great detail to explain your fallacies while you use almost no effort to explain why you think you are right.

Jimmie

3922. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 00:56:03 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176080163.132157.292880@l77g2000hsb.googlegroups.com>
Source record: 43338

On Apr 8, 7:09 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Do Born and Wolf offer crisp definitions of the boundaries
> > between coherent, partially coherent, and mutually incoherent?
> > Or is it a continuum arbitrarily divided into 3 regions for
> > the purposes of discussion?
>
> The IEEE Dictionary has an interesting definition for
> "degree of coherence". Imax means intensity maximum
> and Imin means intensity minimum.
>
> Visibility = (Imax-Imin)/(Imax+Imin)
>
> Light is considered "highly coherent" when Visibility
> exceeds 0.88 and "partially coherent" when Visibility
> is less than 0.88. Incoherent for "very small values"
> of Visibility.

This is good; a continuum with high coherence at one end, low
coherence at the other and medium in the middle, and, of course,
since the ends are infinitely small, no such thing as perfect
coherence or "NO" coherence (at least in the real world).

This then takes us back to the original point; there is always
some interference, though it may be small enough that an
engineer does not find it of interest.

...Keith

3923. Re: help- CDE H3 rotor + controller

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 01:02:07 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <jggSh.45925$6m4.42361@pd7urf1no>
Source record: 43339

amdx wrote:

>
> Thanks Irv, now you tell me about the baking pan :-)

> Thanks, Mike
>

Plus or minus one bearing is close enough for amateur work! :-)
Glad you got it fixed.

Irv

3924. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 01:25:36 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1176081936.328730.35080@q75g2000hsh.googlegroups.com>
Source record: 43340

On 8 Apr, 17:52, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
> "art" <aun...@insightbb.com> wrote in message
>
> news:1176069176.042757.195320@y66g2000hsf.googlegroups.com...
>
>
>
>
>
> > On 6 Apr, 08:48, richardharri...@webtv.net (Richard Harrison) wrote:
> >> Art wrote:
>
> >> "Frankly a lot of people on this net need to get up to speed with
> >> respect to radiation such as tipped antennas ---."
>
> >> Yesterday`s response seems to have been gobbled in cyber space.
>
> >> Not all my reference books are over 50 years old. One of my best was
> >> published in 2003 although its principal author was born in 1910. He is
> >> J.D. Kraus, but he had numerous and likely younger collaborators, 6 of
> >> whom are listed as co-authors. The title: "Antennas For All
> >> Applications. 3rd edition".
>
> >> On page 297 is found an item which illustrates what happens when you tip
> >> an antenna. It is titled: "Antenna Rotation Experiments":
> >> "Consider the radio circuit shown in Fig. 8-74a in which one antenna is
> >> circularly polarized (a turnstile?) and the other is linearly polarized.
> >> If one of the antennas is rotated about its axis a frequency f (r/s),
> >> the received signal is shifted to F + or - f, where F is the transmitter
> >> frequency."
>
> >> Fig. 8-74 notes:
> >> "Antenna rotation produces amplitude modulation."
>
> >> Of course it does. When the linear antenna is aligned parallel to one
> >> axis of the CP antenna, the signal is maximum. When the linear antenna
> >> is most misaligned with either axis of the CP antenna, signal is a
> >> minimum. The example demonstrates why polarization alignment, not
> >> tipping or tilt, is usually important.
>
> >> Best regards, Richard Harrison, KB5WZI
>
> > Richard, I couldn't find my Kraus book so I will have to let your
> > comment go.

> > I did look in the Jasik book on parasitic elements.
> > It said"A parrasitic element properly tuned will operate in phase-and-
> > field relationships
> > approximating those computed.In multi element arrays, independent
> > control and phase and amplitude is required and parasitics should be
> > avoided. However, they may be employed in antennas
> > designed primarily for power gain" To me this describes a yagi with
> > parasitic elements designed for power gain regardless of the mix of
> > polarisation. The Gauss system which does not use parasitics and
> > therefore pursues the independent control AND PHASE AND AMPLITUDE.
> > A yagi in a 90 degree multiple of earth does operate in a field
> > relationship because of its multi phase radiation where as the
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> > channels are only of use when the polarisation is correct and any area
> > that does not comprise of the correct polarisation results in a
> > dropped call.
> > In my last post I mentioned the slope between scanning lines on a T.V.
> > as a reference line for true polarity. Any comment with respect to the
> > veracity of that statement since I see a direct corrorally between
> > that and radiation tilt angles?
> > Best regards
> > Art
>
> Perhaps you should actually make an effort to explain why you see the
> relationships you see. I can think of no reason why anyone should be
> expected to go into great detail to explain your fallacies while you use
> almost no effort to explain why you think you are right.
>
> Jimmie- Hide quoted text -
>
> - Show quoted text -

Jimmie
As I said earlier the crt picture was in a Terman book. The picture showed a series of scan lines across the screen at a slight angle. Drawn at right angles to the sloping lines was a square i.e. bisected by the scan line. It was stated that the square represented aperture. Thus both the scan line and the aperture was tilted away from 90 degrees to the earth.
As I said earlier for purity of polarization a vertical dipole would have to be tilted approx 3 degrees. All this is a repeat of my last post which I consider an effort to rebutt what you call a "fallacy". I see similarities with what I stated earlier with respect to antennas. I never said I was correct to compare these analogies, I just put them forward for thought knowing that when the sets are assembled they are positioned to the north with the crt in a fixed position and the yoke is then manipulated to its best angle tho it has been known for T.V. pictures to be skewed by 3 degrees or so. Yup, I did make some effort don't you think?

Art

3925. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 02:01:17 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1176084077.641174.315020@y66g2000hsf.googlegroups.com>
Source record: 43341

On 8 Apr, 17:52, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
> "art" <aun...@insightbb.com> wrote in message
>
> news:1176069176.042757.195320@y66g2000hsf.googlegroups.com...
>
>
>
>
>
> > On 6 Apr, 08:48, richardharri...@webtv.net (Richard Harrison) wrote:
> >> Art wrote:
>
> >> "Frankly a lot of people on this net need to get up to speed with
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> >> If one of the antennas is rotated about its axis a frequency f (r/s),
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> >> is most misaligned with either axis of the CP antenna, signal is a
> >> minimum. The example demonstrates why polarization alignment, not
> >> tipping or tilt, is usually important.
>
> >> Best regards, Richard Harrison, KB5WZI
>
> > Richard, I couldn't find my Kraus book so I will have to let your
> > comment go.

> > I did look in the Jasik book on parasitic elements.
> > It said"A parrasitic element properly tuned will operate in phase-and-
> > field relationships
> > approximating those computed.In multi element arrays, independent
> > control and phase and amplitude is required and parasitics should be
> > avoided. However, they may be employed in antennas
> > designed primarily for power gain" To me this describes a yagi with
> > parasitic elements designed for power gain regardless of the mix of
> > polarisation. The Gauss system which does not use parasitics and
> > therefore pursues the independent control AND PHASE AND AMPLITUDE.
> > A yagi in a 90 degree multiple of earth does operate in a field
> > relationship because of its multi phase radiation where as the
> > gaussion tilts to remove unwanted phase and keeps only the required
> > phase. This is extremely important in cell transmittions since
> > channels are only of use when the polarisation is correct and any area
> > that does not comprise of the correct polarisation results in a
> > dropped call.
> > In my last post I mentioned the slope between scanning lines on a T.V.
> > as a reference line for true polarity. Any comment with respect to the
> > veracity of that statement since I see a direct corrorally between
> > that and radiation tilt angles?
> > Best regards
> > Art
>
> Perhaps you should actually make an effort to explain why you see the
> relationships you see. I can think of no reason why anyone should be
> expected to go into great detail to explain your fallacies while you use
> almost no effort to explain why you think you are right.
> such that the horizontal vecot
> Jimmie- Hide quoted text -
>
> - Show quoted text -

I think I will try one more time with respect to tilt angle.
ARRL publications suggest that a vertical dipole only radiates a
vertically polarized radiation
Amatures read these publication and follow suit on their thinking, if
they can think that is,anything else must be wrong.
Well Jimmie you must surely know that only one electron stream travels
at the same angle as the dipole, any thing else does not. Therefore
the resultant vector angle cannot be parallel to the radiating member
and thus will radiate some horizontal radiation. To remove vertical
radiation you must tip the vertical dipole until the horizontal vector
is removed. All very simple.
Still to difficult for you? Well try this. Use your antenna program to
determine the horizontal
radiation and vertical radiation of a vertical dipole. Now model a
tipped dipole until the horizontal radiation is removed leaving only
vertical radiation and "Bingo" you should now understand and possibly
other amateurs will now question what they read in books. Tho I doubt

that since learners seem to only to be able to regurgitate rather than activate their brain.
If you are still not comfortable read Maxwells laws and activate your own brain and follow the leads given. There is no way I can activate your brain or any of the pseudo experts brains on line.
Art
Art

3926. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 02:11:46 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <4619a0c7$0$27081$4c368faf@roadrunner.com>
Source record: 43342

"art" <aunwin@insightbb.com> wrote in message
news:1176081936.328730.35080@q75g2000hsh.googlegroups.com...
> On 8 Apr, 17:52, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
>> "art" <aun...@insightbb.com> wrote in message
>>
>> news:1176069176.042757.195320@y66g2000hsf.googlegroups.com...
>>
>>
>>
>>
>>
>> > On 6 Apr, 08:48, richardharri...@webtv.net (Richard Harrison) wrote:
>> >> Art wrote:
>>
>> >> "Frankly a lot of people on this net need to get up to speed with
>> >> respect to radiation such as tipped antennas ---."
>>
>> >> Yesterday`s response seems to have been gobbled in cyber space.
>>
>> >> Not all my reference books are over 50 years old. One of my best was
>> >> published in 2003 although its principal author was born in 1910. He
>> >> is
>> >> J.D. Kraus, but he had numerous and likely younger collaborators, 6 of
>> >> whom are listed as co-authors. The title: "Antennas For All
>> >> Applications. 3rd edition".
>>
>> >> On page 297 is found an item which illustrates what happens when you
>> >> tip
>> >> an antenna. It is titled: "Antenna Rotation Experiments":
>> >> "Consider the radio circuit shown in Fig. 8-74a in which one antenna
>> >> is
>> >> circularly polarized (a turnstile?) and the other is linearly
>> >> polarized.
>> >> If one of the antennas is rotated about its axis a frequency f (r/s),
>> >> the received signal is shifted to F + or - f, where F is the
>> >> transmitter
>> >> frequency."
>>
>> >> Fig. 8-74 notes:
>> >> "Antenna rotation produces amplitude modulation."
>>
>> >> Of course it does. When the linear antenna is aligned parallel to one
>> >> axis of the CP antenna, the signal is maximum. When the linear antenna
>> >> is most misaligned with either axis of the CP antenna, signal is a

>> >> minimum. The example demonstrates why polarization alignment, not
>> >> tipping or tilt, is usually important.
>>
>> >> Best regards, Richard Harrison, KB5WZI
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>> > Richard, I couldn't find my Kraus book so I will have to let your
>> > comment go.
>> > I did look in the Jasik book on parasitic elements.
>> > It said"A parrasitic element properly tuned will operate in phase-and-
>> > field relationships
>> > approximating those computed.In multi element arrays, independent
>> > control and phase and amplitude is required and parasitics should be
>> > avoided. However, they may be employed in antennas
>> > designed primarily for power gain" To me this describes a yagi with
>> > parasitic elements designed for power gain regardless of the mix of
>> > polarisation. The Gauss system which does not use parasitics and
>> > therefore pursues the independent control AND PHASE AND AMPLITUDE.
>> > A yagi in a 90 degree multiple of earth does operate in a field
>> > relationship because of its multi phase radiation where as the
>> > gaussion tilts to remove unwanted phase and keeps only the required
>> > phase. This is extremely important in cell transmittions since
>> > channels are only of use when the polarisation is correct and any area
>> > that does not comprise of the correct polarisation results in a
>> > dropped call.
>> > In my last post I mentioned the slope between scanning lines on a T.V.
>> > as a reference line for true polarity. Any comment with respect to the
>> > veracity of that statement since I see a direct corrorally between
>> > that and radiation tilt angles?
>> > Best regards
>> > Art
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>> Perhaps you should actually make an effort to explain why you see the
>> relationships you see. I can think of no reason why anyone should be
>> expected to go into great detail to explain your fallacies while you use
>> almost no effort to explain why you think you are right.
>>
>> Jimmie- Hide quoted text -
>>
>> - Show quoted text -
>
> Jimmie
> As I said earlier the crt picture was in a Terman book. The picture
> showed a series of scan lines across the screen at a slight angle.
> Drawn at right angles to the sloping lines was a square i.e. bisected
> by the scan line. It was stated that the square represented aperture.
> Thus both the scan line and the aperture was tilted away from 90
> degrees to the earth.
> As I said earlier for purity of polarization a vertical dipole would
> have to be tilted approx 3 degrees. All this is a repeat of my last
> post which I consider an effort to rebutt what you call a "fallacy".

> I see similarities with what I stated earlier with respect to
> antennas. I never said I was correct to compare these analogies, I
> just put them forward for thought knowing that when the sets are
> assembled they are positioned to the north with the crt in a fixed
> position and the yoke is then manipulated to its best angle tho it has
> been known for T.V. pictures to be skewed by 3 degrees or so. Yup, I
> did make some effort don't you think?
> Art
>

Not much, just leaps from one thought to another without explanaion.

Jimmie

3927. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 02:15:31 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <7IhSh.268404$5j1.9804@bgtnsc04-news.ops.worldnet.att.net>
Source record: 43343

Cecil Moore wrote:
> Gene Fuller wrote:
>> It is easy to give examples where the waves survive the superposition,
>> because they always do. It is rather strange that you are making this
>> argument after all the back and forth about traveling waves and
>> standing waves. Do we now have multiple flavors of EM waves? Some that
>> obey superposition and some that don't?
>
> They all obey superposition which can occur with or
> without interference. And you are wrong about all
> waves surviving superposition. Canceled waves do
> not survive wave cancellation in the direction that
> they are traveling. Access this web page and set
> the two waves to equal frequencies, equal magnitudes,
> and opposite phases, i.e. 0 and 180 degrees.
>
> http://micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/waveinteractions/index.html
>
>
> When you do that, the waves are canceled in their
> original direction of travel. The energy in those
> canceled waves certainly survives, but those two
> original waves cease to exist never to be seen
> again.
>
>> I must have missed class the day they went over the theory of
>> "cancellation".
>
> You must have. Please run the above java application
> and alleviate your ignorance about what you missed. Why
> do the waves disappear when they are of equal magnitude
> and opposite phase?
>

[snip]

Cecil,

That's really funny. A grad student and a programmer put together a simply java applet to try to illustrate the concept of interference, and you treat it as a new bible. I bet the authors would be appalled by your interpretation.

By the way, did you look beyond the pretty pictures and read the section where the authors said,

"All of the wave examples presented in Figure 1 portray waves propagating in the same direction, but in many cases, light waves traveling in different directions can briefly meet and undergo interference. After the waves have passed each other, however, they will resume their original course, having the same amplitude, wavelength, and phase that they had before meeting."

Hmmm, I think that is exactly what I said in this thread on RRAA.

73,
Gene
W4SZ

3928. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 02:20:12 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <wphSh.3673$H_5.567@newssvr23.news.prodigy.net>
Source record: 43344

Keith Dysart wrote:
> This is good; a continuum with high coherence at one end, low
> coherence at the other and medium in the middle, and, of course,
> since the ends are infinitely small, no such thing as perfect
> coherence or "NO" coherence (at least in the real world).

But remember that definition is for fiber optics
sources, not amateur radio sources. Coherency
in amateur radio systems can get as close as
a zero reading on a reflected power meter.

Still there are those nagging assertions of Born
and Wolf that for two equal magnitude signals,
the total intensity possible for incoherent
signals is double the intensity of one signal.
The total intensity possible for coherent
signals is four times the intensity of one
signal.
--
73, Cecil http://www.w5dxp.com

3929. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 02:45:52 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ANhSh.6827$u03.1345@newssvr21.news.prodigy.net>
Source record: 43345

Gene Fuller wrote:
> That's really funny. A grad student and a programmer put together a
> simply java applet to try to illustrate the concept of interference, and
> you treat it as a new bible. I bet the authors would be appalled by your
> interpretation.

One more example of an ignorant person making fun of something
he doesn't understand. One of those signals is s11(a1). The
other is s12(a2). Added together they equal zero. That's the
S-Parameter equation for reflections toward the source.

b1 = s11(a1) + s12(a2) = 0

If s11, a1, s12, and a2 are all not zero, the above equation
describes wave cancellation, something you say never happens.

> By the way, did you look beyond the pretty pictures and read the section
> where the authors said,
>
> "All of the wave examples presented in Figure 1 portray waves
> propagating in the same direction, but in many cases, light waves
> traveling in different directions can briefly meet and undergo
> interference. After the waves have passed each other, however, they will
> resume their original course, having the same amplitude, wavelength, and
> phase that they had before meeting."

Yes, that happens "in many cases" but NOT IN ALL CASES. You
apparently missed the point which is the part where they said:

"... when two waves of equal amplitude and wavelength that are
180-degrees ... out of phase with each other meet, they are not
actually annihilated, ... All of the photon energy present in
these waves must somehow be recovered or redistributed in a
new direction, according to the law of energy conservation ...
Instead, upon meeting, the photons are redistributed to regions
that permit constructive interference, so the effect should be
considered as a redistribution of light waves and photon energy
rather than the spontaneous construction or destruction of light."

> Hmmm, I think that is exactly what I said in this thread on RRAA.

No, what you have said on RRAA is that wave cancellation never
happens because wave cancellation doesn't occur in many
cases. That is obviously faulty logic and all it takes to prove
you wrong is one case of wave cancellation. That case happens
every time a ham adjusts his antenna tuner for zero reflected
power. If we consider the java ap as the reflected waves flowing

toward the source, setting them to 0 and 180 degrees is exactly
what happens at the antenna tuner.
--
73, Cecil http://www.w5dxp.com

3930. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 03:20:36 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <v46dnSnxXsqZLITbnZ2dnUVZ_tunnZ2d@comcast.com>
Source record: 43346

Owen,

I did not want to concentrate on that; however it is a fair question.
The frequency is 3970 kc and the methodology is based on use of an hp
network analyzer. The analyzer has both polar and Cartesian displays.
The outputs were cross checked.f
The feed line was calibrated using a 25 Ohm termination to 180
degrees. The return measured about -9.4db (close to what is predicted
with line loss). This was checked against an open circuit confirmed the
calibration by a reading 1 degree and 1db. (very close to what is
predicted)

For the actual measurement the return loss was measured at just over
-26db at 0 degrees. (no feed-point network) Three models were used to
calculate the input resistance of the antenna. They all predicted an
antenna resistance of about 3 to 4 Ohms. (the suggested input network is
120 pf)

To focus on the question is: Why is the ground resistance so high? It is
not important at this stage to determine its precise value. The point is
it is high enough to cause a return of 0 degrees. This puts the 'system'
at over 50 degrees. Even if the antenna were 6 to 8 Ohms the ground loss
would be at least 42 to 44 Ohms.

- Dan

Owen Duffy wrote:
> dansawyeror <dansawyeror@comcast.net> wrote in
> news:ir2dnSnmS_Dh8oTbnZ2dnUVZ_vCknZ2d@comcast.com:
>
> Dan,
>
> You refer to calculation of ground resistance and later to measurements.
> It would help if you explained what you measured, the frequency of
> measurement, and how you measured it, then how you calculated your
> results.
>
> Perhaps the regimen of that might help you to an answer.
>
> Owen
>
>
>> All,
>>
>> This question is: How can the ground system for a vertical be improved?
>>

>> The RF ground calculates to about 52 Ohms. It consists of 16 radials
>> varying in length from 24 to 45 feet. Four are buried and 12 are on
>> ground. The location is the Pacific Northwest part way up a hillside.
>> The surface is grass, the subsurface is clay. The value varies a little
>> with rain, it has measured as low as 46 to 48 Ohms.
>>
>> Just as additional information, the antenna is a loaded vertical,
>> overall about 4 meters. The coil is about 35% from the base. The
> antenna
>> is raised about 1 meter. I am aware the configuration is not optimum
> and
>> a top hat would help, those changes will be made independently.
>>
>> Several articles indicate this radial system should yield well under 20
>> Ohms, some estimates are under 8 Ohms. At this point my first target is
>> under 20 Ohms. Little that I do seems to affect it. My question is:
>>
>> What am I missing?
>>
>> The problem is the value does not appear to change very much. I started
>> with 4 radials and have been adding them periodically. Those changes do
>> not seem to have a measurable effect. (However I must admit that
> earlier
>> numbers not as good as the current measurement. I believe the current
>> measurements are better then 10%.)
>>
>> Thanks - Dan
>>
>

3931. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 03:48:56 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <4619b78e$0$4937$4c368faf@roadrunner.com>
Source record: 43347

"art" <aunwin@insightbb.com> wrote in message
news:1176084077.641174.315020@y66g2000hsf.googlegroups.com...
> On 8 Apr, 17:52, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
>> "art" <aun...@insightbb.com> wrote in message
>>
>> news:1176069176.042757.195320@y66g2000hsf.googlegroups.com...
>>
>>
>>
>>
>>
>> > On 6 Apr, 08:48, richardharri...@webtv.net (Richard Harrison) wrote:
>> >> Art wrote:
>>
>> >> "Frankly a lot of people on this net need to get up to speed with
>> >> respect to radiation such as tipped antennas ---."
>>
>> >> Yesterday`s response seems to have been gobbled in cyber space.
>>
>> >> Not all my reference books are over 50 years old. One of my best was
>> >> published in 2003 although its principal author was born in 1910. He
>> >> is
>> >> J.D. Kraus, but he had numerous and likely younger collaborators, 6 of
>> >> whom are listed as co-authors. The title: "Antennas For All
>> >> Applications. 3rd edition".
>>
>> >> On page 297 is found an item which illustrates what happens when you
>> >> tip
>> >> an antenna. It is titled: "Antenna Rotation Experiments":
>> >> "Consider the radio circuit shown in Fig. 8-74a in which one antenna
>> >> is
>> >> circularly polarized (a turnstile?) and the other is linearly
>> >> polarized.
>> >> If one of the antennas is rotated about its axis a frequency f (r/s),
>> >> the received signal is shifted to F + or - f, where F is the
>> >> transmitter
>> >> frequency."
>>
>> >> Fig. 8-74 notes:
>> >> "Antenna rotation produces amplitude modulation."
>>
>> >> Of course it does. When the linear antenna is aligned parallel to one
>> >> axis of the CP antenna, the signal is maximum. When the linear antenna
>> >> is most misaligned with either axis of the CP antenna, signal is a

>> >> minimum. The example demonstrates why polarization alignment, not
>> >> tipping or tilt, is usually important.
>>
>> >> Best regards, Richard Harrison, KB5WZI
>>
>> > Richard, I couldn't find my Kraus book so I will have to let your
>> > comment go.
>> > I did look in the Jasik book on parasitic elements.
>> > It said"A parrasitic element properly tuned will operate in phase-and-
>> > field relationships
>> > approximating those computed.In multi element arrays, independent
>> > control and phase and amplitude is required and parasitics should be
>> > avoided. However, they may be employed in antennas
>> > designed primarily for power gain" To me this describes a yagi with
>> > parasitic elements designed for power gain regardless of the mix of
>> > polarisation. The Gauss system which does not use parasitics and
>> > therefore pursues the independent control AND PHASE AND AMPLITUDE.
>> > A yagi in a 90 degree multiple of earth does operate in a field
>> > relationship because of its multi phase radiation where as the
>> > gaussion tilts to remove unwanted phase and keeps only the required
>> > phase. This is extremely important in cell transmittions since
>> > channels are only of use when the polarisation is correct and any area
>> > that does not comprise of the correct polarisation results in a
>> > dropped call.
>> > In my last post I mentioned the slope between scanning lines on a T.V.
>> > as a reference line for true polarity. Any comment with respect to the
>> > veracity of that statement since I see a direct corrorally between
>> > that and radiation tilt angles?
>> > Best regards
>> > Art
>>
>> Perhaps you should actually make an effort to explain why you see the
>> relationships you see. I can think of no reason why anyone should be
>> expected to go into great detail to explain your fallacies while you use
>> almost no effort to explain why you think you are right.
>> such that the horizontal vecot
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>>
>> - Show quoted text -
>
> I think I will try one more time with respect to tilt angle.
> ARRL publications suggest that a vertical dipole only radiates a
> vertically polarized radiation
> Amatures read these publication and follow suit on their thinking, if
> they can think that is,anything else must be wrong.
> Well Jimmie you must surely know that only one electron stream travels
> at the same angle as the dipole, any thing else does not. Therefore
> the resultant vector angle cannot be parallel to the radiating member
> and thus will radiate some horizontal radiation. To remove vertical
> radiation you must tip the vertical dipole until the horizontal vector

> is removed. All very simple.
> Still to difficult for you? Well try this. Use your antenna program to
> determine the horizontal
> radiation and vertical radiation of a vertical dipole. Now model a
> tipped dipole until the horizontal radiation is removed leaving only
> vertical radiation and "Bingo" you should now understand and possibly
> other amateurs will now question what they read in books. Tho I doubt
> that since learners seem to only to be able to regurgitate rather than
> activate their brain.
> If you are still not comfortable read Maxwells laws and activate your
> own brain and follow the leads given. There is no way I can activate
> your brain or any of the pseudo experts brains on line.

I have read Maxwells laws and are familar with them, I have been since high school and nothing in them indcates what you say is feasable.

My antenna program indicates that all of the signal in a vertically mounted antenna is vertically polarized. I have racked my mind to see how you could come up with another conclusion and must assume you are confusing take off angle with polarization.

How do you get the idea that only one electron stream flows vertcally, obviously your understanding of how electrons flow in a conductor is flawed. The part of their movement that is responsible for current flow is more of a vibration than a flow, definately not forming streams. Since your theory is based on these misaligned streams which dont exist then your theory does not exist either.

If we assume your understanding of electron flow is correct then there will be a very huge number of of streams traving at various angles the length of the antenna. If the radiator is sufficentlyly small in cross sectional area this angle will be limited to a being very small angle, we will asume your three degees, much smaller is more realistic. Now to maitain an omni pattern wich direction due you propose to tilt it. If yor theory has any validity at all at best you will correct it in just one direction fora relatively small number of streams and make it worse in all others.

Again assuming there is some validity to what you say the polarization of an antenna mounted vertically to the earth at point a will have exactly the same polarity as one mounted somewhere else at point B reguardless of what you believe is the final polarity of these antennas they will be identical and this identicalness of polarity is the best arrangement for two antennas transmitting and receiving one anothers signal.

Jimmie

> Art
> Art
>

3932. Re: gamma match 70cm handheld

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 03:57:41 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <VQiSh.2134$SK3.781@trnddc03>
Source record: 43348

"Owen Duffy" <none@no.where> wrote in message
news:Xns990D4BBA2118nonenowhere@61.9.191.5...
> Kurt <ksaves2@sbcglobal.net> wrote in news:3McSh.7893$YL5.5717
> @newssvr29.news.prodigy.net:
>
> ...
>> Did some testing and I don't have as much directivity but I sure as
>> heck have plenty of gain with this setup. I might have to get a loop
>
> Kurt,
>
> Congratulations on your success.
>
> Gain and directivity are related, Gain=Directivity/Loss, or in dB,
> Gain(dB)
> =Directivity(dB)-Loss(dB).
>
> So whilst it is possible to have gain without directivity (due to high
> loss), the reverse doesn't happen.
>
> Owen

Hi Owen

I wonder if I misunderstand. I would think there could alot of
directivity in an antenna pattern but the system could have minimal gain due
to losses.

Jerry

3933. Re: gamma match 70cm handheld

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 05:03:04 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990D9916F6013nonenowhere@61.9.191.5>
Source record: 43349

"Jerry Martes" <j.jmartes@verizon.net> wrote in
news:VQiSh.2134$SK3.781@trnddc03:

>
> "Owen Duffy" <none@no.where> wrote in message
> news:Xns990D4BBA2118nonenowhere@61.9.191.5...
>> Kurt <ksaves2@sbcglobal.net> wrote in news:3McSh.7893$YL5.5717
>> @newssvr29.news.prodigy.net:
>>
>> ...
>>> Did some testing and I don't have as much directivity but I sure as
>>> heck have plenty of gain with this setup. I might have to get a
>>> loop
>>
>> Kurt,
>>
>> Congratulations on your success.
>>
>> Gain and directivity are related, Gain=Directivity/Loss, or in dB,
>> Gain(dB)
>> =Directivity(dB)-Loss(dB).
>>
>> So whilst it is possible to have gain without directivity (due to
>> high loss), the reverse doesn't happen.
>>
>> Owen
>
> Hi Owen
>
> I wonder if I misunderstand. I would think there could alot of ...

No, I messed the words up... it should read:

So whilst it is possible to have directivity without gain (due to
high loss), the reverse doesn't happen.

That makes more sense doesn't it.

Owen

3934. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 05:13:28 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990D9AD9E3087nonenowhere@61.9.191.5>
Source record: 43350

dansawyeror <dansawyeror@comcast.net> wrote in
news:v46dnSnxXsqZLITbnZ2dnUVZ_tunnZ2d@comcast.com:

...

I think a summary is that at 3970KHz, the feedpoint Z looks like about 45 +j0 and you reckon the radiation resistance should be around 4+j0, suggesting the earth system contributes around 40 ohms of resistance. Observations at a single frequency provide a limited view of what might be happening.

Elevated radials should exhibit a clear resonance, and will offer the lowest impedance at resonance.

Buried radials will not exhibit such a clear resonance in lossy soil, and using your wire to form more short radials might give better performance than few longer radials.

Radials lying on the ground are likely to be somewhere in between. You may observe resonance, and in that case the ground system impedance will be optimised by "tuning" those radials (which will probably be a good bit shorter than formula length for free space radials).

Owen

3935. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 06:16:15 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <41mj13h099oahpc26vmhnrsin8hnd79q3n@4ax.com>
Source record: 43351

On Mon, 09 Apr 2007 02:45:52 GMT, Cecil Moore <nospam@w5dxp.com>
wrote:

>All of the photon energy present in
>these waves must somehow be recovered or redistributed in a
>new direction, according to the law of energy conservation

New heights of sheer stupidity. This sounds like bingo night in the
church basement where no one actually loses any money, it just gets
shuffled around.

"Recovered OR redistributed" ... this certainly qualifies for next
year's Oscar for chuckles. Luckily the Nobel committee doesn't follow
Hollywood or they would have awarded Mighty Mouse the Physics award
for antigravity (certainly 50 million children's admiration couldn't
lead them astray on this choice!).

3936. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 06:42:55 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <67nj139pldpes9bd28hm25dhouqtmlb502@4ax.com>
Source record: 43352

On Sun, 08 Apr 2007 20:20:36 -0700, dansawyeror
<dansawyeror@comcast.net> wrote:

>To focus on the question is: Why is the ground resistance so high?

Hi Dan,

Focus on Why? Why? This is something that you have absolutely no
control over without a huge investment in new dirt several 10s of
meter deep out to at least as far as the antenna is tall.

You want less resistance? then dig a hole and fill it with quartz
sand. Build a dune to drive the loss down further.

A suitable substitute is to lay out a ground field (radial wires). The
more the better. Here is the Why? you should be asking (Why more
wires?).

The path through the earth is shortened between adjacent ground wires.
Less path, less loss. The earth current travels not IN toward the
center as the radials do. The earth current travels ACROSS or
circumferentially towards the radial wires. This is due to the phase
lag between the induced earth current and the radial current. The
greater the distance between radials, the more path loss from the
average distance between the radials, to the radials.

As this is very difficult to treat in words alone, it is undoubtedly
confusing in the description above.

73's
Richard Clark, KB7QHC

3937. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 06:56:37 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131jotcjrepdu8f@corp.supernews.com>
Source record: 43353

Richard Clark wrote:
>
> The path through the earth is shortened between adjacent ground wires.
> Less path, less loss. The earth current travels not IN toward the
> center as the radials do. The earth current travels ACROSS or
> circumferentially towards the radial wires. This is due to the phase
> lag between the induced earth current and the radial current. The
> greater the distance between radials, the more path loss from the
> average distance between the radials, to the radials.
>
> As this is very difficult to treat in words alone, it is undoubtedly
> confusing in the description above.

Indeed it is. Can you point me to a reference where I can get a more
detailed explanation of this circumferential current and its cause?

Roy Lewallen, W7EL

3938. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 07:35:08 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131jr5jneu37de3@corp.supernews.com>
Source record: 43354

I'd vowed that I wouldn't hit this tarbaby yet again. But here I go.

Among the junk science being bandied about here is the following supposition:

Suppose you have beams from two identical coherent lasers which, by a system of (presumably partially reflective and partially transmissive) mirrors, are made to shine in exactly the same direction from the same point (which I'll call the "summing point"). Further, suppose that the paths from the two lasers to this summing point differ by an odd number of half wavelengths. So beyond the summing point, where the laser beams exactly overlie each other, there is no beam because the two exactly cancel. Or, in other words, the sum of the two superposed fields is zero. The recurring argument is that because each laser is producing energy and yet there is no net field and therefore no energy in the summed beams, something strange has happened at the summing point (or "virtual short circuit"), and creative explanations are necessary to account for the "missing energy". One such proposed explanation is that the mere meeting of the two beams is the cause of some kind of a reflection of energy, and that each wave somehow detects and interacts with the other.

Well, here's what I think. I think that no one will be able to draw a diagram of such a summing system which doesn't also produce, due solely to the reflection and transmission of the mirrors, a beam or beams containing exactly the amount of energy "missing" from the summed beam. No interaction(*) of the two beams at or beyond the summing point is necessary to account for the "missing" energy -- you'll find it all at other places in the system. Just as you do in a phased antenna array, where the regions of cancelled field are always accompanied by complementary regions of reinforced field. Somewhere, in some bounce from a mirror or pass through it, the beams will end up reinforcing each other is some other direction. My challenge is this: Sketch a system which will produce this summation of out-of-phase beams, showing the reflectivity and transmissivity of each mirror, and showing the beams and their phases going in all directions from the interactions from each mirror. Then show that simple interaction of the beams with the mirrors is insufficient to account for the final distribution of energy.

Next, do the same for a transmission line. Show how two coherent traveling waves can be produced which will propagate together in the same direction but out of phase with each other, resulting in a net zero field at all points beyond some summing point. But also calculate the field from waves reflected at the summing point and elsewhere in the system due to simple impedance changes. Show that this simple analysis,

assuming no interaction between the traveling waves, is insufficient to account for all the energy. A single case will do.

Until someone is able to do this, I'll stand firm with the unanimous findings of countless mathematical and practical analyses which show superposition of and no interaction between waves or fields in a linear medium.

(*) By "interaction" I mean that one beam or wave has an effect on the other, altering it in some way -- for example, causing it to change amplitude, phase, orientation, or direction. I'm not including superposition, that is the fact that the net field of the two waves is the sum of the two, in the meaning of "interaction".

Roy Lewallen, W7EL

3939. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 12:25:02 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ygqSh.13146$JZ3.6516@newssvr13.news.prodigy.net>
Source record: 43355

Richard Clark wrote:
> Cecil Moore <nospam@w5dxp.com> wrote:
>> All of the photon energy present in
>> these waves must somehow be recovered or redistributed in a
>> new direction, according to the law of energy conservation
>
> New heights of sheer stupidity. This sounds like bingo night in the
> church basement where no one actually loses any money, it just gets
> shuffled around.

One more example of an ignorant person making fun of
things he doesn't understand. The principle of the
conservation of energy indeed states that energy is
not gained or lost - it just gets shuffled around.
When EM wave cancellation occurs, the energy remains
in EM wave form and simply gets redistributed.

As we tune our antenna tuners while watching the
reflected power indication, we are varying the
magnitude and phase of the two component reflected
waves at the tuner input. When those two component
waves are adjusted to equal magnitudes and opposite
phase, reflections toward the source are obviously
canceled since they can be measured as going to zero
in the direction of the source. The following S-Parameter
equation describes the final outcome toward the source.

b1 = s11(a1) + s12(a2) = 0, total destructive interference

Since energy cannot be destroyed by an antenna tuner
and since there are only two directions available, in
a lossless system, the energy in waves canceled toward
the source must be redistributed (re-reflected) to waves
traveling toward the load as constructive interference.
That's the other S-Parameter equation.

b2 = s21(a1) + s22(a2) = Vfor/SQRT(Z0)

Square those equations and you get the power equations.
|b1|^2 = net reflected power = 0
|b2|^2 = net forward power = all the available power
--
73, Cecil http://www.w5dxp.com

3940. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 12:35:36 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <evdbuq$h22$1@aioe.org>
Source record: 43356

"Cecil Moore"
> Still there are those nagging assertions of Born
> and Wolf that for two equal magnitude signals,
> the total intensity possible for incoherent
> signals is double the intensity of one signal.
> The total intensity possible for coherent
> signals is four times the intensity of one signal.

It is a fairly common practice in broadcast designs to combine the outputs of two r-f amplifiers of equal power rating, using a 4-port, 3 dB coaxial hybrid. The two amplifiers are driven by a single exciter through a suitable splitter. The antenna connects to one output port of the hybrid, and the other output port is connected to a dummy load.

When the relative r-f phases of the two txs are suitably set, the antenna connection of the hybrid receives the total output power of the two txs, and the dummy load port receives zero. When the relative r-f phases of the txs are changed by 90 degrees from that setting, then the conditions at the output ports are reversed.

The total average power available at the hybrid output for both of these conditions is twice that of a single tx without the hybrid.

Does the quote from Born and Wolf support this?

RF

3941. Re: Best beam for WARC?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 12:41:34 UTC
From: John Passaneau <w3jxp@arrl.net>
Message-ID: <Xns990D5877ABD86jxp16psuedu@128.118.141.40>
Source record: 43357

Philip Nystr&#65533;mer <philip.nystromer@telia.com> wrote in
news:NMdRh.37951$E02.15418@newsb.telia.net:

> Hi,
>
> I have used a Butternut HF-9VX vertical for many years. Now I am
> thinking of getting a HF beam antenna. I am not into contesting.
> Rather I enjoy memorable QSO's with hams that like to share thoughts
> and ideas. Since I have enjoyed "local" (i.e. mostly Europe) QSO's
> with my vertical, I would now like to reach as far as I can, i.e. real
> DX's. I am doing CW and SSB equally much.
>
> My interest profile leads me to optimize my beam for a warc band, on a
> higher frequency, e.g. 12m or 17meters. But how common is warc out
> there? If I got a 12 or 17meter mono bander, would I sit in vain to
> find the QSO's I want? Would it be more safe to just optimize for 20
> meters?
>
> Given the solar cycle I guess it would be wise to optimize for
> something in the "mid-range" wave lengths, like somewhere in the range
> of 17-20m, to be able to DX in the solar cycle dip as well. Is it a
> waist of money to get a beam for the higher frequencies, except during
> the high peaks in the solar cycle?
>
> I would appreciate if anyone could share experiences and ideas on this
> matter. Also if some one could recommend a really good, high quality
> beam for my interest profile.
>
> Tnx de SM5WVN /Phil
>

My suggestion would be a log periodic. I have a Tennadyne, 6 el log,
http://www.tennadyne.com/ and it works very well for me. The nice part
is the ability to go anywhere on the bands with a good usable SWR and
consistent performance. If I had to do it over again, I would buy the 8
el Tennadyne as the SWR curves are a bit flatter. It&#65533;s been up for about
6 years now and has weathered ice storms and high winds with no problems.
I like the Tennadyne brand and I think they are honest about their
antennas.
73

John Passaneau, W3JXP

3942. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 12:48:13 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <hCqSh.13147$JZ3.3796@newssvr13.news.prodigy.net>
Source record: 43358

Roy Lewallen wrote:
> Next, do the same for a transmission line. Show how two coherent
> traveling waves can be produced which will propagate together in the
> same direction but out of phase with each other, resulting in a net zero
> field at all points beyond some summing point.

Roy, it is done all the time represented by the
S-Parameter equation for the reflected wave
toward the source. Assuming an impedance discontinuity
in a transmission line:

b1 = s11(a1) + s12(a2) = 0

If b1=0, then s11(a1) and s12(a2) are indeed two coherent
traveling waves propagating together in the same direction
but out of phase with each other. The net reflected wave
field is zero.
--
73, Cecil http://www.w5dxp.com

3943. Re: Reasonably-priced capacitors for traps

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 12:50:11 UTC
From: John Passaneau <w3jxp@arrl.net>
Message-ID: <Xns990D59EDDCD10jxp16psuedu@128.118.141.40>
Source record: 43359

Rick <Nospam@reply.in.gp> wrote in
news:pan.2007.04.05.23.22.39.144214@reply.in.gp:

> On Wed, 04 Apr 2007 21:48:08 -0700, Bryan wrote:
>
>> A stub of coaxial cable will work... approximately 30pF/foot for 50
>> ohm types... approximately 20pF/foot for 75 ohm types.
>
> Good evening, Bryan.
>
> Thanks, but there are a couple of problems... the antenna will be for
> 160 through 40 and so two of the traps will be for 80 meters... I
> forget what the capacitance will be but I think it was somewhere in
> the 200 pf range. Also, the antenna is meant to be portable, and so
> the traps need to be as physically small as practical. Also the power
> will usually be low... as low as 5 watts, usually no more than 50 and
> never more than 100 watts... so I guess I need to make the antenna as
> efficient as I can... kind of a contradiction in terms for trapped
> antennas especially where the traps need to be physically small.
>
> If I could find the doorknob capacitors for a reasonable price that
> would be ideal, but $15 each is way too much.
>
> On the other hand, the ones from RF Parts are all at least 4 KV, and
> up from there (40-50 KV). I don't know how to accurately calculate
> the voltage rating I'll need (I'll post that as another question under
> another topic), but my guess is that for 100 watts max, I don't need 5
> KV, and may not need 1 KV.
>
> Who else besides RF Parts has these things and has a decent website?
>

I would just use normal 500v silver mica capacitors in series if necessary. At the 100 watt level the capacitors in a trap don't have to work too hard. Silver micas have good RF performance and easy to come by. If you use EZNEC to model your antenna it can tell you the voltage across your traps at your max power level making it easy to pick out your capacitors. You can down load a trial version that can easily model your antenna.

73
John Passaneau W3JXP

3944. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 13:02:32 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <HPqSh.28602$VU4.7901@bgtnsc05-news.ops.worldnet.att.net>
Source record: 43360

Cecil Moore wrote:

>
> One more example of an ignorant person making fun of something
> he doesn't understand.

Cecil,

Sorry, I simply cannot keep up with you. We seem to be switching from RF to optics in order to explain something or other, and now we are switching from optics to S-parameters to explain the explanation.

You accuse me of saying that waves never "cancel", right after I told you that "cancel" is not a good description in detailed technical analysis. Do you actually read anything here?

Going back to your oft-stated line about Galileo, you seem to be on the other side now. You keep insisting on a Cecil-centric universe, with the consequent requirement to add more and more crystalline spheres to explain all of your "creative" ideas.

Stick to the basic EM understanding that has stood for more than 100 years. No need to keep inventing new principles. The old ones work just fine.

(You must be getting desperate; the ad hominem attacks have started.) 8-)

73,
Gene
W4SZ

3945. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 13:04:39 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <HRqSh.13148$JZ3.9250@newssvr13.news.prodigy.net>
Source record: 43361

Richard Fry wrote:
> The total average power available at the hybrid output for both of these
> conditions is twice that of a single tx without the hybrid.
>
> Does the quote from Born and Wolf support this?

Yes, there is obviously no interference between the
two transmitters if the powers simply add together.
You have doubled the current capability without
doubling the voltage capability - that's not
interference.

For interference to occur, both the E-fields and
the H-fields must be superposed at the same time
such that both fields increase or decrease by the
same percentage. So how do we double the voltage
and double the current in the 50 ohm transmission
line to the antenna?

Put a transformer on the output of each transmitter.
Wire the secondaries in series. We have doubled the
voltage output. Now drive the 50 ohm load with that
doubled voltage and see what happens. This is equivalent
to constructive interference. Hope you are running
the transmitters at half power. :-)
--
73, Cecil http://www.w5dxp.com

3946. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 13:36:17 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ljrSh.15385$Um6.2398@newssvr12.news.prodigy.net>
Source record: 43362

Gene Fuller wrote:
> Sorry, I simply cannot keep up with you. We seem to be switching from RF
> to optics in order to explain something or other, and now we are
> switching from optics to S-parameters to explain the explanation.

So are you saying the physics concepts from the field
of optics are wrong? Are you saying the S-Parameter
equations are invalid? If not, seems you are having
a hard time defending your concepts against those
valid concepts. That should tell you something about
your (simplified short cut) concepts.

I'm going to keep it up until you give up on the notion
that you already know everything and therefore reality
obeys your every whim. You cannot dismiss wave cancellation
simply because you find that part of reality distasteful.

In analyzing an impedance
discontinuity in a transmission line, the S-Parameter
equations are accepted as valid. b1 is the normalized
reflected voltage toward the source.

b1 = s11(a1) + s12(a2) = 0

When b1 is zero, waves s11(a1) and s12(a2) have been
canceled because they are of equal magnitude and opposite
phase. Simple cause and effect - not rocket science.

If you can prove those concepts from the field of optics
are invalid and that an S-Parameter analysis is invalid,
now would be the time.

> You accuse me of saying that waves never "cancel", right after I told
> you that "cancel" is not a good description in detailed technical
> analysis. Do you actually read anything here?

Wave cancellation occurs all the time, Gene. Every time
a ham tunes his antenna tuner for zero reflected power,
he has caused two reflected waves to cancel. I am amazed
at how many otherwise intelligent posters to this newsgroup
attempt to engage in the copout of sweeping under the rug
anything that they do not understand and/or don't want to
deal with.

> Stick to the basic EM understanding that has stood for more than 100
> years.

That's exactly what I am doing. You seem to be relatively ignorant of those century old concepts. I don't know when interference was first explained but it was long before you and I were born. I am repeating principles that have been around for a century including the wave reflection model.

What has actually happened is that seductive short cuts have left many ignorant of the basic principles, e.g. Standing waves can exist without reverse traveling waves. Reverse traveling waves exist without a source of energy. Waves never interact. etc. etc. etc.
--
73, Cecil http://www.w5dxp.com

3947. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 13:37:02 UTC
From: tclay@qmc.ph.msstate.edu
Message-ID: <87r6qtmzy9.fsf@qmc.ph.msstate.edu>
Source record: 43363

>To focus on the question is: Why is the ground resistance so high? It
>is not important at this stage to determine its precise value. The
>point is it is high enough to cause a return of 0 degrees. This puts
>the 'system' at over 50 degrees. Even if the antenna were 6 to 8 Ohms
>the ground loss would be at least 42 to 44 Ohms.

Simple answer- add more radials. Especially if the impedance is varying noticeably depending on ground moisture, you need more radials.

Another possibility is that if there is some other conductor in the near field (tower, house, other wires, etc), the impedance might not be what you expect.

Tor
N4OGW

3948. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 13:45:06 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <CrrSh.15387$Um6.2135@newssvr12.news.prodigy.net>
Source record: 43364

Gene Fuller wrote:
> We seem to be switching from RF
> to optics in order to explain something or other, ...

Gene, I forgot to ask. At exactly what EM frequency
do the RF waves stop obeying the century old laws of
physics for visible light?
--
73, Cecil http://www.w5dxp.com

3949. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 13:52:03 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1176126723.586316.163430@l77g2000hsb.googlegroups.com>
Source record: 43365

Well, I can't explain why lagging or leading current and voltage would change the physical direction of propagation of the EM wave front through the ground... But I do know that Dan does not have enough radials.. He needs at least another 16 and better yet would be in the range of 50 total...

denny / k8do

3950. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 13:55:18 UTC
From: Bart Rowlett <bart@wb6hqk.ampr.org>
Message-ID: <131khe6caapn0a3@corp.supernews.com>
Source record: 43366

On Sun, 08 Apr 2007 20:20:36 -0700, dansawyeror wrote:

> Owen,
>
> I did not want to concentrate on that; however it is a fair question.
> The frequency is 3970 kc and the methodology is based on use of an hp
> network analyzer. The analyzer has both polar and Cartesian displays.
> The outputs were cross checked.f

[snip]

> To focus on the question is: Why is the ground resistance so high? It is
> not important at this stage to determine its precise value. The point is
> it is high enough to cause a return of 0 degrees. This puts the 'system'
> at over 50 degrees. Even if the antenna were 6 to 8 Ohms the ground loss
> would be at least 42 to 44 Ohms.

How is the antenna loaded and what is the Q of the loading coil? Coil
losses are almost certainly 5 ohms and could easily be as high as 35 ohms.

bart

3951. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 14:01:42 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176127302.015666.293720@y66g2000hsf.googlegroups.com>
Source record: 43367

On Apr 8, 10:20 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > This is good; a continuum with high coherence at one end, low
> > coherence at the other and medium in the middle, and, of course,
> > since the ends are infinitely small, no such thing as perfect
> > coherence or "NO" coherence (at least in the real world).
>
> But remember that definition is for fiber optics
> sources, not amateur radio sources. Coherency
> in amateur radio systems can get as close as
> a zero reading on a reflected power meter.
>
> Still there are those nagging assertions of Born
> and Wolf that for two equal magnitude signals,
> the total intensity possible for incoherent
> signals is double the intensity of one signal.
> The total intensity possible for coherent
> signals is four times the intensity of one
> signal.

I take this to mean that with largely incoherent sources
the intensity is doubled everywhere.

With largely coherent sources, the average intensity is
doubled everywhere, but there is also a spatial distribution
where the peak intensity is 4 times, but the minimum is zero
(thus the same average of two).

...Keith

3952. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 14:08:56 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176127736.144080.284120@o5g2000hsb.googlegroups.com>
Source record: 43368

On Apr 9, 9:04 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Richard Fry wrote:
> > The total average power available at the hybrid output for both of these
> > conditions is twice that of a single tx without the hybrid.
>
> > Does the quote from Born and Wolf support this?
>
> Yes, there is obviously no interference between the
> two transmitters if the powers simply add together.
> You have doubled the current capability without
> doubling the voltage capability - that's not
> interference.
>
> For interference to occur, both the E-fields and
> the H-fields must be superposed at the same time
> such that both fields increase or decrease by the
> same percentage. So how do we double the voltage
> and double the current in the 50 ohm transmission
> line to the antenna?

Except that Richard's description sure seems to meet the
requirements of coherency. Can you offer a way for use
to know whether two signals are coherent?

Secondly, I am at a complete loss to understand how you
can be arguing that when two signals of a particular
power interfere, the result is 4 times the power. This
sure seems like you're getting something from nothing.

What happened to the staunch acceptance of 'conservation of
energy'?

...Keith

3953. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 14:12:12 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176127932.360499.106710@p77g2000hsh.googlegroups.com>
Source record: 43369

On Apr 9, 3:35 am, Roy Lewallen <w...@eznec.com> wrote:
> I'd vowed that I wouldn't hit this tarbaby yet again. But here I go.
>
> Among the junk science being bandied about here is the following
> supposition:
>
> Suppose you have beams from two identical coherent lasers which, by a
> system of (presumably partially reflective and partially transmissive)
> mirrors, are made to shine in exactly the same direction from the same
> point (which I'll call the "summing point"). Further, suppose that the
> paths from the two lasers to this summing point differ by an odd number
> of half wavelengths. So beyond the summing point, where the laser beams
> exactly overlie each other, there is no beam because the two exactly
> cancel. Or, in other words, the sum of the two superposed fields is
> zero. The recurring argument is that because each laser is producing
> energy and yet there is no net field and therefore no energy in the
> summed beams, something strange has happened at the summing point (or
> "virtual short circuit"), and creative explanations are necessary to
> account for the "missing energy". One such proposed explanation is that
> the mere meeting of the two beams is the cause of some kind of a
> reflection of energy, and that each wave somehow detects and interacts
> with the other.
>
> Well, here's what I think. I think that no one will be able to draw a
> diagram of such a summing system which doesn't also produce, due solely
> to the reflection and transmission of the mirrors, a beam or beams
> containing exactly the amount of energy "missing" from the summed beam.
> No interaction(*) of the two beams at or beyond the summing point is
> necessary to account for the "missing" energy -- you'll find it all at
> other places in the system. Just as you do in a phased antenna array,
> where the regions of cancelled field are always accompanied by
> complementary regions of reinforced field. Somewhere, in some bounce
> from a mirror or pass through it, the beams will end up reinforcing each
> other is some other direction. My challenge is this: Sketch a system
> which will produce this summation of out-of-phase beams, showing the
> reflectivity and transmissivity of each mirror, and showing the beams
> and their phases going in all directions from the interactions from each
> mirror. Then show that simple interaction of the beams with the mirrors
> is insufficient to account for the final distribution of energy.
>
> Next, do the same for a transmission line. Show how two coherent
> traveling waves can be produced which will propagate together in the
> same direction but out of phase with each other, resulting in a net zero
> field at all points beyond some summing point. But also calculate the

> field from waves reflected at the summing point and elsewhere in the
> system due to simple impedance changes. Show that this simple analysis,
> assuming no interaction between the traveling waves, is insufficient to
> account for all the energy. A single case will do.
>
> Until someone is able to do this, I'll stand firm with the unanimous
> findings of countless mathematical and practical analyses which show
> superposition of and no interaction between waves or fields in a linear
> medium.
>
> (*) By "interaction" I mean that one beam or wave has an effect on the
> other, altering it in some way -- for example, causing it to change
> amplitude, phase, orientation, or direction. I'm not including
> superposition, that is the fact that the net field of the two waves is
> the sum of the two, in the meaning of "interaction".
>
> Roy Lewallen, W7EL

3954. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 14:20:45 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <0ZrSh.1903$w41.1838@newssvr19.news.prodigy.net>
Source record: 43370

Keith Dysart wrote:
> I take this to mean that with largely incoherent sources
> the intensity is doubled everywhere.

Being a little more precise:
With mutually incoherent equal-magnitude sources,
the maximum possible peak intensity is double the
intensity of a single wave. There's no interference.

For "largely incoherent sources", the peak intensity
would be slightly more than double.

> With largely coherent sources, the average intensity is
> doubled everywhere, but there is also a spatial distribution
> where the peak intensity is 4 times, but the minimum is zero
> (thus the same average of two).

With mutually coherent equal-magnitude sources,
the maximum possible peak intensity is four times
the intensity of a single wave, i.e. there is total
constructive interference. (This can happen
at a Z0-match in an RF transmission line.)

For "largely coherent sources" the peak intensity
would be slightly less than four times.
--
73, Cecil http://www.w5dxp.com

3955. RF amp help

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 14:25:16 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <461a4cbf$0$8947$4c368faf@roadrunner.com>
Source record: 43371

I am trying to build a small class C RF amp for 160 AM. The amp is to be plated modulated and I have about 12 watts of audio available. I have built amps before(30 years ago) but I have never built one around a modulator, previously I built the modulator to suit the amp. Any help with tube and voltage selections would be greatly appreciated.

Jimmie

3956. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 14:31:48 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176129108.327291.154010@p77g2000hsh.googlegroups.com>
Source record: 43372

On Apr 9, 3:35 am, Roy Lewallen <w...@eznec.com> wrote:
> I'd vowed that I wouldn't hit this tarbaby yet again. But here I go.

Thanks for doing so.

The junk science is often presented with very rational sounding
arguments and it can be difficult to detect the flaws. This example
was a case for me and you expose the flaw nicely.

What I have difficulty with is deciding on the value of the junk
science. On the one hand it misleads many; on the other, debunking
provides opportunity to develop deeper understanding.

When I first started lurking on this group many, many years ago,
I didn't even know that there was a question about "where does the
reflected power go". Following the debates and iterating to the
correct answers has been extremely educational, much more so than
just accepting the correct explanations without question.

The promoters of junk science fulfill an important role in this
process and I can't decide if their net effect is good or bad.
The bad effects are, of course, when they successfully lead
others astray.

On the whole, good or bad? I haven't decided.

...Keith

3957. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 14:34:25 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <evditlttf1@aioe.org>
Source record: 43373

"Cecil Moore"
> Being a little more precise:
> With mutually incoherent equal-magnitude sources,
> the maximum possible peak intensity is double the
> intensity of a single wave. There's no interference.

BUT, the two equal-power signals in my scenario are exactly coherent at the output port where they combine to produce twice average output power of either tx.

Please explain, in light of your concepts?

RF

3958. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 14:43:04 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <XhsSh.1904$w41.1342@newssvr19.news.prodigy.net>
Source record: 43374

Keith Dysart wrote:
> Except that Richard's description sure seems to meet the
> requirements of coherency. Can you offer a way for use
> to know whether two signals are coherent?

If we can cause them to interfere, that is proof that
they are coherent. If their reflected waves superpose
with destructive or constructive interference present,
then they are coherent.

> Secondly, I am at a complete loss to understand how you
> can be arguing that when two signals of a particular
> power interfere, the result is 4 times the power. This
> sure seems like you're getting something from nothing.

Maybe it seems that way to you but it's because of
confusion. If the intensity of each of two coherent
waves is one watt/unit-area and total destructive
interference occurs at one point, two watts/unit-area
have seemingly disappeared. Since energy cannot disappear,
those two watts/unit-area must appear as constructive
interference somewhere else. If total constructive
interference appears somewhere else, the total intensity
is one watt/unit-area from the first wave, one watt/unit-area
from the second wave, plus the two watts/unit-area from
the total destructive interference. Adding all those
intensities up gives us four watts/unit-area at the point
of total constructive interference. The intensity at
the total destructive interference point plus the
intensity at the total constructive interference point
still averages out to two watts/unit-area, exactly the
intensities in the original waves and exactly what it
takes to satisfy the conservation of energy principle.

Your "something for nothing" doesn't exist. In the absence
of a local source, any constructive interference must be
offset by an equal magnitude of destructive interference.
--
73, Cecil http://www.w5dxp.com

3959. Re: RF amp help

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 14:51:43 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <3qsSh.6819$Kd3.1671@newssvr27.news.prodigy.net>
Source record: 43375

Jimmie D wrote:
> I am trying to build a small class C RF amp for 160 AM. The amp is to be
> plated modulated and I have about 12 watts of audio available. I have built
> amps before(30 years ago) but I have never built one around a modulator,
> previously I built the modulator to suit the amp. Any help with tube and
> voltage selections would be greatly appreciated.

With only 12 watts of audio available, I would be
tempted to use grid modulation on a pair of 6146's.
--
73, Cecil http://www.w5dxp.com

3960. Re: RF amp help

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 14:53:25 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <461a534a$0$502$4c368faf@roadrunner.com>
Source record: 43376

"Jimmie D" <GFENDER@carolina.rr.com> wrote in message
news:461a4cbf$0$8947$4c368faf@roadrunner.com...
>I am trying to build a small class C RF amp for 160 AM. The amp is to be
>plated modulated and I have about 12 watts of audio available. I have built
>amps before(30 years ago) but I have never built one around a modulator,
>previously I built the modulator to suit the amp. Any help with tube and
>voltage selections would be greatly appreciated.
>
> Jimmie
>

Sorry, meant to send this to 'homebrew'. would still appreciate the help.

3961. Re: RF amp help

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 15:07:35 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <XEsSh.135867$_73.36434@newsread2.news.pas.earthlink.net>
Source record: 43277

"Jimmie D" <GFENDER@carolina.rr.com> wrote in message
news:461a4cbf$0$8947$4c368faf@roadrunner.com...
>I am trying to build a small class C RF amp for 160 AM. The amp is to be
>plated modulated and I have about 12 watts of audio available. I have built
>amps before(30 years ago) but I have never built one around a modulator,
>previously I built the modulator to suit the amp. Any help with tube and
>voltage selections would be greatly appreciated.
>
> Jimmie

You have about enough audio power to plate modulate a 25 watt input amp.
Maybe something using a 2E26 or a 6DQ6 tube.

As Cecil mentioned you may want to modulate the screen of a pair of 6146
tubes or similar to get enough power out to make it worthwhile.

3962. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 15:12:21 UTC
From: richardharrison@webtv.net
Message-ID: <24616-461A57D5-575@storefull-3258.bay.webtv.net>
Source record: 43281

Art wrote:
"The Gauss system, which does not use parasitics and therefore pursues the independent control AND PHASE AND AMPLITUDE."

Parasitic arrays can also use independent control of phase and amplitude, I worked with curtain antenna arrays in the 1950`s used for shortwave broadcasting.

The array consisted of (4) 1/2-wave dipoles, 2 over 2 all in the same plane, separated vertically by a 1/2 wavelength and suspended over the earth by a gap of 1/2-wavelength. An identical dipole array was suspended immediately behind the driven dipoles. It served as a parasitic reflector.

The harness connected to the parasitic array was identical to that connected to the driven elements except that instead of being connected to the transmitter, it was connected to tuning stubs. We used an RCA WM 30A broadcast phase monitor with sampling loops suspended on driven and parasitic elements to adjust phasing of the reflector.

Best regards, Richard Harrison, KB5WZI

3963. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 15:13:01 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <1KsSh.6822$Kd3.2620@newssvr27.news.prodigy.net>
Source record: 43278

Richard Fry wrote:
> "Cecil Moore"
>> Being a little more precise:
>> With mutually incoherent equal-magnitude sources,
>> the maximum possible peak intensity is double the
>> intensity of a single wave. There's no interference.
> ____________
>
> BUT, the two equal-power signals in my scenario are exactly coherent at
> the output port where they combine to produce twice average output power
> of either tx.
>
> Please explain, in light of your concepts?

I thought I did. You have combined those outputs
without producing any interference. If there is
no interference, as far as power goes, it doesn't
matter if they are coherent or not.

Assuming P1 is the power output of the first
transmitter and P2 is the power output of the
second transmitter, if Ptotal = P1 + P2 + 0,
the interference (last) term is obviously zero,
i.e. it's prima facie - no interference.

If you double the H-field (current) while keeping
the E-field (voltage) constant, you have not
produced any interference.

If you double the E-field (voltage) while keeping
the H-field (current) constant, you have not
produced any interference.

If you double both the E-field (voltage) and the
H-field (current) at the same time, you have produced
total constructive interference.

If you zero both the E-field (voltage) and the
H-field (current) at the same time, you have produced
total destructive interference.

For interference to exist, both the E-field and
H-field must be changed by the same percentage
thus keeping their Z0 ratio constant.

If both fields decrease, extra energy is available
during that destructive interference event. If both

fields increase, extra energy is required by that
constructive interference event. In the absence
of a local source, |destructive interference| must
always equal |constructive interference|.
--
73, Cecil http://www.w5dxp.com

3964. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 15:21:36 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <BOudnaqavtSfx4fbnZ2dnUVZ_vqpnZ2d@comcast.com>
Source record: 43279

Richard,

What coupling does this imply? Is it direct as is contact or is it a
field coupling as capacitive or inductive? The question is: what would
insulation or corrosion due to buried radials?

- Dan

Richard Clark wrote:
> On Sun, 08 Apr 2007 20:20:36 -0700, dansawyeror
> <dansawyeror@comcast.net> wrote:
>
>> To focus on the question is: Why is the ground resistance so high?
>
> Hi Dan,
>
> Focus on Why? Why? This is something that you have absolutely no
> control over without a huge investment in new dirt several 10s of
> meter deep out to at least as far as the antenna is tall.
>
> You want less resistance? then dig a hole and fill it with quartz
> sand. Build a dune to drive the loss down further.
>
> A suitable substitute is to lay out a ground field (radial wires). The
> more the better. Here is the Why? you should be asking (Why more
> wires?).
>
> The path through the earth is shortened between adjacent ground wires.
> Less path, less loss. The earth current travels not IN toward the
> center as the radials do. The earth current travels ACROSS or
> circumferentially towards the radial wires. This is due to the phase
> lag between the induced earth current and the radial current. The
> greater the distance between radials, the more path loss from the
> average distance between the radials, to the radials.
>
> As this is very difficult to treat in words alone, it is undoubtedly
> confusing in the description above.
>
> 73's
> Richard Clark, KB7QHC

3965. antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 15:22:39 UTC
From: genev <genev2000@hotmail.com>
Message-ID: <4TsSh.67685$s8.18208@newsfe21.lga>
Source record: 43280

I'm looking at the hustler g6-270 and the diamond x50a; I live near the
ocean so need a fiberglass ant, which I believe both of these are.
Does anyone have an opinion on either ant?
Richard
K1TAV

3966. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 15:31:09 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <1%sSh.6828$Kd3.400@newssvr27.news.prodigy.net>
Source record: 43282

Keith Dysart wrote:
> The junk science is often presented with very rational sounding
> arguments and it can be difficult to detect the flaws. This example
> was a case for me and you expose the flaw nicely.

Hint to omniscient gurus: One cannot use ignorance
for exposing flaws. Roy says in his Food for Thought
article:

> > I personally don't have a compulsion to understand where this power "goes".

Seemingly, that feeling of his is supposed to be enough
incentive to discourage the rest of us to give up on our
quest for tracking the energy through the system.

Roy has ploinked me for disagreeing with him. What
does that say about his inability to technically
defend his concepts?

The S-Parameter equations completely debunk what Roy
posted.

b1 = s11(a1) + s12(a2) = 0

|b1|^2, the reflected power, equals zero because
of wave cancellation involving those components
of a1 (forward normalized voltage) and a2 (reflected
normalized voltage).

If s11, a1, s12, and a2 are all non-zero, then wave
cancellation has occurred between s11(a1) and s12(a2)
proving Roy's statements to be false. The above wave
cancellation happens every time a ham adjusts his
antenna tuner for zero reflected power.
--
73, Cecil http://www.w5dxp.com

3967. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 15:41:29 UTC
From: richardharrison@webtv.net
Message-ID: <24618-461A5EA9-9@storefull-3258.bay.webtv.net>
Source record: 43283

Art wrote:
"The picture showed a seies of scan lnes across the screen at a slight angle."

Yes. I think that is right but I learned about TV back in 1948 and haven`t thought about it much since. As I recall, the designers of the U.S. TV system decided to construct a picture consisting of two interlaced fields. The first starts at the center of the screen at the very top of the picture, sweeping to the right on a slight downward slope, then retracing quickly to the lefthand edge of the picture. There the next parallel but slightly lower line of field or frame starts being written.

As I see it, the tilt or slope is strictly an arbitrary decision of the designer but conformity is required of the standard to work within the original system.

Best regards, Richard Harrison, KB5WZI

3968. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 15:56:27 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <6gok139l0s8bdtj55b95181jb60bqkkcgk@4ax.com>
Source record: 43284

On Sun, 08 Apr 2007 23:56:37 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>Indeed it is. Can you point me to a reference where I can get a more
>detailed explanation of this circumferential current and its cause?

Hi Roy,

Brown, Lewis and Epstein.

73's
Richard Clark, KB7QHC

3969. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 16:01:22 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <2jok131mo4kfg6v2b0gcp5ana7ptnf7m26@4ax.com>
Source record: 43285

On Mon, 09 Apr 2007 08:21:36 -0700, dansawyeror
<dansawyeror@comcast.net> wrote:

>What coupling does this imply? Is it direct as is contact or is it a
>field coupling as capacitive or inductive?

Hi Dan,

Yes to all three.

> The question is: what would
>insulation or corrosion due to buried radials?

Not much, practically; unless the wire is extremely thin, and the
currents are large. Loss is in the earth. You can, of course, build
a very crummy radial system if you try hard. For instance, using
expensive piano wire in place of cheap house wiring.

73's
Richard Clark, KB7QHC

3970. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 16:08:09 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131kp7g7tsorh88@corp.supernews.com>
Source record: 43286

Richard Clark wrote:
> On Sun, 08 Apr 2007 23:56:37 -0700, Roy Lewallen <w7el@eznec.com>
> wrote:
>
>> Indeed it is. Can you point me to a reference where I can get a more
>> detailed explanation of this circumferential current and its cause?
>
> Hi Roy,
>
> Brown, Lewis and Epstein.
>
Which page?

Roy Lewallen, W7EL

3971. Re: Reasonably-priced capacitors for traps

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 16:12:01 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131kpeo5kaj7i0a@corp.supernews.com>
Source record: 43287

John Passaneau wrote:
>
> I would just use normal 500v silver mica capacitors in series if
> necessary. At the 100 watt level the capacitors in a trap donï¿½t have to
> work too hard. Silver micas have good RF performance and easy to come by.
> If you use EZNEC to model your antenna it can tell you the voltage across
> your traps at your max power level making it easy to pick out your
> capacitors. You can down load a trial version that can easily model your
> antenna.

Keep in mind that EZNEC reports the RMS voltage, while capacitors are rated for peak voltage. So multiply the EZNEC values by 1.41 to get the required capacitor rating. Then add whatever additional safety margin you think is appropriate.

Roy Lewallen, W7EL

3972. Re: RF amp help

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 16:15:26 UTC
From: Tam/WB2TT <t-tammaru@c0mca$t.net>
Message-ID: <y5-dnYEswpsY-4fbnZ2dnUVZ_t2tnZ2d@comcast.com>
Source record: 43288

"Jimmie D" <GFENDER@carolina.rr.com> wrote in message
news:461a4cbf$0$8947$4c368faf@roadrunner.com...
>I am trying to build a small class C RF amp for 160 AM. The amp is to be
>plated modulated and I have about 12 watts of audio available. I have built
>amps before(30 years ago) but I have never built one around a modulator,
>previously I built the modulator to suit the amp. Any help with tube and
>voltage selections would be greatly appreciated.
>
> Jimmie
>
I presume you mean 160 KHz, not MHz.

Almost any of the N channel power FETs intended for switching power supply use will work at 160 KHz.. Forget about the 12W amp; you would need a low impedance modulation transformer for that. I would start with a non regulated power supply at about 30 volts, and run that to a buck regulator. Set the quiescent voltage to 12 V. Now, AC couple the audio (a few milliwatts) into the regulator reference input, and adjust the audio amplitude so that the regulator output swings between 0 and 24V. That is the supply for the power FET.

To operate in class C, you will want to drive the gate with a rectangular waveform. I would start with about 25% duty cycle. There will be a tuned circuit at the output of the FET; that has to have a fairly low loaded Q, or you will cut off the sidebands.

Actually, It should be possible to do this without even having a separate RF amplifier. Run the buck regulator at 160 KHz with almost no filtering at the output. The regulator output will be AM modulated 160 KHz. Filter it in an LPF.

If you meant 160 MHz, the first paragraph still applies. Use the regulator output to power an RF transistor operating at 160 MHz.

Tam

3973. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 16:19:54 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1176135594.934388.171660@y80g2000hsf.googlegroups.com>
Source record: 43289

On 9 Apr, 08:12, richardharri...@webtv.net (Richard Harrison) wrote:
> Art wrote:
>
> "The Gauss system, which does not use parasitics and therefore pursues
> the independent control AND PHASE AND AMPLITUDE."
>
> Parasitic arrays can also use independent control of phase and
> amplitude, I worked with curtain antenna arrays in the 1950`s used for
> shortwave broadcasting.
>
> The array consisted of (4) 1/2-wave dipoles, 2 over 2 all in the same
> plane, separated vertically by a 1/2 wavelength and suspended over the
> earth by a gap of 1/2-wavelength. An identical dipole array was
> suspended immediately behind the driven dipoles. It served as a
> parasitic reflector.
>
> The harness connected to the parasitic array was identical to that
> connected to the driven elements except that instead of being connected
> to the transmitter, it was connected to tuning stubs. We used an RCA WM
> 30A broadcast phase monitor with sampling loops suspended on driven and
> parasitic elements to adjust phasing of the reflector.
>
> Best regards, Richard Harrison, KB5WZI

There is no problem with that for shortwave broadcasts since not only
are you looking for a broard arrival area you are also looking at a
skip distance wheret different polarization arrives at the same
polarity.
If it were a Gauss form it would be of a higher
power but a much smaller arrival area which means a smaller audience.
Though I must add that a Gaussian arrival area can be tailor made
rather than the narrow lobe associated with other radiators.
It is when " boresight" is of a concern that such arrays fall in
disfavor,
as in cell phone work and satellite work where one should take note
of maximum polarization purity. Tho' why satelites still use
turnstiles
is beyond me since only one polarization is required but I am sure
there must be a reason, possibly because there is not an overpowering
need of multi monitoring communication channels.
Regards
Art

3974. Re: RF amp help

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 16:38:10 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <SZtSh.15411$Um6.6806@newssvr12.news.prodigy.net>
Source record: 43290

Tam/WB2TT wrote:
> I presume you mean 160 KHz, not MHz.

Probably neither - probably 160m.
--
73, Cecil http://www.w5dxp.com

3975. NVIS Dipoles Directional?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 16:49:45 UTC
From: Rick <Nospam@reply.in.gp>
Message-ID: <pan.2007.04.09.16.49.43.321645@reply.in.gp>
Source record: 43291

My experience seems to be that the performance of NVIS dipoles (at or under around 30 feet high for 80 meters) doesn't noticeably change with orientation. In other words ... and despite what modeling programs say ... BVIS dipoles are pretty much omnidirectional.

I haven't scientifically tested that but it does seem to me that since most NVIS radiation goes approximately straight up (definition of NVIS), it really shouldn't matter much how the antenna is oriented.

Have you all found that to be true, or false?

If I do want near-omnidirectional performance, in the real world (versus in a software program's modeling), am I better off with an inverted vee that's up 30 feet in the center, vs a dipole that's 30 feet up along its full length?

How about an inverted vee that's up 50 feet in the center and 10 feet at the ends, versus a dipole that's 30 feet up along its full length?

3976. Re: gamma match 70cm handheld

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 16:57:14 UTC
From: Kurt <ksaves2@sbcglobal.net>
Message-ID: <LFySh.1941$w41.800@newssvr19.news.prodigy.net>
Source record: 43241

Jimmie D wrote:
> Kurt wrote:
>
> Well, I had set the program to optimize the antenna for 433Mhz
> as that is what I was going to start with on my tracking transmitter.
> Plugged the Yagi into my handheld, set the power to low, set the fwd
> indication on my SWR meter and then did the ref reading. I was shocked
> to see that it was 1:1.2. Set it up to 450Mhz and saw it was 1:1. For
> this new ham, it was pretty surprising for a first project.
>
> This is exactly why I never trusted gamma matches on 70 cm. I consistently
> got nearly perfectly flat matches all the way across the band using a gamma
> match. This usally something aint right. and the antenna is probably
> radiating more in the infra-red region than at the desire frequency. No
> doubt there are others more skilled than I who can make it work For me the
> quagi has worked to damned well for me to bother.
>
> Jimmie.
>
>
Thanks for the info Jimmie. I gotta find a 70cm repeater in a
reasonable range and see if I can get some signal reports. As
mentioned, I was tentatively going to use this for RDF so in actuality
I could just connect it to a handheld scanner. I was told though if an
antenna demonstrated a good SWR on transmitting it should be good for
receiving. Sounds like that may not be the truth though judging by your
experience.

Kurt

3977. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 17:00:56 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <isrk13ddnisnm7ddr1g3au95gbdpujqop8@4ax.com>
Source record: 43292

On 9 Apr 2007 07:08:56 -0700, "Keith Dysart" <kd1@sympatico.ca> wrote:

>On Apr 9, 9:04 am, Cecil Moore <nos...@w5dxp.com> wrote:
>> Yes, there is obviously no interference between the
>> two transmitters if the powers simply add together.

is more than slightly disconnected from:

>Secondly, I am at a complete loss to understand how you
>can be arguing that when two signals of a particular
>power interfere, the result is 4 times the power. This
>sure seems like you're getting something from nothing.
>
>What happened to the staunch acceptance of 'conservation of
>energy'?

Called discarding the baby with the bath water. Such is the fate of observed reality in the face of novel theories.

This specious argument (posing quadruple powers to confound expectations) demands the slight of hand rhetoric in that when clear minds consider the entire field of radiation is summed, then you get the average of reinforced energy and canceled energy which is:
2

This merely reinforces yet another observed (but rhetorically dismissed) reality:
>> Richard Fry wrote:
>> > The total average power available at the hybrid output for both of these
>> > conditions is twice that of a single tx without the hybrid.

73's
Richard Clark, KB7QHC

3978. Re: NVIS Dipoles Directional?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 17:06:07 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <3ouSh.15414$Um6.4131@newssvr12.news.prodigy.net>
Source record: 43293

Rick wrote:
> I haven't scientifically tested that but it does seem to me that since
> most NVIS radiation goes approximately straight up (definition of NVIS),
> it really shouldn't matter much how the antenna is oriented.
>
> Have you all found that to be true, or false?

With a 130 ft dipole at 30 feet, the azimuthal radiation
pattern at 60 degrees is 3 dB down off the ends of the
dipole. I have never seen the minimum NVIS angle
defined anywhere.
--
73, Cecil http://www.w5dxp.com

3979. Re: Reasonably-priced capacitors for traps

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 17:11:54 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <2msk13h0v3ijjt5silu8mrh233pirtb4nd@4ax.com>
Source record: 43294

On Mon, 09 Apr 2007 09:12:01 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>John Passaneau wrote:
>>
>> I would just use normal 500v silver mica capacitors in series if
>> necessary. At the 100 watt level the capacitors in a trap donï¿½t have to
>> work too hard. Silver micas have good RF performance and easy to come by.
>> If you use EZNEC to model your antenna it can tell you the voltage across
>> your traps at your max power level making it easy to pick out your
>> capacitors. You can down load a trial version that can easily model your
>> antenna.
>
>Keep in mind that EZNEC reports the RMS voltage, while capacitors are
>rated for peak voltage. So multiply the EZNEC values by 1.41 to get the
>required capacitor rating. Then add whatever additional safety margin
>you think is appropriate.
>
>Roy Lewallen, W7EL

Hi All,

I would add that even if this safety factor is ignored (even at the
additional burden of ignoring the RMS to Peak conversion); that some
may feel their set up works fine, but is now off frequency. Mica caps
are said to be "self healing." That is accounted for the removal of
plate area (by the arc through) near the puncture. Net result of
overloading is neither a short nor an open.

You could test them with a Capacitance meter and find they still
exhibit capacitance, and perhaps not much D (but how many meters
actually measure D?).

73's
Richard Clark, KB7QHC

3980. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 17:13:58 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131kt2tmdhpjf5d@corp.supernews.com>
Source record: 43295

Richard Harrison wrote:
> Art wrote:
> "The picture showed a seies of scan lnes across the screen at a slight
> angle."
>
> Yes. I think that is right but I learned about TV back in 1948 and
> haven`t thought about it much since. As I recall, the designers of the
> U.S. TV system decided to construct a picture consisting of two
> interlaced fields. The first starts at the center of the screen at the
> very top of the picture, sweeping to the right on a slight downward
> slope, then retracing quickly to the lefthand edge of the picture. There
> the next parallel but slightly lower line of field or frame starts being
> written.
>
> As I see it, the tilt or slope is strictly an arbitrary decision of the
> designer but conformity is required of the standard to work within the
> original system.

The tilt of the horizontal scan lines is simply a consequence of the linear vertical deflection ramp being applied to the yoke at the same time as the horizontal deflection.

Roy Lewallen, W7EL

3981. What kind of 1/2 wave antenna is this?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 17:14:19 UTC
From: Rick <Nospam@reply.in.gp>
Message-ID: <pan.2007.04.09.17.14.18.339756@reply.in.gp>
Source record: 43296

Way back in the good old days, I had a situation where I couldn't center-feed an antenna, and couldn't use any kind of end-fed antenna that required a ground system. So, I built an antenna that's described below.

1/4 wavelength of wire going to two egg insulators. Off of one of the egg insulators is another 1/4 wavelength of rope. The feedline (coax) is taped to the rope along its length, then the rope and feedline combination is enclosed in 1/4 wavelength of copper braid. The center conductor of the feedline goes to the wire, and the shield goes to the braid.

This then becomes for all practical purposes a 1/2 wavelength end-fed, which is actually a center-fed because that's where the coax center conductor is actually connected. Unlike a traditional center-fed dipole, you don't need to worry about running the coax away at right angles for a certain distance.

I seem to recall that this antenna worked pretty well on 20 meters but I really had nothing to compare it with, and I only ran 50 watts anyway so didn't get much DX.

I vaguely recall this antenna being referred to as a "bazooka" but I have since seen the term "bazooka" applied to something else (e.g. http://www.hamuniverse.com/bazooka.html), and mostly all I see is references to a "double bazooka" (is there a single bazooka?).

Does this ring any bells with any of you?

Where can I buy braid that will be suitable? Most braid I've seen is flat and if it can be rounded out at all (so that things can be inserted inside the braid), doing so over a 1/4 wavelength on 40 or 20 would be very difficult.

Thanks...

3982. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 17:17:40 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <UyuSh.15415$Um6.15008@newssvr12.news.prodigy.net>
Source record: 43297

Richard Clark wrote:
> This specious argument (posing quadruple powers to confound
> expectations) demands the slight of hand rhetoric ...

Do you really think that Born and Wolf engage in
"slight of hand rhetoric"? Quoting them speaking
of the combined intensity of two equal magnitude
waves, I1 and I2.

"... and the intensity varies between a maximum
value Imax = 4*I1, and a minimum value Imin = 0
(Fig. 7.1)."

Fig. 7.1 is a sinusoid with a varying amplitude
from 0 to 4*I1 on the Y axis and relative phase
angle plotted on the X axis.

The average intensity is, of course, 2*I1 in
accordance with the conservation of energy
principle. Such is the nature of constructive
and destructive interference.
--
73, Cecil http://www.w5dxp.com

3983. Re: RF amp help

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 17:20:11 UTC
From: Tam/WB2TT <t-tammaru@c0mca$t.net>
Message-ID: <aMSdncuUEMov6IfbnZ2dnUVZ_rmdnZ2d@comcast.com>
Source record: 43298

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:SZtSh.15411$Um6.6806@newssvr12.news.prodigy.net...
> Tam/WB2TT wrote:
>> I presume you mean 160 KHz, not MHz.
>
> Probably neither - probably 160m.
> --
> 73, Cecil http://www.w5dxp.com

Makes sense. Forgot this was a ham site. He would need an RF transistor.

Tam

3984. Re: What kind of 1/2 wave antenna is this?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 17:21:11 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <bCuSh.15417$Um6.74@newssvr12.news.prodigy.net>
Source record: 43299

Rick wrote:
> 1/4 wavelength of wire going to two egg insulators. Off of one of the egg
> insulators is another 1/4 wavelength of rope. The feedline (coax) is
> taped to the rope along its length, then the rope and feedline combination
> is enclosed in 1/4 wavelength of copper braid. The center conductor of
> the feedline goes to the wire, and the shield goes to the braid.

This is the old coaxial vertical antenna just bent at
the center.
--
73, Cecil http://www.w5dxp.com

3985. Re: What kind of 1/2 wave antenna is this?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 17:28:36 UTC
From: Rick <Nospam@reply.in.gp>
Message-ID: <pan.2007.04.09.17.28.36.776299@reply.in.gp>
Source record: 43300

On Mon, 09 Apr 2007 17:21:11 +0000, Cecil Moore wrote:

> This is the old coaxial vertical antenna just bent at
> the center.

OK, except that it wouldn't be bent at the center... the 1/4 wave of wire
and the 1/4 wave of rope / coax / braid would all be horizontal.

3986. Re: gamma match 70cm handheld

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 17:35:09 UTC
From: Kurt <ksaves2@sbcglobal.net>
Message-ID: <idzSh.2502$zC.2485@newssvr22.news.prodigy.net>
Source record: 43246

Jerry Martes wrote:
> "Kurt" <ksaves2@sbcglobal.net> wrote in message
> news:LFySh.1941$w41.800@newssvr19.news.prodigy.net...
>
>>Jimmie D wrote:
>>
>>>Kurt wrote:
>>>
>>>Well, I had set the program to optimize the antenna for 433Mhz
>>>as that is what I was going to start with on my tracking transmitter.
>>>Plugged the Yagi into my handheld, set the power to low, set the fwd
>>>indication on my SWR meter and then did the ref reading. I was shocked
>>>to see that it was 1:1.2. Set it up to 450Mhz and saw it was 1:1. For
>>>this new ham, it was pretty surprising for a first project.
>>>
>>>This is exactly why I never trusted gamma matches on 70 cm. I
>>>consistently got nearly perfectly flat matches all the way across the
>>>band using a gamma match. This usally something aint right. and the
>>>antenna is probably radiating more in the infra-red region than at the
>>>desire frequency. No doubt there are others more skilled than I who can
>>>make it work For me the quagi has worked to damned well for me to bother.
>>>
>>>Jimmie.
>>
>>Thanks for the info Jimmie. I gotta find a 70cm repeater in a reasonable
>>range and see if I can get some signal reports. As mentioned, I was
>>tentatively going to use this for RDF so in actuality
>>I could just connect it to a handheld scanner. I was told though if an
>>antenna demonstrated a good SWR on transmitting it should be good for
>>receiving. Sounds like that may not be the truth though judging by your
>>experience.
>>
>> Kurt
>
>
> Hi Kurt
>
> The local repeater is a good source of a test signal, as you indicate.
> In addition, have you considered looking for an amateur satellite on 435MHz?
> AMSAT has alot of satellite pass prediction information.
>
> Jerry
>
>

Haven't considered any satellite attempts but I did try to pick up that spacesuit they tossed out of the ISS. Saw the ISS streaking across the sky, which was cool, but didn't hear anything on my scanner with a simple rubber duck. (Wonder why? sic) :-) That was before I was trying to study for a ticket.
I'll have to look into it. I suspect if I could hear the beacon I would be pointing in the right direction then call a CQ and see if I get a reply?

Kurt

3987. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 17:45:12 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <1etk139aqb7jqtj4tk9nhv3ja1ij3mqhll@4ax.com>
Source record: 43301

On Mon, 09 Apr 2007 09:08:09 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>Richard Clark wrote:
>> On Sun, 08 Apr 2007 23:56:37 -0700, Roy Lewallen <w7el@eznec.com>
>> wrote:
>>
>>> Indeed it is. Can you point me to a reference where I can get a more
>>> detailed explanation of this circumferential current and its cause?
>>
>> Hi Roy,
>>
>> Brown, Lewis and Epstein.
>>
>Which page?

Hi Roy,

It is distributed through the discussion.

Pg. 757 (at the top of the page introduces):
"These losses are due to conduction of earth
currents through a high resistance earth..."

"Where there are radial ground wires present,
the earth current consists of two components,
part of which flows in the earth itself and
the remainder of which flows in the buried wires."

"...all the various components differ in phase."

This establishes the relationship and distinction in the various
currents. It is the current in the earth that is the topic of
discussion here. That current is out of phase with respect to the
currents (at the same radial distance) found in the buried wires. No
wires, no phase issue. No phase issue, and earth currents would be
radial. Now, to distinguish this from circumferential is not to say
this is absolute (it does not follow an arc of constant radius).

This is extended to coverage at the bottom of page 758:
"The actual earth current and the current flowing in the
radial wires are given...." [formula shown in the original]

"From (8) [that formula] we see that the earth
current proper leads the current in the wires
by 90 electrical degrees."

At a radius, the earth phase and the wire phase exhibit a potential
difference which results in conduction that is not strictly radial
(the term circumferential through the combination of vectors might be
replaced with spiral, or diagonal). The earth's resistance comes into
play at page 760:
"When the earth is of good conductivity [a paradox ensues],
the current leaves the wires and enters the earth closer to
the antenna than it does when the earth is a poor conductor."
and hence the advice for replacing dirt with sand OR providing more
closely spaced radials, closer in.

"Thus the regions of high current density are subjected
to still more current with higher losses in these regions."

73's
Richard Clark, KB7QHC

3988. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 17:47:30 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <evdu8kdlh1@news.service.uci.edu>
Source record: 43302

Roy Lewallen wrote:

> Jim Kelley wrote:
>
>> Roy Lewallen wrote:
>>
>>> As others have pointed out, it's risky to treat c as a variable or
>>> medium-dependent speed.
>>
>>
>> Roy -
>>
>> The convenient thing about using medium dependent c in that equation
>> is that we can use things such as index of refraction or velocity
>> factor to convert from vacuum 'c' to 'c' in another medium. The fact
>> that it makes the results of the calculation more accurate tends to
>> mitigate any risk that might be encumbered when using it.
>>
>> To require that only vacuum c be used in the equation to me seems
>> overly authoritarian. I wonder how you feel about the speed of sound?
>> :-)
>>
>> 73, Jim AC6XG
>
>
> What, the speed of sound in a vacuum? I'm afraid you'll have to ask
> Cecil or Art about that -- I'm not qualified to comment.

> I'm not trying to be authoritarian about the use of "c", just reporting
> what I find in my textbooks. Grabbing just one for example, Kraus'
> _Electromagnetics_, on p. 352 I find that he uses v as the phase
> velocity, and says, "For free space (vacuum) the velocity is a
> well-known constant (usually designated by c and usually called the
> velocity of light)." and shows an equation for c. Then he gives an
> equation for the "relative phase velocity" p, as v/c.

> In the back of R.K. Moore's _Traveling-wave Engineering_, c is listed as
> "Velocity of light in vacuum". He uses v-sub-p for phase velocity.

> A number of authors avoid using c altogether, but those who do seem to
> universally use it to mean the speed of light in a vacuum. What texts do
> you have where it's used to mean the phase velocity in a medium other
> than air?
>
> Of course, you can always go ahead and interpret c any way you want,

> even if it isn't what the author intended. Then you can progress from
> there to any number of bizarre conclusions. They'd fit right in with the
> ones being "debated" over and over on this newsgroup.
>
> Roy Lewallen, W7EL

I think we both understand that light travels at a velocity which is dependent on the medium through which it is travelling. You seem to want to continue to argue about that, and to tell you the truth I can't see much difference between that, and the kind of debate going on over and over in this newsgroup.

73, Jim AC6XG

3989. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 17:52:58 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1176141178.768272.108010@d57g2000hsg.googlegroups.com>
Source record: 43303

On 9 Apr, 10:13, Roy Lewallen <w...@eznec.com> wrote:
> Richard Harrison wrote:
> > Art wrote:
> > "The picture showed a seies of scan lnes across the screen at a slight
> > angle."
>
> > Yes. I think that is right but I learned about TV back in 1948 and
> > haven`t thought about it much since. As I recall, the designers of the
> > U.S. TV system decided to construct a picture consisting of two
> > interlaced fields. The first starts at the center of the screen at the
> > very top of the picture, sweeping to the right on a slight downward
> > slope, then retracing quickly to the lefthand edge of the picture. There
> > the next parallel but slightly lower line of field or frame starts being
> > written.
>
> > As I see it, the tilt or slope is strictly an arbitrary decision of the
> > designer but conformity is required of the standard to work within the
> > original system.
>
> The tilt of the horizontal scan lines is simply a consequence of the
> linear vertical deflection ramp being applied to the yoke at the same
> time as the horizontal deflection.
>
> Roy Lewallen, W7EL- Hide quoted text -
>
> - Show quoted text -

I saw that as analagous to a horizontal beam i.e current with magnetic
electrons at right angles
in a time varying field, the resultant vector being at an angle with
respect to the horizontal sweepof the deflection signal. Either way,
since all vectors do not move in the same direction
the resultant vector cannot align with any existing vector.In this
case it presents an oportunity for the designer to have maximum
brilliance together with ramp. Who says you can't have your cake and
eat it to!
Art

3990. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 18:01:05 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <BbvSh.29201$VU4.5291@bgtnsc05-news.ops.worldnet.att.net>
Source record: 43304

```
Cecil Moore wrote:
> Richard Fry wrote:
>> "Cecil Moore"
>>> Being a little more precise:
>>> With mutually incoherent equal-magnitude sources,
>>> the maximum possible peak intensity is double the
>>> intensity of a single wave. There's no interference.
>> ____________
>>
>> BUT, the two equal-power signals in my scenario are exactly coherent
>> at the output port where they combine to produce twice average output
>> power of either tx.
>>
>> Please explain, in light of your concepts?
>
> I thought I did. You have combined those outputs
> without producing any interference. If there is
> no interference, as far as power goes, it doesn't
> matter if they are coherent or not.
>
> Assuming P1 is the power output of the first
> transmitter and P2 is the power output of the
> second transmitter, if Ptotal = P1 + P2 + 0,
> the interference (last) term is obviously zero,
> i.e. it's prima facie - no interference.
>
> If you double the H-field (current) while keeping
> the E-field (voltage) constant, you have not
> produced any interference.
>
> If you double the E-field (voltage) while keeping
> the H-field (current) constant, you have not
> produced any interference.
>
> If you double both the E-field (voltage) and the
> H-field (current) at the same time, you have produced
> total constructive interference.
>
> If you zero both the E-field (voltage) and the
> H-field (current) at the same time, you have produced
> total destructive interference.
>
> For interference to exist, both the E-field and
> H-field must be changed by the same percentage
```

> thus keeping their Z0 ratio constant.
>
> If both fields decrease, extra energy is available
> during that destructive interference event. If both
> fields increase, extra energy is required by that
> constructive interference event. In the absence
> of a local source, |destructive interference| must
> always equal |constructive interference|.

Cecil,

You are quite prolific at manufacturing even more crystalline spheres.

8-)

73,
Gene
W4SZ

3991. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 18:03:40 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1176141820.737356.4400@p77g2000hsh.googlegroups.com>
Source record: 43305

On Apr 9, 12:19 pm, "art" <aun...@insightbb.com> wrote:
> On 9 Apr, 08:12, richardharri...@webtv.net (Richard Harrison) wrote:
>
>
>
> > Art wrote:
>
> > "The Gauss system, which does not use parasitics and therefore pursues
> > the independent control AND PHASE AND AMPLITUDE."
>
> > Parasitic arrays can also use independent control of phase and
> > amplitude, I worked with curtain antenna arrays in the 1950`s used for
> > shortwave broadcasting.
>
> > The array consisted of (4) 1/2-wave dipoles, 2 over 2 all in the same
> > plane, separated vertically by a 1/2 wavelength and suspended over the
> > earth by a gap of 1/2-wavelength. An identical dipole array was
> > suspended immediately behind the driven dipoles. It served as a
> > parasitic reflector.
>
> > The harness connected to the parasitic array was identical to that
> > connected to the driven elements except that instead of being connected
> > to the transmitter, it was connected to tuning stubs. We used an RCA WM
> > 30A broadcast phase monitor with sampling loops suspended on driven and
> > parasitic elements to adjust phasing of the reflector.
>
> > Best regards, Richard Harrison, KB5WZI
>
> There is no problem with that for shortwave broadcasts since not only
> are you looking for a broard arrival area you are also looking at a
> skip distance wheret different polarization arrives at the same
> polarity.
> If it were a Gauss form it would be of a higher
> power but a much smaller arrival area which means a smaller audience.
> Though I must add that a Gaussian arrival area can be tailor made
> rather than the narrow lobe associated with other radiators.
> It is when " boresight" is of a concern that such arrays fall in
> disfavor,
> as in cell phone work and satellite work where one should take note
> of maximum polarization purity. Tho' why satelites still use
> turnstiles
> is beyond me since only one polarization is required but I am sure
> there must be a reason, possibly because there is not an overpowering
> need of multi monitoring communication channels.

> Regards
> Art

If this fact is beyound you as you say then you have no business lecturing other people on antenna theory and that you are as brainless as you claim others to be. They are circularly polarized because satellites tumble in space resulting in there polarity constantly changing, also other reason why the polarity of an earth station would not match that of a satellite, look them up. This can be a real problem with a linear polarity antenna but no problem at all for a circular polarity antenna such as the turnstile.

Jimmie

3992. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 18:09:43 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <HjvSh.29219$VU4.16069@bgtnsc05-news.ops.worldnet.att.net>
Source record: 43306

Cecil Moore wrote:
> Gene Fuller wrote:
>> We seem to be switching from RF to optics in order to explain
>> something or other, ...
>
> Gene, I forgot to ask. At exactly what EM frequency
> do the RF waves stop obeying the century old laws of
> physics for visible light?

Cecil,

It is interesting that you rarely address the technical points that I make. It is usually something along the lines of the above throwaway comments.

What are you trying to hide?

I am still waiting to learn the technical details of "cancellation", including the proper units and the characteristic equations. There has been deafening silence in response to my similar query about "interference".

I have been called lots of things in my life, mostly deserved, but rarely have I been called ignorant. It is obvious that this thread has long outlived any chance for a meaningful discussion.

You win! Keep on building more spheres.

73,
Gene
W4SZ

3993. Re: What kind of 1/2 wave antenna is this?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 18:10:36 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <wkvSh.13177$JZ3.3655@newssvr13.news.prodigy.net>
Source record: 43307

Rick wrote:
> On Mon, 09 Apr 2007 17:21:11 +0000, Cecil Moore wrote:
>
>> This is the old coaxial vertical antenna just bent at
>> the center.
>
> OK, except that it wouldn't be bent at the center... the 1/4 wave of wire
> and the 1/4 wave of rope / coax / braid would all be horizontal.

Sorry, from your description, it sounded to me
like the rope was going off at a right angle.
--
73, Cecil http://www.w5dxp.com

3994. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 18:12:50 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <CmvSh.13178$JZ3.11269@newssvr13.news.prodigy.net>
Source record: 43308

Gene Fuller wrote:
> You are quite prolific at manufacturing even more crystalline spheres.
> 8-)

I just love the technical content of your postings. :-)
--
73, Cecil http://www.w5dxp.com

3995. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 18:18:16 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <el0l13dkvt3cl1gv642l3utmg31itqv1kk@4ax.com>
Source record: 43309

On Mon, 09 Apr 2007 17:17:40 GMT, Cecil Moore <nospam@w5dxp.com>
wrote:

>The average intensity is, of course, 2*I1

Which satisfies (after a flurry of reference shuffling, oblique
jargon, obscure rhetoric, and ordinary BAFFLEGAB) the simple inquiry:
>>>The total average power available at the hybrid output for both of these
>>>conditions is twice that of a single tx without the hybrid.
>>>
>>>Does the quote from Born and Wolf support this?

3996. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 18:19:26 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3s0l13hahu8b3b36844o93j91lmt1dlsjj@4ax.com>
Source record: 43310

On Mon, 09 Apr 2007 18:01:05 GMT, Gene Fuller <W4SZzzzzzz@att.net>
wrote:

>You are quite prolific at manufacturing even more crystalline spheres.

Hi Gene,

Wait until they are embroidered with epicycles.

73's
Richard Clark, KB7QHC

3997. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 18:20:28 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eve06ffba1@news.service.uci.edu>
Source record: 43312

Richard Fry wrote:

> "Cecil Moore"
>
>> Still there are those nagging assertions of Born
>> and Wolf that for two equal magnitude signals,
>> the total intensity possible for incoherent
>> signals is double the intensity of one signal.
>> The total intensity possible for coherent
>> signals is four times the intensity of one signal.
>
> --------
>
> It is a fairly common practice in broadcast designs to combine the
> outputs of two r-f amplifiers of equal power rating, using a 4-port, 3
> dB coaxial hybrid. The two amplifiers are driven by a single exciter
> through a suitable splitter. The antenna connects to one output port of
> the hybrid, and the other output port is connected to a dummy load.
>
> When the relative r-f phases of the two txs are suitably set, the
> antenna connection of the hybrid receives the total output power of the
> two txs, and the dummy load port receives zero. When the relative r-f
> phases of the txs are changed by 90 degrees from that setting, then the
> conditions at the output ports are reversed.
>
> The total average power available at the hybrid output for both of these
> conditions is twice that of a single tx without the hybrid.
>
> Does the quote from Born and Wolf support this?
>
> RF

The quote from Born and Wolf that Cecil cites supports the 'profound'
notion that (E1 + E2)^2 / (E1 + E2) = 4.

73, Jim AC6XG

3998. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 18:24:34 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <CxvSh.13179$JZ3.7304@newssvr13.news.prodigy.net>
Source record: 43311

Gene Fuller wrote:
> I am still waiting to learn the technical details of "cancellation",
> including the proper units and the characteristic equations. There has
> been deafening silence in response to my similar query about
> "interference".

I have posted the details of cancellation more than
once and you haven't disagreed except in an ad
hominem way with zero technical content.

Once again here is the S-Parameter equation for
the reflected wave at a Z0-match impedance
discontinuity in a transmission line:

b1 = s11(a1) + s12(a2) = 0

b1 is the normalized reflected voltage at the
Z0-match. |b1|^2 is the reflected power in
the direction of the source.

s11(a1) is the normalized external reflected
voltage at the Z0-match.

s12(a2) is the normalized internal reflected
voltage making it through the Z0-match back
from the mismatched load.

Since b1 = 0, s11(a1) and s12(a2) have canceled.
s11(a1) and s12(a2) are of equal magnitudes and
opposite phases. Those waves are canceled toward
the source. Their combined energy components join
the forward wave toward the load.

Wave cancellation is what happens when a ham tunes
his antenna tuner for zero reflected power. I dare
say you have engaged in that very behavior leading
up to wave cancellation of reflections in the
direction of the source.
--
73, Cecil http://www.w5dxp.com

3999. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 18:47:34 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1176144454.885571.296550@l77g2000hsb.googlegroups.com>
Source record: 43313

On 9 Apr, 11:03, "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote:
> On Apr 9, 12:19 pm, "art" <aun...@insightbb.com> wrote:
>
>
>
>
>
> > On 9 Apr, 08:12, richardharri...@webtv.net (Richard Harrison) wrote:
>
> > > Art wrote:
>
> > > "The Gauss system, which does not use parasitics and therefore pursues
> > > the independent control AND PHASE AND AMPLITUDE."
>
> > > Parasitic arrays can also use independent control of phase and
> > > amplitude, I worked with curtain antenna arrays in the 1950`s used for
> > > shortwave broadcasting.
>
> > > The array consisted of (4) 1/2-wave dipoles, 2 over 2 all in the same
> > > plane, separated vertically by a 1/2 wavelength and suspended over the
> > > earth by a gap of 1/2-wavelength. An identical dipole array was
> > > suspended immediately behind the driven dipoles. It served as a
> > > parasitic reflector.
>
> > > The harness connected to the parasitic array was identical to that
> > > connected to the driven elements except that instead of being connected
> > > to the transmitter, it was connected to tuning stubs. We used an RCA WM
> > > 30A broadcast phase monitor with sampling loops suspended on driven and
> > > parasitic elements to adjust phasing of the reflector.
>
> > > Best regards, Richard Harrison, KB5WZI
>
> > There is no problem with that for shortwave broadcasts since not only
> > are you looking for a broard arrival area you are also looking at a
> > skip distance wheret different polarization arrives at the same
> > polarity.
> > If it were a Gauss form it would be of a higher
> > power but a much smaller arrival area which means a smaller audience.
> > Though I must add that a Gaussian arrival area can be tailor made
> > rather than the narrow lobe associated with other radiators.
> > It is when " boresight" is of a concern that such arrays fall in
> > disfavor,
> > as in cell phone work and satellite work where one should take note
> > of maximum polarization purity. Tho' why satelites still use

> > turnstiles
> > is beyond me since only one polarization is required but I am sure
> > there must be a reason, possibly because there is not an overpowering
> > need of multi monitoring communication channels.
> > Regards
> > Art
>
> If this fact is beyound you as you say then you have no business
> lecturing other people on antenna theory and that you are as brainless
> as you claim others to be. They are circularly polarized because
> satellites tumble in space resulting in there polarity constantly
> changing, also other reason why the polarity of an earth station would
> not match that of a satellite, look them up. This can be a real
> problem with a linear polarity antenna but no problem at all for a
> circular polarity antenna such as the turnstile.
>
> Jimmie- Hide quoted text -
>
> - Show quoted text -

Jimmie, think before you post. A turnstile is not perfectly CP. For perfection changes are needed but as I said earlier perfection may not be necessarily desired. If you are going to disagree with everything you may want to be more choosey in your selection of posts plus reading the content more than twice before you decide to expose your lack of knoweledge.
Art

4000. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 19:12:32 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131l41774927168@corp.supernews.com>
Source record: 43314

Richard,

I disagree with your conclusion that currents flow circumferentially. It does not say so in the paper, and I don't believe it can be inferred from what is said in the paper. If you were to draw a diagram showing the currents produced by the phase shift between earth and radial currents, you'd find that the net current resulting from this phase shift is purely radial, not circumferential.

If the currents flow circumferentially, do they flow clockwise or counterclockwise, and at what magnitude relative to the radial currents? Surely there's some reference which shows this calculation which you could direct me to or, if not, you could show how the calculation is done and what the result is.

Roy Lewallen, W7EL

Richard Clark wrote:
> On Mon, 09 Apr 2007 09:08:09 -0700, Roy Lewallen <w7el@eznec.com>
> wrote:
>
>> Richard Clark wrote:
>>> On Sun, 08 Apr 2007 23:56:37 -0700, Roy Lewallen <w7el@eznec.com>
>>> wrote:
>>>
>>>> Indeed it is. Can you point me to a reference where I can get a more
>>>> detailed explanation of this circumferential current and its cause?
>>> Hi Roy,
>>>
>>> Brown, Lewis and Epstein.
>>>
>> Which page?
>
> Hi Roy,
>
> It is distributed through the discussion.
>
> Pg. 757 (at the top of the page introduces):
> "These losses are due to conduction of earth
> currents through a high resistance earth..."
>
> "Where there are radial ground wires present,
> the earth current consists of two components,
> part of which flows in the earth itself and
> the remainder of which flows in the buried wires."

>
> "...all the various components differ in phase."
>
> This establishes the relationship and distinction in the various
> currents. It is the current in the earth that is the topic of
> discussion here. That current is out of phase with respect to the
> currents (at the same radial distance) found in the buried wires. No
> wires, no phase issue. No phase issue, and earth currents would be
> radial. Now, to distinguish this from circumferential is not to say
> this is absolute (it does not follow an arc of constant radius).
>
> This is extended to coverage at the bottom of page 758:
> "The actual earth current and the current flowing in the
> radial wires are given...." [formula shown in the original]
>
> "From (8) [that formula] we see that the earth
> current proper leads the current in the wires
> by 90 electrical degrees."
>
> At a radius, the earth phase and the wire phase exhibit a potential
> difference which results in conduction that is not strictly radial
> (the term circumferential through the combination of vectors might be
> replaced with spiral, or diagonal). The earth's resistance comes into
> play at page 760:
> "When the earth is of good conductivity [a paradox ensues],
> the current leaves the wires and enters the earth closer to
> the antenna than it does when the earth is a poor conductor."
> and hence the advice for replacing dirt with sand OR providing more
> closely spaced radials, closer in.
>
> "Thus the regions of high current density are subjected
> to still more current with higher losses in these regions."
>
> 73's
> Richard Clark, KB7QHC

4001. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 19:15:57 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <461a90e9$0$1345$4c368faf@roadrunner.com>
Source record: 43315

"art" <aunwin@insightbb.com> wrote in message
news:1176144454.885571.296550@l77g2000hsb.googlegroups.com...
> On 9 Apr, 11:03, "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote:
>> On Apr 9, 12:19 pm, "art" <aun...@insightbb.com> wrote:
>>
>>
>>
>>
>>
>> > On 9 Apr, 08:12, richardharri...@webtv.net (Richard Harrison) wrote:
>>
>> > > Art wrote:
>>
>> > > "The Gauss system, which does not use parasitics and therefore
>> > > pursues
>> > > the independent control AND PHASE AND AMPLITUDE."
>>
>> > > Parasitic arrays can also use independent control of phase and
>> > > amplitude, I worked with curtain antenna arrays in the 1950`s used
>> > > for
>> > > shortwave broadcasting.
>>
>> > > The array consisted of (4) 1/2-wave dipoles, 2 over 2 all in the same
>> > > plane, separated vertically by a 1/2 wavelength and suspended over
>> > > the
>> > > earth by a gap of 1/2-wavelength. An identical dipole array was
>> > > suspended immediately behind the driven dipoles. It served as a
>> > > parasitic reflector.
>>
>> > > The harness connected to the parasitic array was identical to that
>> > > connected to the driven elements except that instead of being
>> > > connected
>> > > to the transmitter, it was connected to tuning stubs. We used an RCA
>> > > WM
>> > > 30A broadcast phase monitor with sampling loops suspended on driven
>> > > and
>> > > parasitic elements to adjust phasing of the reflector.
>>
>> > > Best regards, Richard Harrison, KB5WZI
>>
>> > There is no problem with that for shortwave broadcasts since not only
>> > are you looking for a broard arrival area you are also looking at a
>> > skip distance wheret different polarization arrives at the same
>> > polarity.

>> > If it were a Gauss form it would be of a higher
>> > power but a much smaller arrival area which means a smaller audience.
>> > Though I must add that a Gaussian arrival area can be tailor made
>> > rather than the narrow lobe associated with other radiators.
>> > It is when " boresight" is of a concern that such arrays fall in
>> > disfavor,
>> > as in cell phone work and satellite work where one should take note
>> > of maximum polarization purity. Tho' why satelites still use
>> > turnstiles
>> > is beyond me since only one polarization is required but I am sure
>> > there must be a reason, possibly because there is not an overpowering
>> > need of multi monitoring communication channels.
>> > Regards
>> > Art
>>
>> If this fact is beyound you as you say then you have no business
>> lecturing other people on antenna theory and that you are as brainless
>> as you claim others to be. They are circularly polarized because
>> satellites tumble in space resulting in there polarity constantly
>> changing, also other reason why the polarity of an earth station would
>> not match that of a satellite, look them up. This can be a real
>> problem with a linear polarity antenna but no problem at all for a
>> circular polarity antenna such as the turnstile.
>>
>> Jimmie- Hide quoted text -
>>
>> - Show quoted text -
>
> Jimmie, think before you post. A turnstile is not perfectly CP. For
> perfection changes are needed but as I said earlier perfection may not
> be necessarily desired. If you are going to disagree with everything
> you may want to be more choosey in your selection of posts plus
> reading the content more than twice before you decide to expose your
> lack of knoweledge.
> Art
>

The imperfection is only slight and works quite well for all pratical
purposes. You should be sure of your own knowledge. I f perfection was
required I doubt if anything would ever perform satisfactorly.

Jimmie

4002. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 19:20:11 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131l4fine0br792@corp.supernews.com>
Source record: 43316

Jim Kelley wrote:
>
> I think we both understand that light travels at a velocity which is
> dependent on the medium through which it is travelling. You seem to
> want to continue to argue about that, and to tell you the truth I can't
> see much difference between that, and the kind of debate going on over
> and over in this newsgroup.

This isn't the first time I've failed to communicate, and I'm sure it won't be the last.

The sole point I was trying to make is that the letter c is just about universally used, as far as I can tell, to mean the velocity of light in a vacuum. That symbol is not generally used to mean the speed of light in any other medium.

Roy Lewallen

4003. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 19:21:18 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <OmwSh.15443$Um6.4611@newssvr12.news.prodigy.net>
Source record: 43317

Jim Kelley wrote:
> The quote from Born and Wolf that Cecil cites supports the 'profound'
> notion that (E1 + E2)^2 / (E1 + E2) = 4.

There sure appears to be something wrong with that
equation, Jim. If E1 = E2 = 1 volt, then you have
4 / 2 = 4 which seems a bit wrong, if you don't
mind me saying so. What dimensions does your '4'
above have? Seems it would have to be 4 volts.

Assuming E1 = E2, I think what you meant to say was:

(E1 + E2)^2 / E1^2 = 4 (dimensionless)

which is what Born and Wolf say in equation (17)
chapter 7. Please note that is total constructive
interference as defined by Hecht in "Optics"

Also please note that if those signals are the opposite
phase:

(E1 - E2)^2 / E1^2 = 0

That's total destructive interference as defined
by Hecht.
--
73, Cecil http://www.w5dxp.com

4004. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 19:23:18 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1176146598.950450.304320@q75g2000hsh.googlegroups.com>
Source record: 43318

On 9 Apr, 12:15, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
> "art" <aun...@insightbb.com> wrote in message
>
> news:1176144454.885571.296550@l77g2000hsb.googlegroups.com...
>
>
>
>
>
> > On 9 Apr, 11:03, "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote:
> >> On Apr 9, 12:19 pm, "art" <aun...@insightbb.com> wrote:
>
> >> > On 9 Apr, 08:12, richardharri...@webtv.net (Richard Harrison) wrote:
>
> >> > > Art wrote:
>
> >> > > "The Gauss system, which does not use parasitics and therefore
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> >> > > the independent control AND PHASE AND AMPLITUDE."
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> >> > > Parasitic arrays can also use independent control of phase and
> >> > > amplitude, I worked with curtain antenna arrays in the 1950`s used
> >> > > for
> >> > > shortwave broadcasting.
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> >> > > The array consisted of (4) 1/2-wave dipoles, 2 over 2 all in the same
> >> > > plane, separated vertically by a 1/2 wavelength and suspended over
> >> > > the
> >> > > earth by a gap of 1/2-wavelength. An identical dipole array was
> >> > > suspended immediately behind the driven dipoles. It served as a
> >> > > parasitic reflector.
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> >> > > The harness connected to the parasitic array was identical to that
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> >> > > to the transmitter, it was connected to tuning stubs. We used an RCA
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> >> > > 30A broadcast phase monitor with sampling loops suspended on driven
> >> > > and
> >> > > parasitic elements to adjust phasing of the reflector.
>
> >> > > Best regards, Richard Harrison, KB5WZI
>
> >> > There is no problem with that for shortwave broadcasts since not only

> >> > are you looking for a broard arrival area you are also looking at a
> >> > skip distance wheret different polarization arrives at the same
> >> > polarity.
> >> > If it were a Gauss form it would be of a higher
> >> > power but a much smaller arrival area which means a smaller audience.
> >> > Though I must add that a Gaussian arrival area can be tailor made
> >> > rather than the narrow lobe associated with other radiators.
> >> > It is when " boresight" is of a concern that such arrays fall in
> >> > disfavor,
> >> > as in cell phone work and satellite work where one should take note
> >> > of maximum polarization purity. Tho' why satelites still use
> >> > turnstiles
> >> > is beyond me since only one polarization is required but I am sure
> >> > there must be a reason, possibly because there is not an overpowering
> >> > need of multi monitoring communication channels.
> >> > Regards
> >> > Art
>
> >> If this fact is beyound you as you say then you have no business
> >> lecturing other people on antenna theory and that you are as brainless
> >> as you claim others to be. They are circularly polarized because
> >> satellites tumble in space resulting in there polarity constantly
> >> changing, also other reason why the polarity of an earth station would
> >> not match that of a satellite, look them up. This can be a real
> >> problem with a linear polarity antenna but no problem at all for a
> >> circular polarity antenna such as the turnstile.
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> >> Jimmie- Hide quoted text -
>
> >> - Show quoted text -
>
> > Jimmie, think before you post. A turnstile is not perfectly CP. For
> > perfection changes are needed but as I said earlier perfection may not
> > be necessarily desired. If you are going to disagree with everything
> > you may want to be more choosey in your selection of posts plus
> > reading the content more than twice before you decide to expose your
> > lack of knoweledge.
> > Art
>
> The imperfection is only slight and works quite well for all pratical
> purposes. You should be sure of your own knowledge. I f perfection was
> required I doubt if anything would ever perform satisfactorly.
>
> Jimmie- Hide quoted text -
>
> - Show quoted text -

I "know" it can be perfected, you however have "doubts" As I said
earlier read twice before you choose to disagree. You are
overestimating your antenna abilities and really should revert to a

learning mode. If it was baseball you would be long gone.
Art

4005. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 19:32:56 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eve4edimc1@news.service.uci.edu>
Source record: 43319

Cecil Moore wrote:
> Richard Clark wrote:
>
>> Walter Maxwell <walt@w2du.com> wrote:
>>
>>> It is true, however, that two non-coherent fields from two different
>>> sources would just plow through each
>>> other with no effect on either.
>>
>>
>> Does the binary transition from a one micro-degree longer
>> cycle (non-coherent) to 0 (coherence) same length cycle really
>> plunge us into a new physical reality of waves colliding with
>> rebounds and caroms where formerly there was absolutely no
>> interaction before?
>
>
> Of course, you are being facetious but the answer is simple.
> If the two signals are mutually incoherent, they don't
> interfere. Permanent wave cancellation is impossible
> between two waves that are not coherent. Hecht in "Optics"
> devotes an entire chapter to the "Basics of Coherence Theory".
> So do Born and Wolf in "Principles of Optics". Here is what
> Walt was obviously saying except in Born and Wolf's words:
>
> "If the two beams originate in the same source, the fluctuations
> in the two beams are in general correlated, and the beams are
> said to be completely or partially *coherent* depending on
> whether the correlation is complete or partial. In beams from
> different sources, the fluctuations are completely uncorrelated,
> and the beams are said to be mutually *incoherent*. When such
> beams from different sources are superposed, no interference is
> observed under ordinary experimental conditions, the total intensity
> being everywhere the sum of the intensities of the individual beams."
>
> In case you missed it, that says *NO INTERFERENCE* between mutually
> incoherent waves. Seems reasonable to say that "no interference"
> means the same thing as "no effect".

The last paragraph above is a perfect example of your tendancy to
misinterpret these texts, Cecil. Born and Wolf does not (and would
not) assert that there is "no effect" when mutually incoherent waves
are superposed. It's not reasonable to say that. There is certainly
an effect. In fact Walt and I use the effect whenever we tune our basses.

An illustration can be viewed at:

http://www.kettering.edu/~drussell/Demos/superposition/superposition.html

73, Jim AC6XG

4006. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 19:54:35 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ov4l13taf569secgk49mshj4valua7rc34@4ax.com>
Source record: 43320

On Mon, 09 Apr 2007 12:12:32 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>I disagree with your conclusion that currents flow circumferentially. It
>does not say so in the paper, and I don't believe it can be inferred
>from what is said in the paper.

Hi Roy,

To insist that the paper be complete where the reader has the
competence to understand what is implied; well, that goes beyond
standard practice. Further, the implication is hardly momentous when
the force of the writing is in demonstrating (not finding) a solution
to loss. Their style is clearly descriptive, not pedantic.

One very simple observation drawn directly from the text
at page 760:
"When the earth is of good conductivity,
the current leaves the wires and enters the earth closer to
the antenna than it does when the earth is a poor conductor."

How is it THIS current is traveling radially, the same direction as
the wires, both leaving the wire (an orthogonal aspect) and yet moving
in the same direction. This is a contradiction to the geometry of the
description if we are to abide by your rejection of my
"interpretation."

Their (not my) statement, supported by their other text, hardly makes
sense otherwise. Current only flows along a potential gradient and
the phase shift between (by their own distinctions) wire and ground
constitutes such a gradient.

It is a vastly more speculative "interpretation" to suggest the
current leaves the wire to travel in the same direction and the
authors definitely don't say that, do they? Common sense would
dictate a fairer interpretation that conforms to phases and the
distinctions (separation of currents) they drew from them.

73's
Richard Clark, KB7QHC

4007. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 19:54:42 UTC
From: john Wiener <jawod@fuse.net>
Message-ID: <461A9A02.2050500@fuse.net>
Source record: 43321

Cecil Moore wrote:
> Roy Lewallen wrote:
>> Using that nearly-universal definition, the speed of an EM wave in any
>> other medium is VF * c where VF is the "velocity factor".
>
> If I remember correctly, at Texas A&M we used an
> equation like:
>
> c' = VF(c)
>
> Writing c-prime like that told us that it wasn't
> the speed of light in free space.
my recollection from optics is

c/c' = n, index of refraction for the c' medium, (c always used as the
constant in a vacuum).

4008. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 19:59:31 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176148771.221072.283970@p77g2000hsh.googlegroups.com>
Source record: 43322

On Apr 9, 12:20 pm, Roy Lewallen <w...@eznec.com> wrote:
> Jim Kelley wrote:
>
> > I think we both understand that light travels at a velocity which is
> > dependent on the medium through which it is travelling. You seem to
> > want to continue to argue about that, and to tell you the truth I can't
> > see much difference between that, and the kind of debate going on over
> > and over in this newsgroup.
>
> This isn't the first time I've failed to communicate, and I'm sure it
> won't be the last.
>
> The sole point I was trying to make is that the letter c is just about
> universally used, as far as I can tell, to mean the velocity of light in
> a vacuum. That symbol is not generally used to mean the speed of light
> in any other medium.
>
> Roy Lewallen

I'm with Roy on this. v is a wonderful symbol for generalized
velocity; c is used by far too many--as Roy says, almost universally--
as the velocity of light in vacuum. Speaking of failures to
communicate, I think using a symbol that's so well accepted to mean
one thing when you mean something else is a wonderful way to
precipitate failures of communication. Clear communication is aided
by not changing the meaning of well-accepted symbols.

"Let's see... e=m*c^2. Now what c is that? Is it 3e8m/s, or is it
only 3.4e7m/s because I'm in water? Will the nuclear blast be only
1/78 as energetic because it's conducted in water? Oh, but wait, at
higher frequencies c is greater than at low frequencies, in water.
Oh, I'm getting soooo confused...." No, c=3e8m/s, nominally.

"Let's see... epsilon-zero = 1/(mu-zero * c^2). Now what c is
that? ...."

Examples of equations where c is taken for granted as the freespace
speed of light abound. I think publishing an equation where c is the
speed of light, but not necessarily the freespace speed, shows poor
technical editing.

Cheers,
Tom

4009. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 20:03:50 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <oi6l13ppanhlq6uaem6it5u1dmi3qjtbrg@4ax.com>
Source record: 43323

On 9 Apr 2007 12:23:18 -0700, "art" <aunwin@insightbb.com> wrote:

>If it was baseball you would be long gone.

Bat Boy shoves the umpire aside to declare a field goal. The fans erupt in outrage, but Bat Boy assures them they only understand the game from old books and worn out sports figures who haven't kept up their training to understand the nuances of using the latest Lacrosse vector math of uni-dimensional laps.

73's
Richard Clark, KB7QHC

4010. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 20:24:59 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1176150299.367638.121570@y80g2000hsf.googlegroups.com>
Source record: 43324

On 27 Mar, 09:55, richardharri...@webtv.net (Richard Harrison) wrote:
> Art wrote:
>
> "---yet I am not finding any documented proof other than emperical
> work."
>
> As usual, Terman has answers. See page 882 of his 1955 opus: "Effect of
> Ground on the Directional Pattern of Ungrounded Antennas - Image
> Antennas."
>
> It`s in the book; math, diagrams, tables, as needed to imagine what
> happens.
>
> Best regards, Richard Harrison, KB5WZI

Richard, look up Google and look for NEC-LIST A guy has tipped a
dipole to get rid of horizontal polarization using NEC-2 and is asking
the true experts around the world for comments. We shall now see which
of us is correct regarding tipping. I don't think anybody else on this
net will understand either way except yourself.
Regards
Art

4011. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 20:27:21 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131l8dg3pss6ae9@corp.supernews.com>
Source record: 43325

So, does the current go clockwise or counterclockwise? How much goes
that way compared to the radial component? Where can I find a
quantitative or explicit statement of your interpretation?

Roy Lewallen, W7EL

Richard Clark wrote:
> On Mon, 09 Apr 2007 12:12:32 -0700, Roy Lewallen <w7el@eznec.com>
> wrote:
>
>> I disagree with your conclusion that currents flow circumferentially. It
>> does not say so in the paper, and I don't believe it can be inferred
>>from what is said in the paper.
>
> Hi Roy,
>
> To insist that the paper be complete where the reader has the
> competence to understand what is implied; well, that goes beyond
> standard practice. Further, the implication is hardly momentous when
> the force of the writing is in demonstrating (not finding) a solution
> to loss. Their style is clearly descriptive, not pedantic.
>
> One very simple observation drawn directly from the text
> at page 760:
> "When the earth is of good conductivity,
> the current leaves the wires and enters the earth closer to
> the antenna than it does when the earth is a poor conductor."
>
> How is it THIS current is traveling radially, the same direction as
> the wires, both leaving the wire (an orthogonal aspect) and yet moving
> in the same direction. This is a contradiction to the geometry of the
> description if we are to abide by your rejection of my
> "interpretation."
>
> Their (not my) statement, supported by their other text, hardly makes
> sense otherwise. Current only flows along a potential gradient and
> the phase shift between (by their own distinctions) wire and ground
> constitutes such a gradient.
>
> It is a vastly more speculative "interpretation" to suggest the
> current leaves the wire to travel in the same direction and the
> authors definitely don't say that, do they? Common sense would
> dictate a fairer interpretation that conforms to phases and the
> distinctions (separation of currents) they drew from them.
>

> 73's
> Richard Clark, KB7QHC

4012. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 20:33:06 UTC
From: Frank's <frank599@nojunkmailplease.telus.net>
Message-ID: <6qxSh.56971$__3.40608@edtnps90>
Source record: 43326

Severns' article "Verticals, Ground Systems and Some History",
July 2000, p. 39, quotes the following: "As indicated in Figure 1,
the tangential component of the H field (H(phi)) induces
horizontal currents (Ih) flowing radially and the normal
component of the E field (Ez) induces vertically flowing
currents (Iv). The paper is available for download
from www.arrl.org.

Frank

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:131141774927168@corp.supernews.com...
> Richard,
>
> I disagree with your conclusion that currents flow circumferentially. It
> does not say so in the paper, and I don't believe it can be inferred from
> what is said in the paper. If you were to draw a diagram showing the
> currents produced by the phase shift between earth and radial currents,
> you'd find that the net current resulting from this phase shift is purely
> radial, not circumferential.
>
> If the currents flow circumferentially, do they flow clockwise or
> counterclockwise, and at what magnitude relative to the radial currents?
> Surely there's some reference which shows this calculation which you could
> direct me to or, if not, you could show how the calculation is done and
> what the result is.
>
> Roy Lewallen, W7EL
>
> Richard Clark wrote:
>> On Mon, 09 Apr 2007 09:08:09 -0700, Roy Lewallen <w7el@eznec.com>
>> wrote:
>>
>>> Richard Clark wrote:
>>>> On Sun, 08 Apr 2007 23:56:37 -0700, Roy Lewallen <w7el@eznec.com>
>>>> wrote:
>>>>
>>>>> Indeed it is. Can you point me to a reference where I can get a more
>>>>> detailed explanation of this circumferential current and its cause?
>>>> Hi Roy,
>>>>
>>>> Brown, Lewis and Epstein.
>>>>
>>> Which page?
>>

>> Hi Roy,
>>
>> It is distributed through the discussion.
>>
>> Pg. 757 (at the top of the page introduces):
>> "These losses are due to conduction of earth
>> currents through a high resistance earth..."
>>
>> "Where there are radial ground wires present,
>> the earth current consists of two components,
>> part of which flows in the earth itself and
>> the remainder of which flows in the buried wires."
>>
>> "...all the various components differ in phase."
>>
>> This establishes the relationship and distinction in the various
>> currents. It is the current in the earth that is the topic of
>> discussion here. That current is out of phase with respect to the
>> currents (at the same radial distance) found in the buried wires. No
>> wires, no phase issue. No phase issue, and earth currents would be
>> radial. Now, to distinguish this from circumferential is not to say
>> this is absolute (it does not follow an arc of constant radius). This is
>> extended to coverage at the bottom of page 758:
>> "The actual earth current and the current flowing in the
>> radial wires are given...." [formula shown in the original]
>>
>> "From (8) [that formula] we see that the earth
>> current proper leads the current in the wires
>> by 90 electrical degrees."
>>
>> At a radius, the earth phase and the wire phase exhibit a potential
>> difference which results in conduction that is not strictly radial
>> (the term circumferential through the combination of vectors might be
>> replaced with spiral, or diagonal). The earth's resistance comes into
>> play at page 760:
>> "When the earth is of good conductivity [a paradox ensues],
>> the current leaves the wires and enters the earth closer to
>> the antenna than it does when the earth is a poor conductor."
>> and hence the advice for replacing dirt with sand OR providing more
>> closely spaced radials, closer in.
>>
>> "Thus the regions of high current density are subjected
>> to still more current with higher losses in these regions."
>>
>> 73's
>> Richard Clark, KB7QHC

4013. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 20:35:10 UTC
From: Frank's <frank599@nojunkmailplease.telus.net>
Message-ID: <2sxSh.56972$__3.45711@edtnps90>
Source record: 43227

The article is in QST.

"Frank's" <frank599@nojunkmailplease.telus.net> wrote in message
news:6qxSh.56971$__3.40608@edtnps90...
> Severns' article "Verticals, Ground Systems and Some History",
> July 2000, p. 39, quotes the following: "As indicated in Figure 1,
> the tangential component of the H field (H(phi)) induces
> horizontal currents (Ih) flowing radially and the normal
> component of the E field (Ez) induces vertically flowing
> currents (Iv). The paper is available for download
> from www.arrl.org.
>
> Frank
>
> "Roy Lewallen" <w7el@eznec.com> wrote in message
> news:131141774927168@corp.supernews.com...
>> Richard,
>>
>> I disagree with your conclusion that currents flow circumferentially. It
>> does not say so in the paper, and I don't believe it can be inferred from
>> what is said in the paper. If you were to draw a diagram showing the
>> currents produced by the phase shift between earth and radial currents,
>> you'd find that the net current resulting from this phase shift is purely
>> radial, not circumferential.
>>
>> If the currents flow circumferentially, do they flow clockwise or
>> counterclockwise, and at what magnitude relative to the radial currents?
>> Surely there's some reference which shows this calculation which you
>> could direct me to or, if not, you could show how the calculation is done
>> and what the result is.
>>
>> Roy Lewallen, W7EL
>>
>> Richard Clark wrote:
>>> On Mon, 09 Apr 2007 09:08:09 -0700, Roy Lewallen <w7el@eznec.com>
>>> wrote:
>>>
>>>> Richard Clark wrote:
>>>>> On Sun, 08 Apr 2007 23:56:37 -0700, Roy Lewallen <w7el@eznec.com>
>>>>> wrote:
>>>>>
>>>>>> Indeed it is. Can you point me to a reference where I can get a more
>>>>>> detailed explanation of this circumferential current and its cause?
>>>>> Hi Roy,

>>>>>
>>>>> Brown, Lewis and Epstein.
>>>>>
>>>> Which page?
>>>
>>> Hi Roy,
>>>
>>> It is distributed through the discussion.
>>>
>>> Pg. 757 (at the top of the page introduces):
>>> "These losses are due to conduction of earth
>>> currents through a high resistance earth..."
>>>
>>> "Where there are radial ground wires present,
>>> the earth current consists of two components,
>>> part of which flows in the earth itself and
>>> the remainder of which flows in the buried wires."
>>>
>>> "...all the various components differ in phase."
>>>
>>> This establishes the relationship and distinction in the various
>>> currents. It is the current in the earth that is the topic of
>>> discussion here. That current is out of phase with respect to the
>>> currents (at the same radial distance) found in the buried wires. No
>>> wires, no phase issue. No phase issue, and earth currents would be
>>> radial. Now, to distinguish this from circumferential is not to say
>>> this is absolute (it does not follow an arc of constant radius). This
>>> is extended to coverage at the bottom of page 758:
>>> "The actual earth current and the current flowing in the
>>> radial wires are given...." [formula shown in the original]
>>>
>>> "From (8) [that formula] we see that the earth
>>> current proper leads the current in the wires
>>> by 90 electrical degrees."
>>>
>>> At a radius, the earth phase and the wire phase exhibit a potential
>>> difference which results in conduction that is not strictly radial
>>> (the term circumferential through the combination of vectors might be
>>> replaced with spiral, or diagonal). The earth's resistance comes into
>>> play at page 760:
>>> "When the earth is of good conductivity [a paradox ensues],
>>> the current leaves the wires and enters the earth closer to
>>> the antenna than it does when the earth is a poor conductor."
>>> and hence the advice for replacing dirt with sand OR providing more
>>> closely spaced radials, closer in.
>>>
>>> "Thus the regions of high current density are subjected
>>> to still more current with higher losses in these regions."
>>>
>>> 73's

>>> Richard Clark, KB7QHC
>
>

4014. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 20:35:50 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eve84alkp1@news.service.uci.edu>
Source record: 43228

Cecil Moore wrote:

> With mutually coherent equal-magnitude sources,
> the maximum possible peak intensity is four times
> the intensity of a single wave, i.e. there is total
> constructive interference. (This can happen
> at a Z0-match in an RF transmission line.)
>
> For "largely coherent sources" the peak intensity
> would be slightly less than four times.

So according to your theory I can take a 1 watt laser, split the beam into two coherent beams, recombine the beams in-phase together along the same path thus creating constructive interference, and obtain 2 watts of laser power. Or would it be 4 watts?

:-)

ac6xg

4015. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 20:39:37 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eve8bdlkp2@news.service.uci.edu>
Source record: 43230

Cecil Moore wrote:

> Jim Kelley wrote:
>
>> The quote from Born and Wolf that Cecil cites supports the 'profound'
>> notion that (E1 + E2)^2 / (E1 + E2) = 4.
>
>
> There sure appears to be something wrong with that
> equation, Jim. If E1 = E2 = 1 volt, then you have
> 4 / 2 = 4 which seems a bit wrong, if you don't
> mind me saying so. What dimensions does your '4'
> above have? Seems it would have to be 4 volts.
>
> Assuming E1 = E2, I think what you meant to say was:
>
> (E1 + E2)^2 / E1^2 = 4 (dimensionless)
>
> which is what Born and Wolf say in equation (17)
> chapter 7. Please note that is total constructive
> interference as defined by Hecht in "Optics"
>
> Also please note that if those signals are the opposite
> phase:
>
> (E1 - E2)^2 / E1^2 = 0
>
> That's total destructive interference as defined
> by Hecht.

Right. So do you get the point, or not?

73, ac6xg

4016. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 20:42:04 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990E4426B6C90nonenowhere@61.9.191.5>
Source record: 43229

Owen Duffy <none@no.where> wrote in
news:Xns990D9AD9E3087nonenowhere@61.9.191.5:

> dansawyeror <dansawyeror@comcast.net> wrote in
> news:v46dnSnxXsqZLITbnZ2dnUVZ_tunnZ2d@comcast.com:
>
> ...
>
> I think a summary is that at 3970KHz, the feedpoint Z looks like about
> 45 +j0 and you reckon the radiation resistance should be around 4+j0,
> suggesting the earth system contributes around 40 ohms of resistance.
> Observations at a single frequency provide a limited view of what
> might be happening.

Dan,

I asked your for the details of your antenna and measurements, and how you did your calculations, but I am still left wondering how you have what appears to be a purely resistive feedpoint impedance and a radiation resistance of 4 ohms. The second implies a short vertical, and if that is the case, the first implies some form of loading... but you didn't mention loading of any kind. Loading, if you have used it, may introduce an equivalent series resistance at the feedpoint.

Once again, a dansawyer problems leaves us guessing to fill in the missing dots before attempting to joint them up to make a picture.

Often, solving a problem is about being able to draw the picture, once the picture is draw, the answer becomes trivial.

Owen

4017. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 20:52:01 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eve92lmip1@news.service.uci.edu>
Source record: 43232

K7ITM wrote:

> "Let's see... e=m*c^2. Now what c is that?

I think I know which one, and as far as I know there hasn't been a dispute about that on RRAA. The question posed on the newsgroup, and the one which still seems to be a point of contention is which one should go in *this* equation:

f = c / w

I maintain the answer is still - it depends on the medium.

I am sorry to have gotten so many pairs of panties wadded up about this. Seemed a noncontroversial notion to me at the time.

73, Jim AC6XG

4018. Re: NVIS Dipoles Directional?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 20:59:51 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990E472A796D4nonenowhere@61.9.191.5>
Source record: 43231

Rick <Nospam@reply.in.gp> wrote in news:pan.2007.04.09.16.49.43.321645
@reply.in.gp:

>
> My experience seems to be that the performance of NVIS dipoles (at or
> under around 30 feet high for 80 meters) doesn't noticeably change with
> orientation. In other words ... and despite what modeling programs say
> ... BVIS dipoles are pretty much omnidirectional.

I don't know that modelling programs are in conflict with the the
observation that dipoles low over real ground are nearly omni directional
at high elevations.

>
> I haven't scientifically tested that but it does seem to me that since
> most NVIS radiation goes approximately straight up (definition of
NVIS),
> it really shouldn't matter much how the antenna is oriented.

I wrote an article on the design of an antenna for local contacts on 40m,
it is at http://www.vk1od.net/7MDipole/7MDipole.htm . It may be of
interest.

>
> Have you all found that to be true, or false?
>
> If I do want near-omnidirectional performance, in the real world
(versus
> in a software program's modeling), am I better off with an inverted vee
> that's up 30 feet in the center, vs a dipole that's 30 feet up along
its
> full length?

I think you are on the wrong tram about the modelled performance.

>
> How about an inverted vee that's up 50 feet in the center and 10 feet
at
> the ends, versus a dipole that's 30 feet up along its full length?
>

Mounting a half wave dipole low over real ground modifies the pattern
from the free space pattern, the the whole pattern is deformed by the
presence of the ground and nulls previously off the end are not nearly as
pronounced.

When you rig the dipole as an inverted V, the pattern is further deformed and the nulls are even less pronounced.

Ask yourself the question "is a dipole horizontal over ground (at any height) omni-directional at the zenith?". If you found a modelling program that, used properly, says otherwise, tell us about it.

NVIS isn't strictly about the zenith, but an antenna that is omni at the zenit, and doesn't have deep nulls (dipole low over real ground), is close to omni at high elevations. The exact variation will depend on frequency, mounting height, ground parameters, and leg angles if an inverted V. If you could rotate such a dipole, I would defy you to reliably measure the out-of-omni above 50 deg elevation with an S meter.

Owen

4019. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 21:18:35 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990E4A581D049nonenowhere@61.9.191.5>
Source record: 43233

Jim Kelley <jwkelley@uci.edu> wrote in news:eve92lmip1
@news.service.uci.edu:

>
>
> K7ITM wrote:
>
>> "Let's see... e=m*c^2. Now what c is that?
>
> I think I know which one, and as far as I know there hasn't been a
> dispute about that on RRAA. The question posed on the newsgroup, and
> the one which still seems to be a point of contention is which one
> should go in *this* equation:
>
> f = c / w
>
> I maintain the answer is still - it depends on the medium.

Jim, I am not a physicist... but I recall when introduced to e=m*c^2 at high school, that "c" was defined as "the velocity of light in a vacuum".

If the "in a vacuum" qualification was unnecessary, if wasn't relevant, I wonder why they complicated and restricted the definition?

I am with you (until someone presents a convincing argument otherwise).

This leaves all those books, software etc giving a value for "c" as not necessarily in need of revision.

Owen

4020. Re: antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 21:25:20 UTC
From: Danny Richardson <n_group@k6mhe.com>
Message-ID: <jpbl13ts34nbd3hd1lm6lv8md9mr7oqq0s@4ax.com>
Source record: 43234

On Mon, 9 Apr 2007 11:22:39 -0400, "genev" <genev2000@hotmail.com>
wrote:

>I'm looking at the hustler g6-270 and the diamond x50a; I live near the
>ocean so need a fiberglass ant, which I believe both of these are.
>Does anyone have an opinion on either ant?
>Richard
>K1TAV
>

http://www.rfwiz.com/AustinAntenna/AustinAntenna_InfoDat.htm

4021. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 21:32:26 UTC
From: Frank's <frank599@nojunkmailplease.telus.net>
Message-ID: <KhySh.56977$__3.35076@edtnps90>
Source record: 43235

> I asked your for the details of your antenna and measurements, and how
> you did your calculations, but I am still left wondering how you have
> what appears to be a purely resistive feedpoint impedance and a radiation
> resistance of 4 ohms. The second implies a short vertical, and if that is
> the case, the first implies some form of loading... but you didn't
> mention loading of any kind. Loading, if you have used it, may introduce
> an equivalent series resistance at the feedpoint.
>
> Once again, a dansawyer problems leaves us guessing to fill in the
> missing dots before attempting to joint them up to make a picture.
>
> Often, solving a problem is about being able to draw the picture, once
> the picture is draw, the answer becomes trivial.
>
> Owen

I was also confused by the base of the antenna being 1 meter above
ground, and the radials lying on the ground, or buried. If the base
of the antenna is 1 meter high, then any connection to the radials
is part of the radiation system. Why would you feed the antenna
1 meter up, and not at the base? The antenna is therefore
a ground mounted 5 meter vertical.

NEC predicts an input impedance of 4 - j 1300 with 36 ten meter
radials 1" below an average ground. Loading coils will of course
add to the input impedance.

The measured data are suspect. It would be interesting to know
the length, and type, of coax connecting to the network analyzer.
The return loss of 25 ohms at the end of a piece of coax will be
> 9.5 dB. Unless the coax is cut to a precise known length it
is unlikely that the phase angle of the return loss will be zero.

Frank.

4022. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 21:41:33 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <hqySh.6988$u03.4771@newssvr21.news.prodigy.net>
Source record: 43236

Jim Kelley wrote:
> The last paragraph above is a perfect example of your tendancy to
> misinterpret these texts, Cecil. Born and Wolf does not (and would not)
> assert that there is "no effect" when mutually incoherent waves are
> superposed. It's not reasonable to say that. There is certainly an
> effect. In fact Walt and I use the effect whenever we tune our basses.

One wave has no effect on the other wave, Jim.
Please pay attention.
--
73, Cecil http://www.w5dxp.com

4023. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 21:42:23 UTC
From: Mike Lucas <w5chr@bellsouth.net>
Message-ID: <LqySh.1816$DI1.885@bignews2.bellsouth.net>
Source record: 43237

"Keith Dysart" wrote >
> The promoters of junk science fulfill an important role in this
> process and I can't decide if their net effect is good or bad.
> The bad effects are, of course, when they successfully lead
> others astray.
>
> On the whole, good or bad? I haven't decided.
>
Keith, I really like when junk science gurus exibit
constructive interference, the bafflegab sums to
four times the normal power!

Mike W5CHR

4024. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 21:42:42 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <mrySh.6989$u03.3081@newssvr21.news.prodigy.net>
Source record: 43238

john Wiener wrote:
> c/c' = n, index of refraction for the c' medium, (c always used as the
> constant in a vacuum).

That's the convention we used at Texas A&M
50 years ago.
--
73, Cecil http://www.w5dxp.com

4025. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 21:50:42 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <SyySh.6991$u03.731@newssvr21.news.prodigy.net>
Source record: 43239

Jim Kelley wrote:
> So according to your theory I can take a 1 watt laser, split the beam
> into two coherent beams, recombine the beams in-phase together along the
> same path thus creating constructive interference, and obtain 2 watts of
> laser power. Or would it be 4 watts?

If it were total constructive interference, two 1/2W
beams would yield an intensity of 2 watts. Of course,
at another location, total destructive interference
would have to occur where the intensity was zero.

Put another way, the bright interference rings would
contain two watts per unit area while the flat black
rings would contain zero watts per unit area thus
averaging out to the original total of one watt.

As I said before, this ain't rocket science.
--
73, Cecil http://www.w5dxp.com

4026. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 21:53:50 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <OBySh.6992$u03.4501@newssvr21.news.prodigy.net>
Source record: 43240

Jim Kelley wrote:
> So do you get the point, or not?

I've always gotten the point. The question is since
you seem to have blown the dust off of Born and Wolf,
do you get the point? Born and Wolf agrees in every
way with Hecht. Total constructive interference yields
an intensity four times the intensity of one individual
wave.
--
73, Cecil http://www.w5dxp.com

4027. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 22:07:11 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1176156431.264108.182880@o5g2000hsb.googlegroups.com>
Source record: 43242

On Apr 9, 3:23 pm, "art" <aun...@insightbb.com> wrote:
> On 9 Apr, 12:15, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
>
>
>
>
>
> > "art" <aun...@insightbb.com> wrote in message
>
> >news:1176144454.885571.296550@l77g2000hsb.googlegroups.com...
>
> > > On 9 Apr, 11:03, "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote:
> > >> On Apr 9, 12:19 pm, "art" <aun...@insightbb.com> wrote:
>
> > >> > On 9 Apr, 08:12, richardharri...@webtv.net (Richard Harrison) wrote:
>
> > >> > > Art wrote:
>
> > >> > > "The Gauss system, which does not use parasitics and therefore
> > >> > > pursues
> > >> > > the independent control AND PHASE AND AMPLITUDE."
>
> > >> > > Parasitic arrays can also use independent control of phase and
> > >> > > amplitude, I worked with curtain antenna arrays in the 1950`s used
> > >> > > for
> > >> > > shortwave broadcasting.
>
> > >> > > The array consisted of (4) 1/2-wave dipoles, 2 over 2 all in the same
> > >> > > plane, separated vertically by a 1/2 wavelength and suspended over
> > >> > > the
> > >> > > earth by a gap of 1/2-wavelength. An identical dipole array was
> > >> > > suspended immediately behind the driven dipoles. It served as a
> > >> > > parasitic reflector.
>
> > >> > > The harness connected to the parasitic array was identical to that
> > >> > > connected to the driven elements except that instead of being
> > >> > > connected
> > >> > > to the transmitter, it was connected to tuning stubs. We used an RCA
> > >> > > WM
> > >> > > 30A broadcast phase monitor with sampling loops suspended on driven
> > >> > > and
> > >> > > parasitic elements to adjust phasing of the reflector.
>
> > >> > > Best regards, Richard Harrison, KB5WZI

>
> > >> > There is no problem with that for shortwave broadcasts since not only
> > >> > are you looking for a broard arrival area you are also looking at a
> > >> > skip distance wheret different polarization arrives at the same
> > >> > polarity.
> > >> > If it were a Gauss form it would be of a higher
> > >> > power but a much smaller arrival area which means a smaller audience.
> > >> > Though I must add that a Gaussian arrival area can be tailor made
> > >> > rather than the narrow lobe associated with other radiators.
> > >> > It is when " boresight" is of a concern that such arrays fall in
> > >> > disfavor,
> > >> > as in cell phone work and satellite work where one should take note
> > >> > of maximum polarization purity. Tho'whysatelites still use
> > >> > turnstiles
> > >> > is beyond me since only one polarization is required but I am sure
> > >> > there must be a reason, possibly because there is not an overpowering
> > >> > need of multi monitoring communication channels.
> > >> > Regards
> > >> > Art
>
> > >> If this fact is beyound you as you say then you have no business
> > >> lecturing other people on antenna theory and that you are as brainless
> > >> as you claim others to be. They are circularly polarized because
> > >> satellites tumble in space resulting in there polarity constantly
> > >> changing, also other reasonwhythe polarity of an earth station would
> > >> not match that of a satellite, look them up. This can be a real
> > >> problem with a linear polarity antenna but no problem at all for a
> > >> circular polarity antenna such as the turnstile.
>
> > >> Jimmie- Hide quoted text -
>
> > >> - Show quoted text -
>
> > > Jimmie, think before you post. A turnstile is not perfectly CP. For
> > > perfection changes are needed but as I said earlier perfection may not
> > > be necessarily desired. If you are going to disagree with everything
> > > you may want to be more choosey in your selection of posts plus
> > > reading the content more than twice before you decide to expose your
> > > lack of knoweledge.
> > > Art
>
> > The imperfection is only slight and works quite well for all pratical
> > purposes. You should be sure of your own knowledge. I f perfection was
> > required I doubt if anything would ever perform satisfactorly.
>
> > Jimmie- Hide quoted text -
>
> > - Show quoted text -
>
> I "know" it can be perfected, you however have "doubts" As I said

> earlier read twice before you choose to disagree. You are
> overestimating your antenna abilities and really should revert to a
> learning mode. If it was baseball you would be long gone.
> Art- Hide quoted text -
>
> - Show quoted text -

Huh, Can someone translate this into english.
WHAT A WASTE OF TIME, PLOINK!!!!!!

4028. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 22:10:27 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <nRySh.6998$u03.2497@newssvr21.news.prodigy.net>
Source record: 43243

Mike Lucas wrote:
> Keith, I really like when junk science gurus exibit
> constructive interference, the bafflegab sums to
> four times the normal power!

Exactly in accordance with Born and Wolf's equation
(17) in their chapter on "Interference and
Interferometers". Quoting:

"In the special case where I1 = I2, (15) reduces to
I = 4*I1" [for in phase waves].

I'm sorry if you disagree with the laws of physics.
You are not alone in being ignorant of what occurs
when two coherent waves are superposed in phase.
The kicker is that we cannot have two coherent
waves superposed in phase at one location without
having two coherent waves superposed out of phase
somewhere else (assuming no local source).
--
73, Cecil http://www.w5dxp.com

4029. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 22:23:17 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eveedqqof1@news.service.uci.edu>
Source record: 43245

Cecil Moore wrote:

> Jim Kelley wrote:
>
>> So according to your theory I can take a 1 watt laser, split the beam
>> into two coherent beams, recombine the beams in-phase together along
>> the same path thus creating constructive interference, and obtain 2
>> watts of laser power. Or would it be 4 watts?
>
>
> If it were total constructive interference, two 1/2W
> beams would yield an intensity of 2 watts. Of course,
> at another location, total destructive interference
> would have to occur where the intensity was zero.

And so that's your explanation for how 2 Joules per second can be
obtained from a source which is in fact producing only 1 Joule per
second.

> As I said before, this ain't rocket science.

That is for damn sure. :-)

Jim AC6XG

4030. Re: gamma match 70cm handheld

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 22:25:32 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <w3zSh.4987$V15.885@trnddc02>
Source record: 43244

"Kurt" <ksaves2@sbcglobal.net> wrote in message
news:LFySh.1941$w41.800@newssvr19.news.prodigy.net...
> Jimmie D wrote:
>> Kurt wrote:
>>
>> Well, I had set the program to optimize the antenna for 433Mhz
>> as that is what I was going to start with on my tracking transmitter.
>> Plugged the Yagi into my handheld, set the power to low, set the fwd
>> indication on my SWR meter and then did the ref reading. I was shocked
>> to see that it was 1:1.2. Set it up to 450Mhz and saw it was 1:1. For
>> this new ham, it was pretty surprising for a first project.
>>
>> This is exactly why I never trusted gamma matches on 70 cm. I
>> consistently got nearly perfectly flat matches all the way across the
>> band using a gamma match. This usally something aint right. and the
>> antenna is probably radiating more in the infra-red region than at the
>> desire frequency. No doubt there are others more skilled than I who can
>> make it work For me the quagi has worked to damned well for me to bother.
>>
>> Jimmie.
> Thanks for the info Jimmie. I gotta find a 70cm repeater in a reasonable
> range and see if I can get some signal reports. As mentioned, I was
> tentatively going to use this for RDF so in actuality
> I could just connect it to a handheld scanner. I was told though if an
> antenna demonstrated a good SWR on transmitting it should be good for
> receiving. Sounds like that may not be the truth though judging by your
> experience.
>
> Kurt

Hi Kurt

The local repeater is a good source of a test signal, as you indicate.
In addition, have you considered looking for an amateur satellite on 435MHz?
AMSAT has alot of satellite pass prediction information.

Jerry

4031. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 22:51:09 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <eveg0ujc1@aioe.org>
Source record: 43247

"Cecil Moore"
> The kicker is that we cannot have two coherent
> waves superposed in phase at one location without
> having two coherent waves superposed out of phase
> somewhere else (assuming no local source).

As shown by the real-world result for the combined r-f system configuration I posted earlier (and which result I, and many others have measured in real hardware systems) -- one output port of the 3 dB hybrid combiner when powers there are equal and in phase (ie, fully coherent) contains twice the average output power of either tx alone, while the other output port has zero power. These are exactly the conditions in your quote above.

The conflict here occurs because of your belief that the combined, average power in this scenario is not 2X, but 4X that of the individual transmitters.

Or have you changed your mind from what you first posted?

RF

4032. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 23:07:31 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <dnel135jeqj4jhm4mv9m6gu0t2913qeel2@4ax.com>
Source record: 43248

On Mon, 09 Apr 2007 13:27:21 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>So, does the current go clockwise or counterclockwise? How much goes
>that way compared to the radial component? Where can I find a
>quantitative or explicit statement of your interpretation?

Hi Roy,

Probably in a library. Field work seems to resolve issues too. It
may even prove your speculation in contradiction to mine. Outside of
these authors, we both seem to be shy of "authoritative references" to
parse that Byzantine statement of theirs.

I can only further speculate that BL&H were remiss in specifically
quantifying loss (you aren't asking me for numbers you are already
aware of, are you?), while offering numerous formulaic relationships
of loss against many factors. If we look at their data and observe
that adding radials lowers loss, but not by any precise relationship,
are we left without quantifiable proof, or the obvious implication of
strong correlation? Was there deceit in their arriving at some
conclusions through inference? As Reggie would note, they didn't
actually measure earth at all! Such a retort was met with indignity
in the past, is it now their impeachment?

However, as to counter/anti/clockwise, What impels current to follow
any such presumption? There are two sides to every wire laying in a
plane and phase mappings for earth currents that are symmetrical about
them. To anticipate your challenging me on that statement (clearly
BL&H never, explicitly say this), I can only offer a modest sense of
observing the bleeding obvious. Myself, I don't find BL&H so obscure
to impose this remarkable characteristic that current leaves the wire
on only one side.

Brown, Lewis and Epstein were REPORTING, not inventing, nor offering
pedant readings of scripture. Scribes, such as we are, are free to
interpret within the bounds of their own data, assumptions, and
conclusions. I've offered mine that conforms to many of their points.
If you have your own, you must survive by the same strictures. Given
the specific contention, I am especially intrigued in how you would
answer why the current departed the wire, and where it goes in light
of a potential map created by the phase shifts.

73's
Richard Clark, KB7QHC

4033. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 23:36:25 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <Z5ASh.8184$YL5.4449@newssvr29.news.prodigy.net>
Source record: 43250

Jim Kelley wrote:
> And so that's your explanation for how 2 Joules per second can be
> obtained from a source which is in fact producing only 1 Joule per second.

Of course, I regularly obtain 200 watts of forward
power from my 100 watt IC-706. It's all due to
constructive interference.

If you have a bright ring exhibiting 2 joules/sec/unit-area
and a dark ring exhibiting zero joules/sec/unit-area,
don't you see how that averages out to the average
source power of one joule/sec?

>> As I said before, this ain't rocket science.
>
> That is for damn sure. :-)

Glad you (finally after all these years) agree.
--
73, Cecil http://www.w5dxp.com

4034. Re: NVIS Dipoles Directional?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 23:36:56 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns990DA904AED7Cdoldridgsprintca@64.59.135.159>
Source record: 43249

Rick <Nospam@reply.in.gp> wrote in news:pan.2007.04.09.16.49.43.321645
@reply.in.gp:

>
> My experience seems to be that the performance of NVIS dipoles (at or
> under around 30 feet high for 80 meters) doesn't noticeably change with
> orientation. In other words ... and despite what modeling programs say
> ... BVIS dipoles are pretty much omnidirectional.

NVIS propagation is pretty high angle stuff. If you look at the three dimensional patterns for NVIS antennas you will see that they have a large lobe at high angles and an almost circular omnidirectional pattern at those angles. We're looking at 80 degrees and up mostly here, maybe 70 at the low end....so that antennas are mainly designed to illuminate the patch of ionosphere directly above the antenna.

--
Dave Oldridge+
ICQ 1800667

4035. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 23:42:10 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131ljqpml8qj7d2@corp.supernews.com>
Source record: 43251

Richard Clark wrote:
> On Mon, 09 Apr 2007 13:27:21 -0700, Roy Lewallen <w7el@eznec.com>
> wrote:
>
>> So, does the current go clockwise or counterclockwise? How much goes
>> that way compared to the radial component? Where can I find a
>> quantitative or explicit statement of your interpretation?
>
> Hi Roy,
>
> Probably in a library. Field work seems to resolve issues too. It
> may even prove your speculation in contradiction to mine. Outside of
> these authors, we both seem to be shy of "authoritative references" to
> parse that Byzantine statement of theirs.
>
> I can only further speculate that BL&H were remiss in specifically
> quantifying loss (you aren't asking me for numbers you are already
> aware of, are you?), while offering numerous formulaic relationships
> of loss against many factors. If we look at their data and observe
> that adding radials lowers loss, but not by any precise relationship,
> are we left without quantifiable proof, or the obvious implication of
> strong correlation? Was there deceit in their arriving at some
> conclusions through inference? As Reggie would note, they didn't
> actually measure earth at all! Such a retort was met with indignity
> in the past, is it now their impeachment?
>
> However, as to counter/anti/clockwise, What impels current to follow
> any such presumption? There are two sides to every wire laying in a
> plane and phase mappings for earth currents that are symmetrical about
> them. To anticipate your challenging me on that statement (clearly
> BL&H never, explicitly say this), I can only offer a modest sense of
> observing the bleeding obvious. Myself, I don't find BL&H so obscure
> to impose this remarkable characteristic that current leaves the wire
> on only one side.
>
> Brown, Lewis and Epstein were REPORTING, not inventing, nor offering
> pedant readings of scripture. Scribes, such as we are, are free to
> interpret within the bounds of their own data, assumptions, and
> conclusions. I've offered mine that conforms to many of their points.
> If you have your own, you must survive by the same strictures. Given
> the specific contention, I am especially intrigued in how you would
> answer why the current departed the wire, and where it goes in light
> of a potential map created by the phase shifts.
>

> 73's
> Richard Clark, KB7QHC

Ok, I understand that. Your answers to the two questions I asked are that you don't know and you don't know. In the absence of any evidence, I'll continue to disbelieve there's a circumferential component of the current.

Roy Lewallen, W7EL

4036. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 23:44:21 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <odASh.1947$w41.551@newssvr19.news.prodigy.net>
Source record: 43252

Richard Fry wrote:
> The conflict here occurs because of your belief that the combined,
> average power in this scenario is not 2X, but 4X that of the individual
> transmitters.

No, no, no! The combined average power is 2X. The point
of total constructive interference is 4X. The point of
total destructive interference is 0X. The average of
the total constructive interference and the total
destructive interference is 2X. Seems to me that you
have not been reading and understanding my postings.
--
73, Cecil http://www.w5dxp.com

4037. Re: Why?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 23:45:51 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1176162351.651574.233280@y80g2000hsf.googlegroups.com>
Source record: 43253

On 9 Apr, 15:07, "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote:
> On Apr 9, 3:23 pm, "art" <aun...@insightbb.com> wrote:
>
>
>
>
>
> > On 9 Apr, 12:15, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
>
> > > "art" <aun...@insightbb.com> wrote in message
>
> > >news:1176144454.885571.296550@l77g2000hsb.googlegroups.com...
>
> > > > On 9 Apr, 11:03, "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote:
> > > >> On Apr 9, 12:19 pm, "art" <aun...@insightbb.com> wrote:
>
> > > >> > On 9 Apr, 08:12, richardharri...@webtv.net (Richard Harrison) wrote:
>
> > > >> > > Art wrote:
>
> > > >> > > "The Gauss system, which does not use parasitics and therefore
> > > >> > > pursues
> > > >> > > the independent control AND PHASE AND AMPLITUDE."
>
> > > >> > > Parasitic arrays can also use independent control of phase and
> > > >> > > amplitude, I worked with curtain antenna arrays in the 1950`s used
> > > >> > > for
> > > >> > > shortwave broadcasting.
>
> > > >> > > The array consisted of (4) 1/2-wave dipoles, 2 over 2 all in the same
> > > >> > > plane, separated vertically by a 1/2 wavelength and suspended over
> > > >> > > the
> > > >> > > earth by a gap of 1/2-wavelength. An identical dipole array was
> > > >> > > suspended immediately behind the driven dipoles. It served as a
> > > >> > > parasitic reflector.
>
> > > >> > > The harness connected to the parasitic array was identical to that
> > > >> > > connected to the driven elements except that instead of being
> > > >> > > connected
> > > >> > > to the transmitter, it was connected to tuning stubs. We used an RCA
> > > >> > > WM
> > > >> > > 30A broadcast phase monitor with sampling loops suspended on driven
> > > >> > > and
> > > >> > > parasitic elements to adjust phasing of the reflector.

>
> > > >> > > Best regards, Richard Harrison, KB5WZI
>
> > > >> > There is no problem with that for shortwave broadcasts since not only
> > > >> > are you looking for a broard arrival area you are also looking at a
> > > >> > skip distance wheret different polarization arrives at the same
> > > >> > polarity.
> > > >> > If it were a Gauss form it would be of a higher
> > > >> > power but a much smaller arrival area which means a smaller audience.
> > > >> > Though I must add that a Gaussian arrival area can be tailor made
> > > >> > rather than the narrow lobe associated with other radiators.
> > > >> > It is when " boresight" is of a concern that such arrays fall in
> > > >> > disfavor,
> > > >> > as in cell phone work and satellite work where one should take note
> > > >> > of maximum polarization purity. Tho'whysatelites still use
> > > >> > turnstiles
> > > >> > is beyond me since only one polarization is required but I am sure
> > > >> > there must be a reason, possibly because there is not an overpowering
> > > >> > need of multi monitoring communication channels.
> > > >> > Regards
> > > >> > Art
>
> > > >> If this fact is beyound you as you say then you have no business
> > > >> lecturing other people on antenna theory and that you are as brainless
> > > >> as you claim others to be. They are circularly polarized because
> > > >> satellites tumble in space resulting in there polarity constantly
> > > >> changing, also other reasonwhythe polarity of an earth station would
> > > >> not match that of a satellite, look them up. This can be a real
> > > >> problem with a linear polarity antenna but no problem at all for a
> > > >> circular polarity antenna such as the turnstile.
>
> > > >> Jimmie- Hide quoted text -
>
> > > >> - Show quoted text -
>
> > > > Jimmie, think before you post. A turnstile is not perfectly CP. For
> > > > perfection changes are needed but as I said earlier perfection may not
> > > > be necessarily desired. If you are going to disagree with everything
> > > > you may want to be more choosey in your selection of posts plus
> > > > reading the content more than twice before you decide to expose your
> > > > lack of knoweledge.
> > > > Art
>
> > > The imperfection is only slight and works quite well for all pratical
> > > purposes. You should be sure of your own knowledge. I f perfection was
> > > required I doubt if anything would ever perform satisfactorly.
>
> > > Jimmie- Hide quoted text -
>
> > > - Show quoted text -

>
> > I "know" it can be perfected, you however have "doubts" As I said
> > earlier read twice before you choose to disagree. You are
> > overestimating your antenna abilities and really should revert to a
> > learning mode. If it was baseball you would be long gone.
> > Art- Hide quoted text -
>
> > - Show quoted text -
>
> Huh, Can someone translate this into english.
> WHAT A WASTE OF TIME, PLOINK!!!!!!- Hide quoted text -
>
> - Show quoted text -

You have asked for proof with respect to tipping and you now have
it.So look at the NEC group and you can now argue with them. Oh, and
mention what you did after high school, you may impress them so much
that they will all back down in awe of your antenna knoweledge and the
laws of the masters.
The rest of the group who have argued with you are banking on you to
get the job done with those experts on the NEC group. It's downright
embarrasing
for our group to be on the wrong end of the stick once again. If you
can't
then we can always fall back on "we knew it all the time" so it is not
really the end of the road with respect to tipping of antennas.
If you move to that group you will be among your peers so tell them
what antennas are all about.
Art

4038. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 23:49:44 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131lk8vfq3sa068@corp.supernews.com>
Source record: 43254

Frank's wrote:
> Severns' article "Verticals, Ground Systems and Some History",
> July 2000, p. 39, quotes the following: "As indicated in Figure 1,
> the tangential component of the H field (H(phi)) induces
> horizontal currents (Ih) flowing radially and the normal
> component of the E field (Ez) induces vertically flowing
> currents (Iv). The paper is available for download
> from www.arrl.org.

Thanks for the reference, but it makes no mention of circumferential currents. At first glance, figure 1 seems to show a circumferential Ih, but the text (as you quoted) clearly calls this a radial current -- the circle in figure 1 turns out to be Hphi, circling the vertically directed current.

Roy Lewallen, W7EL

4039. Re: Reasonably-priced capacitors for traps

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 23:57:23 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1176163043.562333.304970@n59g2000hsh.googlegroups.com>
Source record: 43255

On 4 Apr, 18:53, Rick <Nos...@reply.in.gp> wrote:
> Anybody know where I can get some halfways reasonably priced capacitors
> for making traps?
>
> I don't need much power capability - 100 watts max.
>
> I looked on rfparts.com and WOW, are they proud of them... can't find
> a'one that's suitable for under about 15 bucks EACH ...

Why are you making a trap in the first place? Moxon has a dipole
arrangement with a resonator at the center which is multiband and does
better than a std dipole, might be what you are looking for.
Art

4040. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-09 23:59:58 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990E65B44EAD2nonenowhere@61.9.191.5>
Source record: 43256

Cecil Moore <nospam@w5dxp.com> wrote in
news:Z5ASh.8184$YL5.4449@newssvr29.news.prodigy.net:

> Jim Kelley wrote:
>> And so that's your explanation for how 2 Joules per second can be
>> obtained from a source which is in fact producing only 1 Joule per
>> second.
>
> Of course, I regularly obtain 200 watts of forward
> power from my 100 watt IC-706. It's all due to
> constructive interference.

If in fact the power delivered by the "100 watt IC706" radio was indeed 100W, and some directional wattmeter correctly indicated 200W forward, it must indicate 200W-100W reflected which is indicative of a VSWR of 5.8, which should have reduced power output from the IC706 markedly.

Taking another view, if the IC706 will tolerate VSWR of 2 before reducing power (ie and still deliver exactly 100W), then the forward power would be just 113W.

More likely, the IC706 levels its power output on the forward detector, and runs 100W "forward" until the reflected power reaches about 12W whereupon it reduces drive so maintain maximum reflected power <=12W.

Did you make this example up on the fly, or is it the result of actual observation on one or many occasions?

Owen

4041. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 00:02:23 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <evek7k$25d$1@news.service.uci.edu>
Source record: 43258

Cecil Moore wrote:

> Jim Kelley wrote:
>
>> And so that's your explanation for how 2 Joules per second can be
>> obtained from a source which is in fact producing only 1 Joule per
>> second.
>
>
> Of course, I regularly obtain 200 watts of forward
> power from my 100 watt IC-706. It's all due to
> constructive interference.

Nice try, but you're kidding yourself if you think you're getting 200 watts out of an IC706.

Back to the laser example, the answer you can't seem to get right is that, recombing the split beam back into one beam will at best recover 1 watt of laser power. That's the limit allowed by conservation of energy as it happens.

73, ac6xg

4042. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 00:04:35 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <evekak$9iv$1@nntp1.jpl.nasa.gov>
Source record: 43263

Roy Lewallen wrote:
> So, does the current go clockwise or counterclockwise? How much goes
> that way compared to the radial component? Where can I find a
> quantitative or explicit statement of your interpretation?

I think, based on the excerpt Richard has provided, it does both. Imagine a leaky hose with water diffusing into the surroundings. So, if you were to integrate over the entire width,or over any region which is symmetric over the wire, the *net* is entirely radial, but if you look at a small region, directly adjacent to the wire, there will be current diverging from the wire as you move outward (assuming current flow is outward... obviously, on the opposite half cycle, it converges toward the wire, as it moves generally inward)...

I suspect one could also analyze it as a wave propagating away from teh wire in the lossy surrounding medium, where the medium has a lower propagation velocity than in the wire. (e.g. imagine a waveguide made with the walls being soil)

Another sort of "hydraulic" model would be if you represented the radials as below grade drainage ditches which have a lot more pitch than the surrounding soil, so the water tends to flow diagonally down the ditch walls.

The interesting question would be whether this is important at all..

One might go through lots and lots of analysis, worrying about the small incremental effects of non-radial current, and find that the inherent variations in soil properties are orders of magnitude larger.

Sounds like a good exercise for a graduate level E&M or calculus class.. you could cast it as a similar exercise in heat flow.. both temperature and electrostatic fields satisfy Laplace's equation.

4043. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 00:10:07 UTC
From: Frank's <frank599@nojunkmailplease.telus.net>
Message-ID: <zBASh.58083$__3.37971@edtnps90>
Source record: 43257

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:131lk8vfq3sa068@corp.supernews.com...
> Frank's wrote:
>> Severns' article "Verticals, Ground Systems and Some History",
>> July 2000, p. 39, quotes the following: "As indicated in Figure 1,
>> the tangential component of the H field (H(phi)) induces
>> horizontal currents (Ih) flowing radially and the normal
>> component of the E field (Ez) induces vertically flowing
>> currents (Iv). The paper is available for download
>> from www.arrl.org.
>
> Thanks for the reference, but it makes no mention of circumferential
> currents. At first glance, figure 1 seems to show a circumferential Ih,
> but the text (as you quoted) clearly calls this a radial current -- the
> circle in figure 1 turns out to be Hphi, circling the vertically directed
> current.
>
> Roy Lewallen, W7EL

Yes, that is exactly the way I interpreted the article which is based
on the B, L, and E paper.

Frank

4044. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 00:13:05 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131llkpfnpicu8c@corp.supernews.com>
Source record: 43259

Owen Duffy wrote:
>
> If in fact the power delivered by the "100 watt IC706" radio was indeed
> 100W, and some directional wattmeter correctly indicated 200W forward, it
> must indicate 200W-100W reflected which is indicative of a VSWR of 5.8,
> which should have reduced power output from the IC706 markedly.
> . . .

Nah, no problem.

Connect your rig through a half wavelength of 250 ohm ladder line to a 50 ohm load. Presto, 200 watts "forward power" and 5:1 SWR on the line, and the poor ignorant Icom doesn't have any hint that all those waves of power or energy or whatever are bouncing around on the line, trying desperately but unsuccessfully to overheat the final or whatever they're supposed to do.

Of course, it would take a 250 ohm directional wattmeter to read that "forward power" or SWR. But we don' need no steenkin' meter -- we know it's there, don't we?

Roy Lewallen, W7EL

4045. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 00:25:11 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176164711.802506.234680@p77g2000hsh.googlegroups.com>
Source record: 43260

On Apr 9, 4:59 pm, Owen Duffy <n...@no.where> wrote:
> Cecil Moore <nos...@w5dxp.com> wrote
innews:Z5ASh.8184$YL5.4449@newssvr29.news.prodigy.net:
>
> > Jim Kelley wrote:
> >> And so that's your explanation for how 2 Joules per second can be
> >> obtained from a source which is in fact producing only 1 Joule per
> >> second.
>
> > Of course, I regularly obtain 200 watts of forward
> > power from my 100 watt IC-706. It's all due to
> > constructive interference.
>
> If in fact the power delivered by the "100 watt IC706" radio was indeed
> 100W, and some directional wattmeter correctly indicated 200W forward, it
> must indicate 200W-100W reflected which is indicative of a VSWR of 5.8,
> which should have reduced power output from the IC706 markedly.
>
> Taking another view, if the IC706 will tolerate VSWR of 2 before reducing
> power (ie and still deliver exactly 100W), then the forward power would
> be just 113W.
>
> More likely, the IC706 levels its power output on the forward detector,
> and runs 100W "forward" until the reflected power reaches about 12W
> whereupon it reduces drive so maintain maximum reflected power <=12W.
>
> Did you make this example up on the fly, or is it the result of actual
> observation on one or many occasions?
>
> Owen

Let's see... 600 ohm line feeding a nominally 60 ohm dipole. (It's
not very high above the ground.) 600 ohm line is 1/2 wave long, and
essentially lossless. I feed 60 watts in, the 60 ohm dipole absorbs
60 watts. I suppose the forward power on the line is a bit more than
60 watts. My transmitter doesn't seem to have too much trouble with
the 60 ohm load, though a balun between the unbalanced transmitter
output and the balanced line is nice.

Cheers,
Tom

4046. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 00:32:24 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <rWASh.1950$w41.137@newssvr19.news.prodigy.net>
Source record: 43261

Owen Duffy wrote:
> If in fact the power delivered by the "100 watt IC706" radio was indeed
> 100W, and some directional wattmeter correctly indicated 200W forward, it
> must indicate 200W-100W reflected which is indicative of a VSWR of 5.8,
> which should have reduced power output from the IC706 markedly.
>
> Did you make this example up on the fly, or is it the result of actual
> observation on one or many occasions?

I made it up but let's take the actual example of
my 33' rotatable dipole on 20m.

IC-706---1WL 300 ohm twinlead---51.5 ohm antenna

The IC-706 is delivering 100 watts. The forward power
is 200 watts. The reflected power is 100 watts. Why
in the world would a VSWR of 5.8:1 on the 300 ohm
twinlead "reduce the output from the IC706 markedly"
when the IC-706 is perfectly matched to a 51.5 ohm
virtual impedance?
--
73, Cecil http://www.w5dxp.com

4047. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 00:40:06 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176165606.040101.63710@d57g2000hsg.googlegroups.com>
Source record: 43262

On Apr 9, 5:48 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Roy Lewallen wrote:
> > Next, do the same for a transmission line. Show how two coherent
> > traveling waves can be produced which will propagate together in the
> > same direction but out of phase with each other, resulting in a net zero
> > field at all points beyond some summing point.
>
> Roy, it is done all the time represented by the
> S-Parameter equation for the reflected wave
> toward the source. Assuming an impedance discontinuity
> in a transmission line:
>
> b1 = s11(a1) + s12(a2) = 0
>
> If b1=0, then s11(a1) and s12(a2) are indeed two coherent
> traveling waves propagating together in the same direction
> but out of phase with each other. The net reflected wave
> field is zero.
> --
> 73, Cecil http://www.w5dxp.com

So what? Roy didn't say that was difficult at all. Now answer the
REST of Roy's parapgraph which you so conveniently failed to include
in your quoted material.

4048. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 00:56:24 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <YgBSh.1952$w41.181@newssvr19.news.prodigy.net>
Source record: 43264

Jim Kelley wrote:
>
> Cecil Moore wrote:
>> Of course, I regularly obtain 200 watts of forward
>> power from my 100 watt IC-706. It's all due to
>> constructive interference.
>
> Nice try, but you're kidding yourself if you think you're getting 200
> watts out of an IC706.

As anyone can readily see, I did NOT say I was "getting
200 watts out of my IC706" so your attempt at obfuscation
is obvious. I said "I regularly obtain 200 watts of forward power
from my 100 watt IC-706". Here is my exact configuration
for my 33' rotatable dipole based on actual measurements
on 20m.

100W IC-706--choke--1 WL 300 ohm twinlead---51.5 ohm antenna
Pfor=200W-->
<--Pref=100W

The forward power is indeed 200 watts. I have measured it
with my 300 ohm SWR meter.

Heck, on 17m, I regularly obtain 350 watts of forward power
using a 100W IC-706 as the source.

> Back to the laser example, the answer you can't seem to get right is
> that, recombing the split beam back into one beam will at best recover 1
> watt of laser power. That's the limit allowed by conservation of energy
> as it happens.

That's true for average power, Jim, and I have never said otherwise.
But if we observe interference rings, the bright rings can contain
all the power while the dark rings contain none. Thus, the bright
rings represent *double the average power* just as Born and Wolf report.

Shirley, that is not beyond your comprehension. If there is zero
intensity in the dark rings, there must be double the average
intensity in the bright rings to keep from violating the
conservation of energy principle.
--
73, Cecil http://www.w5dxp.com

4049. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 01:01:30 UTC
From: richardharrison@webtv.net
Message-ID: <28620-461AE1EA-647@storefull-3253.bay.webtv.net>
Source record: 43269

Richard Clark, KB7QHC wrote:
"Brown, Lewis and Epstein."

Ed Laport worked with B,L,&E at RCA. I don`t have my copy of his "Radio Antenna Engineering" at hand, but do recall Ed`s exhortations not to interconnect radials beyond an antenna`s drivepoint because it encourages hysteresis (circulating) currents which do nothing to improve antenna action but do increase loss.

All the useful ground currents at a tower are radial with respect to the tower`s base.

Best regards, Richard Harrison, KB5WZI

4050. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 01:03:43 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <PnBSh.13263$JZ3.1057@newssvr13.news.prodigy.net>
Source record: 43265

K7ITM wrote:
> Let's see... 600 ohm line feeding a nominally 60 ohm dipole. (It's
> not very high above the ground.) 600 ohm line is 1/2 wave long, and
> essentially lossless. I feed 60 watts in, the 60 ohm dipole absorbs
> 60 watts. I suppose the forward power on the line is a bit more than
> 60 watts. My transmitter doesn't seem to have too much trouble with
> the 60 ohm load, though a balun between the unbalanced transmitter
> output and the balanced line is nice.

The SWR is 10:1 making rho = 9/11 = 0.818 and rho^2 = 0.67
So the SWR is close to 10:1 and the forward power with a
100 watt IC-706 source is about 303 watts. Such is the
nature of constructive interference.
--
73, Cecil http://www.w5dxp.com

4051. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 01:08:09 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131los0kg3ru7d0@corp.supernews.com>
Source record: 43266

K7ITM wrote:
>
> So what? Roy didn't say that was difficult at all. Now answer the
> REST of Roy's parapgraph which you so conveniently failed to include
> in your quoted material.

Thanks, but I'm not interested in Cecil's response, since I know for certain that he'll never directly answer the question. Evasion, subject changing, diversion, misquoting, and anything else but solid reasoning or direct confrontation of a problem is all you'll ever get, as each new batch of people joining this group sadly discover sooner or later. I won't see his imaginative but evasive responses anyway unless quoted by someone, since he's one of the four people in my kill file. ("Jesus" is another of the four. I haven't seen any postings by him for quite some time, but there's no harm in leaving him listed in case he's resurrected someday.)

But I'd really like to hear from anyone else who's subscribed to Cecil's unique views of superposition, wave interaction, and bouncing waves of average power (although admittedly these views seem to rapidly morph as necessary to avoid any direct confrontation with rational thought). Or even anyone who believes (as I think you've said you do, Walt) that traveling waves can and do affect each other under any circumstances in a linear medium. Show me how waves can modify each other simply by passing, and any circumstance under which they do. And I'll show you how exactly the same result can be explained without this supposed interaction.

Roy Lewallen, W7EL

4052. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 01:08:58 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <KsBSh.13264$JZ3.11200@newssvr13.news.prodigy.net>
Source record: 43267

K7ITM wrote:
> So what? Roy didn't say that was difficult at all. Now answer the
> REST of Roy's parapgraph which you so conveniently failed to include
> in your quoted material.

I will be glad to if you will tell me specifically what
"REST of Roy's paragraph" you are talking about.
--
73, Cecil http://www.w5dxp.com

4053. Re: Reasonably-priced capacitors for traps

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 01:11:50 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1176167510.751252.207150@l77g2000hsb.googlegroups.com>
Source record: 43268

On Apr 9, 7:57 pm, "art" <aun...@insightbb.com> wrote:
> On 4 Apr, 18:53, Rick <Nos...@reply.in.gp> wrote:
>
> > Anybody know where I can get some halfways reasonably priced capacitors
> > for making traps?
>
> > I don't need much power capability - 100 watts max.
>
> > I looked on rfparts.com and WOW, are they proud of them... can't find
> > a'one that's suitable for under about 15 bucks EACH ...
>
> Why are you making a trap in the first place? Moxon has a dipole
> arrangement with a resonator at the center which is multiband and does
> better than a std dipole, might be what you are looking for.
> Art

Sage advice Art, truly the pinacle of your wisdom.

Jimmie

4054. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 01:17:35 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <PABSh.13267$JZ3.2039@newssvr13.news.prodigy.net>
Source record: 43270

Roy Lewallen wrote:
> Show me how waves can modify each other simply by
> passing, and any circumstance under which they do.

STRAW MAN ALERT! Nobody has said that passing waves
can modify each other. The requirements for wave
modification are very well defined. The two waves
must be coherent and traveling in the same direction
in the same path. Under those circumstances wave
modification is impossible to avoid. When the reflected
waves are canceled in the direction of the source by
an antenna tuner or other matching means, those waves
permanently disappear in the direction of the source.
Seems permanent disappearance meets the definition
of being modified.
--
73, Cecil http://www.w5dxp.com

4055. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 01:19:45 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176167985.766769.164110@n76g2000hsh.googlegroups.com>
Source record: 43271

On Apr 9, 8:31 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > The junk science is often presented with very rational sounding
> > arguments and it can be difficult to detect the flaws. This example
> > was a case for me and you expose the flaw nicely.
>
> Hint to omniscient gurus: One cannot use ignorance
> for exposing flaws. Roy says in his Food for Thought
> article:
>
> > > I personally don't have a compulsion to understand where this power "goes".
>
> Seemingly, that feeling of his is supposed to be enough
> incentive to discourage the rest of us to give up on our
> quest for tracking the energy through the system.
>
> Roy has ploinked me for disagreeing with him. What
> does that say about his inability to technically
> defend his concepts?
>
> The S-Parameter equations completely debunk what Roy
> posted.
>
> b1 = s11(a1) + s12(a2) = 0
>
> |b1|^2, the reflected power, equals zero because
> of wave cancellation involving those components
> of a1 (forward normalized voltage) and a2 (reflected
> normalized voltage).
>
> If s11, a1, s12, and a2 are all non-zero, then wave
> cancellation has occurred between s11(a1) and s12(a2)
> proving Roy's statements to be false. The above wave
> cancellation happens every time a ham adjusts his
> antenna tuner for zero reflected power.
> --
> 73, Cecil http://www.w5dxp.com

So, for example, if I send 50 watts of a sinusoid down a 50 ohm line,
and there's a transition to a 291.4 ohm line that's half a wave long
at the sinusoid's frequency, terminated in 50 ohms, there's no
reflected power on the 50 ohm line. Cool. I knew that. In re-
reading what Roy wrote, I see NO disagreement with that. But in the
291.4 ohm line, there's 100 watts forward and 50 watts reverse. At

the interface between the two lines, there's a total of 100 watts coming in: 50 from the 50 ohm line and 50 from the 291 ohm line. And wonder of wonder, there's 100 watts going out; it happens to all be in the 291 ohm line.

If you go back to Roy's posting in this thread and look at the WHOLE paragraph where he issued the challenge (if you want to call it a challenge), you'll see that you have to come up with an example where there's a node with different power coming out than going in, to be disagreein' with him.

4056. Re: RF amp help

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 01:27:48 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1176168468.037578.174210@n59g2000hsh.googlegroups.com>
Source record: 43272

On Apr 9, 11:07 am, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
> "Jimmie D" <GFEN...@carolina.rr.com> wrote in message
>
> news:461a4cbf$0$8947$4c368faf@roadrunner.com...
>
> >I am trying to build a small class C RF amp for 160 AM. The amp is to be
> >plated modulated and I have about 12 watts of audio available. I have built
> >amps before(30 years ago) but I have never built one around a modulator,
> >previously I built the modulator to suit the amp. Any help with tube and
> >voltage selections would be greatly appreciated.
>
> > Jimmie
>
> You have about enough audio power to plate modulate a 25 watt input amp.
> Maybe something using a 2E26 or a 6DQ6 tube.
>
> As Cecil mentioned you may want to modulate the screen of a pair of 6146
> tubes or similar to get enough power out to make it worthwhile.

Thanks, I have a couple each of 2E26s and 6DQ6s > I think I can come
pretty close to the impedance values I need by driving one of my LS-55
transformers with a solidstate amp using one of the low impedance
connections as the primary of a modulation transformer.

Jimmie

4057. Re: Reasonably-priced capacitors for traps

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 01:31:53 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1176168712.997294.184270@n59g2000hsh.googlegroups.com>
Source record: 43273

On 9 Apr, 18:11, "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote:
> On Apr 9, 7:57 pm, "art" <aun...@insightbb.com> wrote:
>
> > On 4 Apr, 18:53, Rick <Nos...@reply.in.gp> wrote:
>
> > > Anybody know where I can get some halfways reasonably priced capacitors
> > > for making traps?
>
> > > I don't need much power capability - 100 watts max.
>
> > > I looked on rfparts.com and WOW, are they proud of them... can't find
> > > a'one that's suitable for under about 15 bucks EACH ...
>
> > Why are you making a trap in the first place? Moxon has a dipole
> > arrangement with a resonator at the center which is multiband and does
> > better than a std dipole, might be what you are looking for.
> > Art
>
> Sage advice Art, truly the pinacle of your wisdom.
>
> Jimmie

What happened to the plonk? I thought that meant that my posts will
not show up any more on your computor. Try it again. please

4058. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 01:34:37 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990E75C028680nonenowhere@61.9.191.5>
Source record: 43274

Roy Lewallen <w7el@eznec.com> wrote in
news:131llkpfnpicu8c@corp.supernews.com:

> Owen Duffy wrote:
>>
>> If in fact the power delivered by the "100 watt IC706" radio was
>> indeed 100W, and some directional wattmeter correctly indicated 200W
>> forward, it must indicate 200W-100W reflected which is indicative of
>> a VSWR of 5.8, which should have reduced power output from the IC706
>> markedly.
> > . . .
>
> Nah, no problem.
>
> Connect your rig through a half wavelength of 250 ohm ladder line to a
> 50 ohm load. Presto, 200 watts "forward power" and 5:1 SWR on the
> line, and the poor ignorant Icom doesn't have any hint that all those
> waves of power or energy or whatever are bouncing around on the line,
> trying desperately but unsuccessfully to overheat the final or
> whatever they're supposed to do.
>
> Of course, it would take a 250 ohm directional wattmeter to read that
> "forward power" or SWR. But we don' need no steenkin' meter -- we know
> it's there, don't we?
>
> Roy Lewallen, W7EL

Roy, I was assuming that the instrument was a nominal 50 ohm instrument measuring conditions adjacent to the transmitter.

Your workup is correct enough for the case you describe (though for Pf/Pref=2, VSWR=5.8).

Of course, if you had a coaxial reflectometer calibrated (nulled) for 8.6 ohms or 290 ohms then you would get the same indications on a 50 ohm load, you don't actually need the 8.6 ohm or 290 ohm transmission line.

These are just examples that question the reality of these "component powers" when you can change their magnitude by choosing the reference impedance for measurement or calculation. They reinforce the view that whilst Pf-Pr has meaning (irrespective of Z), Pf and Pr each alone have no meaning.

Owen

4059. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 01:46:13 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990E77B7C2DFEnonenowhere@61.9.191.5>
Source record: 43275

"K7ITM" <k7itm@msn.com> wrote in
news:1176164711.802506.234680@p77g2000hsh.googlegroups.com:

> On Apr 9, 4:59 pm, Owen Duffy <n...@no.where> wrote:
>> Cecil Moore <nos...@w5dxp.com> wrote
>> innews:Z5ASh.8184$YL5.4449@newssvr29.news.prodigy.net:
>>
>> > Jim Kelley wrote:
>> >> And so that's your explanation for how 2 Joules per second can be
>> >> obtained from a source which is in fact producing only 1 Joule per
>> >> second.
>>
>> > Of course, I regularly obtain 200 watts of forward
>> > power from my 100 watt IC-706. It's all due to
>> > constructive interference.
>>
>> If in fact the power delivered by the "100 watt IC706" radio was
>> indeed 100W, and some directional wattmeter correctly indicated 200W
>> forward, it must indicate 200W-100W reflected which is indicative of
>> a VSWR of 5.8, which should have reduced power output from the IC706
>> markedly.
>>
>> Taking another view, if the IC706 will tolerate VSWR of 2 before
>> reducing power (ie and still deliver exactly 100W), then the forward
>> power would be just 113W.
>>
>> More likely, the IC706 levels its power output on the forward
>> detector, and runs 100W "forward" until the reflected power reaches
>> about 12W whereupon it reduces drive so maintain maximum reflected
>> power <=12W.
>>
>> Did you make this example up on the fly, or is it the result of
>> actual observation on one or many occasions?
>>
>> Owen
>
> Let's see... 600 ohm line feeding a nominally 60 ohm dipole. (It's
> not very high above the ground.) 600 ohm line is 1/2 wave long, and
> essentially lossless. I feed 60 watts in, the 60 ohm dipole absorbs
> 60 watts. I suppose the forward power on the line is a bit more than
> 60 watts. My transmitter doesn't seem to have too much trouble with
> the 60 ohm load, though a balun between the unbalanced transmitter
> output and the balanced line is nice.
>

Tom, as I noted in another response, I assumed that the observation was based on measurement with a nominal 50 ohm instrument adjacent to the transmitter.

You can of course re-evaluate the forward and reflected power components in a 50 ohm load by changing the reference impedance, and so make them anything you want. Cecil didn't suggest a specific reference impedance, so knowing that the IC706 is designed for a nominal 50 ohm load, it seemed reasonable to make the assumptions that I did.

Owen

4060. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 01:50:22 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <y3CSh.4468$5e2.2396@newssvr11.news.prodigy.net>
Source record: 43276

K7ITM wrote:
> So, for example, if I send 50 watts of a sinusoid down a 50 ohm line,
> and there's a transition to a 291.4 ohm line that's half a wave long
> at the sinusoid's frequency, terminated in 50 ohms, there's no
> reflected power on the 50 ohm line. Cool. I knew that.

Make that no *NET* reflected power. Two reflected waves had
to engage in wave cancellation for there to be no net
reflected power. RF waves respond to real-world physical
impedance discontinuities.

> In re-
> reading what Roy wrote, I see NO disagreement with that. But in the
> 291.4 ohm line, there's 100 watts forward and 50 watts reverse. At
> the interface between the two lines, there's a total of 100 watts
> coming in: 50 from the 50 ohm line and 50 from the 291 ohm line. And
> wonder of wonder, there's 100 watts going out; it happens to all be in
> the 291 ohm line.

Let's analyze that example:

50W--50 ohm line--+--1/2WL 291.4 ohm line---50 ohm load
Pfor1=50w--> Pfor2=100w-->
<--Pref1=0 <--Pref2=50w

The physical power reflection coefficient is 0.5. So Pfor1
splits into two parts, P1=25w being transmitted and P3=25w
being reflected. Pref2 likewise sees a power reflection
coefficient of 0.5 and splits into two parts, P2=25w re-
reflected and P4=25w not re-reflected.

Since Pref1=0, total destructive interference exists toward
the source.

Pref1 = P3 + P4 - 2*SQRT(P3*P4)

Pref1 = 25w + 25w - 2*SQRT(25w*25w) = 0

The associated S-Parameter equation is:

b1 = s11(a2) + s12(a2) = 0

P3 and P4 are the reflected wave components associated with
wave cancellation.

On the constructive interference side toward the load:

Pfor2 = P1 + P2 + 2*SQRT(P1*P2)

Pfor2 = 25w + 25w + 2*SQRT(25w*25w) = 100w

The associated S-Parameter equation is:

b2 = s21(a1) + s22(a2) where |b2|^2 = 100w

Everything is perfectly consistent. Where is an error?

> If you go back to Roy's posting in this thread and look at the WHOLE
> paragraph where he issued the challenge (if you want to call it a
> challenge), you'll see that you have to come up with an example where
> there's a node with different power coming out than going in, to be
> disagreein' with him.

Well, if Roy is asking for proof of violation of the
conservation of energy principle, his concept of
"sloshing" energy comes pretty close.
--
73, Cecil http://www.w5dxp.com

4061. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 01:54:33 UTC
From: szilagyic@gmail.com
Message-ID: <1176170073.792713.161580@y80g2000hsf.googlegroups.com>
Source record: 43177
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

On Apr 6, 2:27 pm, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
> "Ed Nielsen" <e...@dslr.net> wrote in message
>
> news:9KmdnTQUE6Onx4vbnZ2dnUVZ_tijnZ2d@comcast.com...
>
> > Hex-crimp fittings have 6 points where the connector is pinched into the
> > cable creating small impedance mismatches. Impedance mismatch creates
> > reflection. If the reflection(s) is(are) severe enough, whatever is at
> > that(those) frequency (frequencies) may not work. Plus, their return loss
> > is a fair amount lower than that of compression connectors (~18dB as
> > compared to >30dB).
>
> > I've replaced hex-crimp fittings on DirecTV systems because of hex-crimp
> > fittings which were causing some channels to not work.
>
> Funny how it works where a bad connector will blank out just a couple of
> cable chanels. First time this hapened to me about 20 years ago the cable
> guy came out and said it was a bad connection. Almost laughed at him,but he
> replaced the connector at the outside of the house and it cleared right up.

Very good info. The interesting thing is since my original post I
went and bought a 500 ft roll of Carol Brand RG-6 QS from Home Depot,
and made some cables with the crimp-on connectors I already had. When
I swapped these new RG-6 QS cables with ones I made a while back with
regular RG-6 with the same crimp-on connectors, I got surprisingly
horrible results. A couple of analog channels don't come in at all
(ch 28 and 56), where they used to come in with a fairly good picture.
Yet other channels on lower frequencies, such as VHF appear to be the
same. I inspected the connectors and they appear to be OK, but I am
guessing there must be an issue with these connectors and the RG-6 QS,
where it's causing the issues that were described above with loss. Is
this possible?? It seems to be affecting various UHF channels (ch.
28, 56, 62).

Thank you very much for the help.

--
Chris

4062. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 02:09:46 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131lsfhd510t8f7@corp.supernews.com>
Source record: 43178

Owen Duffy wrote:
> . . .
> Your workup is correct enough for the case you describe (though for
> Pf/Pref=2, VSWR=5.8).
> . . .

Thanks for the correction. I apologize for the error and stand corrected.

Roy Lewallen, W7EL

4063. Re: RF amp help

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 02:17:33 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990E7D0789744nonenowhere@61.9.191.5>
Source record: 43179

"JIMMIE" <JIMMIEDEE123@YAHOO.COM> wrote in
news:1176168468.037578.174210@n59g2000hsh.googlegroups.com:

> On Apr 9, 11:07 am, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
>> "Jimmie D" <GFEN...@carolina.rr.com> wrote in message
>>
>> news:461a4cbf$0$8947$4c368faf@roadrunner.com...
>>
>> >I am trying to build a small class C RF amp for 160 AM. The amp is
>> >to be plated modulated and I have about 12 watts of audio available.
>> >I have built amps before(30 years ago) but I have never built one
>> >around a modulator, previously I built the modulator to suit the
>> >amp. Any help with tube and voltage selections would be greatly
>> >appreciated.
>>
>> > Jimmie
>>
>> You have about enough audio power to plate modulate a 25 watt input
>> amp. Maybe something using a 2E26 or a 6DQ6 tube.
>>
>> As Cecil mentioned you may want to modulate the screen of a pair of
>> 6146 tubes or similar to get enough power out to make it worthwhile.
>
> Thanks, I have a couple each of 2E26s and 6DQ6s > I think I can come
> pretty close to the impedance values I need by driving one of my LS-55
> transformers witth a solidstate amp using one of the low impedance
> connections as the primary of a modulation transformer.
>

Some thoughts:

If you have 12W of audio and you want to use plate and screen modulation, you have enough to cover 24W of DC input at 100% modulation, but it wouldn't hurt to have a slightly higher powered final with 60% to 80% modulation. That would suggest up to about 36W input, which at 66% efficiency would give you a 24W carrier, 66% modulated. In that case, you would need a PA tube with more than 12W of anode dissipation. The 2E26 has an ICAS plate dissipation of 12W.

One approach is to choose a tube that is likely to remain available due to its widespread use and the consequent replacement demand. I don't think the ones you nominate would be high on that list. Although a 6146B might seem overkill, it is cheap, can run comfortably from a 500V supply at good efficiency, and will idle along at about 60% of CCS ratings.

Important factors will be the supply voltage and anode current compatibility with your modulation transformer... otherwise your 12W of audio might not go very far at all. The 2e26 has less room to move in accomodating your mod tranny than the 6146B.

Owen

4064. Re: Coaxial Cable considerations for HF

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 02:34:33 UTC
From: jawod <jawod@fuse.net>
Message-ID: <ab03b$461af8be$d066b697$3252@FUSE.NET>
Source record: 43180

Bryan wrote:
> John wrote:
>
>>Having re-entered ham radio after a 30 year hiatus, I would like to ask
>>about RG/8U versus other cable types for use in a simple dipole or G5RV
>>installation with 100W max. transmitter output. In the "good old days"
>>Low loss "8U" was sort of the standard. There are some newer cable
>>designations now.
>>
>>Is there a better "standard" cable for the above use than RG/8U
>>(specifically Belden 9913 low loss)?
>>
>>John
>>AB8O
>
>
> Hi John,
>
> Some useful information and history is here:
> http://en.wikipedia.org/wiki/Coaxial_cable. For a given type, you'll find
> quality all over the map, from decent to downright crummy. That said, I
> recommend a looking at a prospective manufacturer's datasheet before buying.
> If there are no specifications available, keep looking!
>
> When it comes to loss/length (for a given cable type), foamed polyethylene
> dielectric will be better. Percentage of shielding is probably the next
> determining factor. An aluminum foil shield of course will be 100%, but
> won't take much flexing before fracturing. Save it for long runs that are
> secured in place, and use braided copper or braided copper + foil for other
> uses. You'll find most all manufacturers make cables with as much as 97%
> braided copper shielding. The last item of concern will be the outer
> jacket. PVC is the most common. Some are "non contaminating" or "UV
> resistant" types that degrade much slower in sunlight. Use a UV-resistant
> type for outdoor applications.
>
> Belden 9913 has a "Semi-Solid Polyethylene" dielectric and can't handle
> tight-radius bend. It also has a solid center conductor, which doesn't like
> repeated flexing. The shield is "100% coverage Duobond tape" (foil), which
> also doesn't like repeated flexing.
>
> RG-58 types are rated to 250W (under matched conditions) safely. If you
> plan on running higher power and/or longer runs and/or high standing waves
> on the feedline, you should consider something larger. Many hams have used
> RG-8X (also called "mini RG-8") with good success. If you're

> cost-conscious, this might be a good choice.
>
> Ralph mentioned LMR400 as having a copper coated aluminum center conductor.
> It's made by Times Microwave Systems (http://www.timesmicrowave.com/) and is
> a solid conductor. Their Ultraflex version (LMR400UF) has a stranded bare
> copper inner conductor. He also mentioned Davis RF
> (http://www.davisrf.com/) having Buryflex available. As far as I can see,
> it's LMR400UF with a different brand name on it. By the way, I've dealt
> with them once... very good folks.
>
> Vy 73,
> Bryan WA7PRC
>
>
Thanks, Bryan, for the knowledgeable tips.

4065. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 02:51:07 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <eveu41$a3a$1@news.service.uci.edu>
Source record: 43182

Cecil Moore wrote:

> Jim Kelley wrote:
>
>>
>> Cecil Moore wrote:
>>
>>> Of course, I regularly obtain 200 watts of forward
>>> power from my 100 watt IC-706. It's all due to
>>> constructive interference.
>>
>>
>> Nice try, but you're kidding yourself if you think you're getting 200
>> watts out of an IC706.
>
>
> As anyone can readily see, I did NOT say I was "getting
> 200 watts out of my IC706" so your attempt at obfuscation
> is obvious. I said "I regularly obtain 200 watts of forward power
> from my 100 watt IC-706". Here is my exact configuration
> for my 33' rotatable dipole based on actual measurements
> on 20m.

Then your observation was unrelated to the topic of discussion, which
was your claim that 2 Joules per second could be obtained from a 1
watt laser. It must have been offered as a diversion.

> Heck, on 17m, I regularly obtain 350 watts of forward power
> using a 100W IC-706 as the source.

It's certainly an impressive meter reading. It is your contention
then that interference caused a 250 Joule per second increase in the
amount of energy being produced by your radio? If not, then this must
also have been offered as a diversion.

>> Back to the laser example, the answer you can't seem to get right is
>> that, recombing the split beam back into one beam will at best recover
>> 1 watt of laser power. That's the limit allowed by conservation of
>> energy as it happens.
>
>
> That's true for average power, Jim, and I have never said otherwise.

You can't average power 'going' one direction with power 'going' in
some other direction. That doesn't even make sense. If you
integrate all of the energy, from all the bright fringes it still

doesn't exceed the energy coming from the source.
There is no amount of hand waving that can cause a one watt laser to
deliver 2 Joules of energy per second.

> But if we observe interference rings, the bright rings can contain
> all the power while the dark rings contain none. Thus, the bright
> rings represent *double the average power* just as Born and Wolf report.

Born and Wolf doesn't discuss power and interference, and they
certainly don't interchange intensity and power in their discussions
like you do. There can be no more 'power gain' along a transmission
line than there can be along a beam of light. With respect to
antennas one can obviously observe an increase in power in a
particular direction given the fact that antennas do in fact
redistribute energy by generating an interference pattern. But even
with all the interference and power averaging taken into
consideration, the radiated power will still not exceed the input power.

You can't get 400 watts to a load using two 100 watt PA's no matter
how much interfering and averaging you do, Cecil. How can you even
make that claim with a straight face?

> Shirley, that is not beyond your comprehension.

Quite honestly it does seem to be beyond yours. And please stop
calling me Shirley. :-)

73, Jim AC6XG

4066. Re: Best Yagi impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 02:57:16 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <g2DSh.146369$907.117443@newsfe13.phx>
Source record: 43181

```
"Yuri Blanarovich" <K3BU@optonline.net> wrote in message
news:T7hQh.54$EJ7.12@newsfe12.lga...
>
> "art" <aunwin@insightbb.com> wrote in message
> news:1175536875.608894.260610@p15g2000hsd.googlegroups.com...
> > On 2 Apr, 10:45, "Yuri Blanarovich" <K...@optonline.net> wrote:
> >> "art" <aun...@insightbb.com> wrote in message
> >>
> >> news:1175526996.036089.26350@o5g2000hsb.googlegroups.com...
> >>
> >>
> >>
> >>
> >>
> >> > On 2 Apr, 07:54, "Yuri Blanarovich" <K...@optonline.net> wrote:
> >> >> > "art" <aun...@insightbb.com> wrote in message
> >> >> >> Owen
> >> >> >> I agree. Amateurs and probably some professionals place to much
> >> >> >> weight
> >> >> >> on total antenna gain as opposed to maximum gain of the required
> >> >> >> polarity and frankly polarity is always of primary importance
for
> >> >> >> all
> >> >> >> antennas. This rationality also include the attainment of less
> >> >> >> required compromises with other factors when dealing with
bandwidth
> >> >> >> (per the above comments referncing matching.) Compromises with
> >> >> >> respect
> >> >> >> to the design of yagi antennas is extensively described in most
> >> >> >> ARRL
> >> >> >> publications and are best avoided.
> >> >> >> Art
> >> >>
> >> >> OK, genius, what is POLARITY and how did we manage to ignore it over
> >> >> the
> >> >> century plus of fiddling with antennas?
> >> >> I promise to always use PLUS or POSITIVE polarity, never to engage
any
> >> >> NEGATIVE, which would be detrimental to Gaussian jambalaya.
> >>
> >> >> Yuri, K3BU
> >>
> >> > Yuri, If you don't understand the foibles of polarization then the
> >> > search
```

> >> > for gain alone is pointless
> >>
> >> Bunch of hooey! Have you heard of moonbounce and satellite antennas?
> >>
> >> Art, if you can't read or you don't know what you write, then your
> >> "communicating" here is pointless.
> >>
> >> You wrote and queried POLARITY and you "don't understand me" with
> >> POLARIZATION. Elementary my dear Watson!
> >>
> >> I have doubts that you really understand antenna polarization, pattern
> >> forming, ground effects and reality of RF signals propagating and
antenna
> >> role in their generation and interception.
> >>
> >> Yuri, K3BU.us- Hide quoted text -
> >>
> >> - Show quoted text -
> >
> > Fine, thus there is no need for you to ask questions of me. You can go
> > back to the previous posting from which this question arose and ask
> > your questions of Owen. He is one of the most knoweledgable persons in
> > the bunch
> > and he responded to you.
> > Art
> >
>
> I asked about POLARITY you mentioned and you answer with crapola.
> If you don't know difference between polarity and polarization, or between
> reflector and director, then your confusing ramblings are just that.
>
> Sayonara!
>
> We sorted out Owens comments in case you are behind reading.
>
> 73 Yuri, K3BU
>
>

4067. Re: Best Yagi impedance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 03:10:20 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <weDSh.146370$907.113141@newsfe13.phx>
Source record: 43183

"Yuri Blanarovich" <K3BU@optonline.net> wrote in message
news:%ibQh.32$yx2.2@newsfe12.lga...
>
>
> Art, if you can't read or you don't know what you write, then your
> "communicating" here is pointless.
>
> You wrote and queried POLARITY and you "don't understand me" with
> POLARIZATION. Elementary my dear Watson!
>
> I have doubts that you really understand antenna polarization, pattern
> forming, ground effects and reality of RF signals propagating and antenna
> role in their generation and interception.
>
> Yuri, K3BU.us
>
>

Sorry for the previous blank reply posting.

A polarization story, if I may. At Field Day a few years ago, I decided to try a few 446 MHz calls to add to the fifty-some 2m QSOs I had logged. I got bupkus for an hour's work. I tried a local repeater and got a similar nothing, so I concluded my radio had quit. No, I had the yagi antenna horizontal. I had been playing at home with UHF TV and I simply translated the orientation of the TV yagis to my 70cm yagi. Dumb! Everything was fine except for my being cross-polarized with the rest of the 70cm FM universe.

I understand that SSB'ers are horizontal on VHF/UHF; if I ever get an allmode, I'll have to remember that.

4068. Re: Reasonably-priced capacitors for traps

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 03:20:21 UTC
From: Derek <blueyhi5s@yahoo.com.au>
Message-ID: <1176175221.068703.255940@p77g2000hsh.googlegroups.com>
Source record: 43184

On Apr 9, 6:11 pm, "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote:

> Sage advice Art, truly the pinacle of your wisdom.
>
> Jimmie

Jimmie
Truly thou art, as we say down here,a shrimp short of a
barbie

4069. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 03:49:49 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <wPDSh.1964$w41.1279@newssvr19.news.prodigy.net>
Source record: 43185

Jim Kelley wrote:
> Then your observation was unrelated to the topic of discussion, which
> was your claim that 2 Joules per second could be obtained from a 1 watt
> laser.

You know that I never claimed that, Jim. As bright a guy
as you are, why do you have to stoop to falsifying what
I have said?

If the average intensity is one watt per square inch
and we cause interference, the intensity of one particular
square inch can go to zero in the case of total destructive
interference. Since that energy has to go somewhere, it
goes into constructive interference in some other square
inch. If it is total constructive interference, we will
indeed double the average intensity to two watts per square
inch. The total power is still the same but the power
density has doubled in half the area while going to zero
in the other half of the area.

Hint: (2 watts/in^2 + 0 watts/in^2)/2 in^2 = 1 watt

> It's certainly an impressive meter reading. It is your contention then
> that interference caused a 250 Joule per second increase in the amount
> of energy being produced by your radio?

Of course not. That's another false implication of yours.
The interference causes the forward power to be 250 watts
higher than the output of the source. Such is the nature
of constructive interference. The reflected power is 250
watts. |Forward power| = |source power| + |reflected power|

> You can't average power 'going' one direction with power 'going' in some
> other direction.

I didn't know we had two directions in the laser example.
I thought both beams were going the same direction. If the
beams are going in opposite directions, we get standing
waves and that changes things. If your split beams were
going in opposite directions, I misunderstood the example
and you can forget everything I have said about it.

> If you integrate all
> of the energy, from all the bright fringes it still doesn't exceed the
> energy coming from the source.

That's what I have said all along, Jim. You are obviously
trying to set up some sort of straw man. The energy in the
bright fringes exceeds the average energy. That is all
I have ever said.

> There is no amount of hand waving that can cause a one watt laser to
> deliver 2 Joules of energy per second.

Of course not and I never said it would. Please stop trying
to imply that I said something that I never said. It is
downright unethical to debate in such an unfair manner.

> Born and Wolf doesn't discuss power and interference, and they certainly
> don't interchange intensity and power in their discussions like you do.

Intensity is power density. I have a habit of saying power
when I should have said power density. For that I apologize
and will try to break myself of that habit. But you can
always tell by the context that I was talking about power
density.

> There can be no more 'power gain' along a transmission line than there
> can be along a beam of light.

On the contrary, reflection gain from a tuner is an
accepted concept within the wave reflection model.

> But even with all the interference and power
> averaging taken into consideration, the radiated power will still not
> exceed the input power.

Nobody believes the conservation of energy principle can be
violated so that is just another one of your straw men. Go
ahead, be my guest, and knock it down if it makes you feel
better. Nobody cares.

> You can't get 400 watts to a load using two 100 watt PA's no matter how
> much interfering and averaging you do, Cecil. How can you even make
> that claim with a straight face?

I didn't make that claim. I said that Keith would have to prove
it was possible before his assertions made any sense. I challenged
Keith to prove that was possible. I certainly have never made that
claim. You usual lack of ethics is showing. If you are forced to
lie to make your point, your point is not worth making.
--
73, Cecil http://www.w5dxp.com

4070. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 04:20:31 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <Ds2dne4ax8cPjYbbnZ2dnUVZ_tGvnZ2d@comcast.com>
Source record: 43186

Bart,

Thanks for the thought. Modeling predicts it is much lower then that;
however I don't want to overlook anything. The Q looks very good on the
network analyzer, however I have never run the math. The coil is about
3.3 inches in diameter. I will let you know.

Dan

Bart Rowlett wrote:
> On Sun, 08 Apr 2007 20:20:36 -0700, dansawyeror wrote:
>
>> Owen,
>>
>> I did not want to concentrate on that; however it is a fair question.
>> The frequency is 3970 kc and the methodology is based on use of an hp
>> network analyzer. The analyzer has both polar and Cartesian displays.
>> The outputs were cross checked.f
>
> [snip]
>
>> To focus on the question is: Why is the ground resistance so high? It is
>> not important at this stage to determine its precise value. The point is
>> it is high enough to cause a return of 0 degrees. This puts the 'system'
>> at over 50 degrees. Even if the antenna were 6 to 8 Ohms the ground loss
>> would be at least 42 to 44 Ohms.
>
> How is the antenna loaded and what is the Q of the loading coil? Coil
> losses are almost certainly 5 ohms and could easily be as high as 35 ohms.
>
> bart

4071. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 04:26:40 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <4mESh.7563$u03.2568@newssvr21.news.prodigy.net>
Source record: 43187

Jim Kelley wrote:
> You can't get 400 watts to a load using two 100 watt PA's no matter how
> much interfering and averaging you do, Cecil. How can you even make
> that claim with a straight face?

I didn't make that claim. I challenged Keith to prove it
was possible. Only then could he claim that sources
obey the rules of superposition.

But let's talk about superposing two 100 watt waves
in a 50 ohm transmission line. Never mind exactly
how it is accomplished for now.

Wave1 = 70.7V at 0 deg and is 70.7^2/50 = 100 joules/sec
Wave2 = 70.7V at 0 deg and is 70.7^2/50 = 100 joules/sec

Please superpose those two coherent waves within a 50
ohm transmission line and see what answer is obtained
for total voltage and total power.

Hint: Power = V^2/Z0

You can visualize the superposition by going to the
following web page and setting both phases to zero.

http://micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/waveinteractions/index
.html
--
73, Cecil http://www.w5dxp.com

4072. Re: NVIS Dipoles Directional?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 04:34:42 UTC
From: Rick <Nospam@reply.in.gp>
Message-ID: <pan.2007.04.10.04.34.39.629296@reply.in.gp>
Source record: 43188

On Mon, 09 Apr 2007 23:36:56 +0000, Dave Oldridge wrote:

> NVIS propagation is pretty high angle stuff. If you look at the three
> dimensional patterns for NVIS antennas you will see that they have a large
> lobe at high angles and an almost circular omnidirectional pattern at those
> angles. We're looking at 80 degrees and up mostly here, maybe 70 at the
> low end....so that antennas are mainly designed to illuminate the patch of
> ionosphere directly above the antenna.

Right. That's my point. So, what I'm claiming ... and trying to get
someone who knows more about this stuff than I do (which is just about all
of you) to confirm or deny ... is that with an NVIS dipole, someone 100
miles away from me would not be able to perceive the difference if my
antenna was broadside to him or oriented in line with him. True, or false?

4073. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 04:35:02 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <S9-dncAPaoVljobbnZ2dnUVZ_hynnZ2d@comcast.com>
Source record: 43189

Owen,

The antenna is a short loaded vertical. The base is about 1.1 meters
long and 90mm in diameter, the coil is about 160mm long and about 80mm
in diameter, the top is 3 meters. The coil wire is 12 gage and the
spacing is about .5. As a model cross check, the impedance of the coil
measures about 60 uH.

- Dan

Owen Duffy wrote:
> Owen Duffy <none@no.where> wrote in
> news:Xns990D9AD9E3087nonenowhere@61.9.191.5:
>
>> dansawyeror <dansawyeror@comcast.net> wrote in
>> news:v46dnSnxXsqZLITbnZ2dnUVZ_tunnZ2d@comcast.com:
>>
>> ...
>>
>> I think a summary is that at 3970KHz, the feedpoint Z looks like about
>> 45 +j0 and you reckon the radiation resistance should be around 4+j0,
>> suggesting the earth system contributes around 40 ohms of resistance.
>> Observations at a single frequency provide a limited view of what
>> might be happening.
>
> Dan,
>
> I asked your for the details of your antenna and measurements, and how
> you did your calculations, but I am still left wondering how you have
> what appears to be a purely resistive feedpoint impedance and a radiation
> resistance of 4 ohms. The second implies a short vertical, and if that is
> the case, the first implies some form of loading... but you didn't
> mention loading of any kind. Loading, if you have used it, may introduce
> an equivalent series resistance at the feedpoint.
>
> Once again, a dansawyer problems leaves us guessing to fill in the
> missing dots before attempting to joint them up to make a picture.
>
> Often, solving a problem is about being able to draw the picture, once
> the picture is draw, the answer becomes trivial.
>
> Owen

4074. Re: NVIS Dipoles Directional?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 04:53:59 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <HLESh.7574$u03.3831@newssvr21.news.prodigy.net>
Source record: 43190

Rick wrote:
> ... is that with an NVIS dipole, someone 100
> miles away from me would not be able to perceive the difference if my
> antenna was broadside to him or oriented in line with him. True, or false?

The broadside radiation is mostly horizontally polarized
while the radiation off the ends is mostly vertically
polarized. I wonder if that would make a measurable
difference?
--
73, Cecil http://www.w5dxp.com

4075. Re: Reasonably-priced capacitors for traps

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 05:02:08 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <461b1a4c$0$9925$4c368faf@roadrunner.com>
Source record: 43191

"Derek" <blueyhi5s@yahoo.com.au> wrote in message
news:1176175221.068703.255940@p77g2000hsh.googlegroups.com...
> On Apr 9, 6:11 pm, "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote:
>
>> Sage advice Art, truly the pinacle of your wisdom.
>>
>> Jimmie
>
>
> Jimmie
> Truly thou art, as we say down here,a shrimp short of a
> barbie
>
You think so, obviously you dont know about Moxon antennas and tuners
either.

Jimmie

4076. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 05:45:43 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176183943.625443.274440@b75g2000hsg.googlegroups.com>
Source record: 43192

On Apr 9, 6:34 pm, Owen Duffy <n...@no.where> wrote:
> Roy Lewallen <w...@eznec.com> wrote innews:131llkpfnpicu8c@corp.supernews.com:
>
>
>
> > Owen Duffy wrote:
>
> >> If in fact the power delivered by the "100 watt IC706" radio was
> >> indeed 100W, and some directional wattmeter correctly indicated 200W
> >> forward, it must indicate 200W-100W reflected which is indicative of
> >> a VSWR of 5.8, which should have reduced power output from the IC706
> >> markedly.
> > > . . .
>
> > Nah, no problem.
>
> > Connect your rig through a half wavelength of 250 ohm ladder line to a
> > 50 ohm load. Presto, 200 watts "forward power" and 5:1 SWR on the
> > line, and the poor ignorant Icom doesn't have any hint that all those
> > waves of power or energy or whatever are bouncing around on the line,
> > trying desperately but unsuccessfully to overheat the final or
> > whatever they're supposed to do.
>
> > Of course, it would take a 250 ohm directional wattmeter to read that
> > "forward power" or SWR. But we don' need no steenkin' meter -- we know
> > it's there, don't we?
>
> > Roy Lewallen, W7EL
>
> Roy, I was assuming that the instrument was a nominal 50 ohm instrument
> measuring conditions adjacent to the transmitter.
>
> Your workup is correct enough for the case you describe (though for
> Pf/Pref=2, VSWR=5.8).
>
> Of course, if you had a coaxial reflectometer calibrated (nulled) for 8.6
> ohms or 290 ohms then you would get the same indications on a 50 ohm
> load, you don't actually need the 8.6 ohm or 290 ohm transmission line.
>
> These are just examples that question the reality of these "component
> powers" when you can change their magnitude by choosing the reference
> impedance for measurement or calculation. They reinforce the view that
> whilst Pf-Pr has meaning (irrespective of Z), Pf and Pr each alone have
> no meaning.

>
> Owen

Hi Owen,

(Noted your other response, to my posting, about the assumption of 50 ohm line. I obviously didn't make that assumption...)

I've been harping in this forum for YEARS about the need to calibrate an SWR meter or a return loss bridge to the impedance you're wanting to use it for. I'm always somewhat amazed that some folk just "don't get it." Thanks for helping reinforce the need for the proper calibration. Those bridges are not magic; they can only measure voltages or currents produced by (hopefully) linear combinations of transduced line voltages and currents. I think it was about ten years ago in this group that I posted the derivation of the equations to determine forward and reflected from measurement of voltage and current at a point on a TEM line, IF you know the impedance of the line.

Cheers,
Tom

4077. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 05:52:03 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990EA1652F44Enonenowhere@61.9.191.5>
Source record: 43193

dansawyeror <dansawyeror@comcast.net> wrote in
news:S9-dncAPaoVljobbnZ2dnUVZ_hynnZ2d@comcast.com:

> Owen,
>
> The antenna is a short loaded vertical. The base is about 1.1 meters
> long and 90mm in diameter, the coil is about 160mm long and about 80mm
> in diameter, the top is 3 meters. The coil wire is 12 gage and the
> spacing is about .5. As a model cross check, the impedance of the coil
> measures about 60 uH.
>

So, what do you think its impedance would be? 1500+j??

This is probably accounting for somewhere between 5 and 15 ohms of
additional resistance, depending on Q.

Owen

4078. Re: NVIS Dipoles Directional?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 05:52:18 UTC
From: "David G. Nagel" <nagel@core.com>
Message-ID: <131m9ig3ilp1pa7@corp.supernews.com>
Source record: 43194

Rick wrote:
> On Mon, 09 Apr 2007 23:36:56 +0000, Dave Oldridge wrote:
>
>> NVIS propagation is pretty high angle stuff. If you look at the three
>> dimensional patterns for NVIS antennas you will see that they have a large
>> lobe at high angles and an almost circular omnidirectional pattern at those
>> angles. We're looking at 80 degrees and up mostly here, maybe 70 at the
>> low end....so that antennas are mainly designed to illuminate the patch of
>> ionosphere directly above the antenna.
>
> Right. That's my point. So, what I'm claiming ... and trying to get
> someone who knows more about this stuff than I do (which is just about all
> of you) to confirm or deny ... is that with an NVIS dipole, someone 100
> miles away from me would not be able to perceive the difference if my
> antenna was broadside to him or oriented in line with him. True, or false?
>
Most likely TRUE. Other conditions may affect the signal but for the
most part the signal goes almost straight up in all directions and
almost straight down in all directions. Your coverage can be up to 300
to 500 miles depending on conditions. The MUF for NVIS is dependent on
the position of the sun and drops drastically at and after sun set.

Dave WD9BDZ

4079. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 05:56:00 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176184560.212746.257560@q75g2000hsh.googlegroups.com>
Source record: 43195

On Apr 9, 6:08 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> K7ITM wrote:
> > So what? Roy didn't say that was difficult at all. Now answer the
> > REST of Roy's parapgraph which you so conveniently failed to include
> > in your quoted material.
>
> I will be glad to if you will tell me specifically what
> "REST of Roy's paragraph" you are talking about.
> --
> 73, Cecil http://www.w5dxp.com

Go look it up yourself, lad. At this point, how am I supposed to know what you're talking about, since you've dropped all the original reference.

If you can't bother to quote the whole posting you're replying to, don't be askin' anybody else to go fetch it for you.

4080. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 05:59:52 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990EA2B7C98B3nonenowhere@61.9.191.5>
Source record: 43196

Owen Duffy <none@no.where> wrote in news:Xns990EA1652F44Enonenowhere@
61.9.191.5:

> So, what do you think its impedance would be? 1500+j??

Duh, ??+j1500 is more like it.

Same outcome, it is probably accounting for 5 to 15 ohms of resistance that
you haven't included in your calcs.

Owen

4081. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 06:05:25 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990EA3A899F93nonenowhere@61.9.191.5>
Source record: 43197

"K7ITM" <k7itm@msn.com> wrote in
news:1176183943.625443.274440@b75g2000hsg.googlegroups.com:
...
> transduced line voltages and currents. I think it was about ten years
> ago in this group that I posted the derivation of the equations to
> determine forward and reflected from measurement of voltage and
> current at a point on a TEM line, IF you know the impedance of the
> line.

Hi Tom,

I guess it is the misconceptions about these things that drive us to write such stuff.

I drafted an article recently showing what the typical SWR meter samples, and the use of that information, including treatment of Pf and Pr as stand alone values. The article is at http://www.vk1od.net/VSWR/VSWRMeter.htm .

Owen

4082. Re: NVIS Dipoles Directional?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 06:08:23 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990EA42AC8BDBnonenowhere@61.9.191.5>
Source record: 43198

Rick <Nospam@reply.in.gp> wrote in
news:pan.2007.04.10.04.34.39.629296@reply.in.gp:

> Right. That's my point. So, what I'm claiming ... and trying to get
> someone who knows more about this stuff than I do (which is just about
> all of you) to confirm or deny ... is that with an NVIS dipole,
> someone 100 miles away from me would not be able to perceive the
> difference if my antenna was broadside to him or oriented in line with
> him. True, or false?
>

I thought that was the meaning of this para that I wrote for you before:

NVIS isn't strictly about the zenith, but an antenna that is omni at the zenith, and doesn't have deep nulls (dipole low over real ground), is close to omni at high elevations. The exact variation will depend on frequency, mounting height, ground parameters, and leg angles if an inverted V. If you could rotate such a dipole, I would defy you to reliably measure the out-of-omni above 50 deg elevation with an S meter.

4083. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 06:17:01 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176185821.123755.50550@o5g2000hsb.googlegroups.com>
Source record: 43199

On Apr 9, 11:05 pm, Owen Duffy <n...@no.where> wrote:
> "K7ITM" <k...@msn.com> wrote
innews:1176183943.625443.274440@b75g2000hsg.googlegroups.com:
> ...
>
> > transduced line voltages and currents. I think it was about ten years
> > ago in this group that I posted the derivation of the equations to
> > determine forward and reflected from measurement of voltage and
> > current at a point on a TEM line, IF you know the impedance of the
> > line.
>
> Hi Tom,
>
> I guess it is the misconceptions about these things that drive us to write
> such stuff.
>
> I drafted an article recently showing what the typical SWR meter samples,
> and the use of that information, including treatment of Pf and Pr as stand
> alone values. The article is athttp://www.vk1od.net/VSWR/VSWRMeter.htm.
>
> Owen

Hi Owen,

I had a quick look at your article. Though I didn't try to proof-read
it for accuracy, I was reminded that the equations I posted those long
years ago said that if you know the _instantaneous_ voltage and
current at a point on a line, and know its impedance (as a frequency-
independent quantity), the equations apply, and you can resolve that
instantaneous pair of values into forward and reverse. That's
something that's not immediately obvious when people think only about
sine waves.

Cheers,
Tom

4084. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 07:43:17 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <t4fm13dt2rpcfejiiqq8ot514qg5tuom9i@4ax.com>
Source record: 43200

On Mon, 09 Apr 2007 17:04:35 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>The interesting question would be whether this is important at all..

Hi Jim,

Additional current through earth brings no net positive result and the
question asked where the source of loss resides.

Being unable to quantify temperature is no reason to keep picking up
the wrong end of a soldering iron. "I don't believe it's hot" has
rarely offered salve for burns. ;-)

73's
Richard Clark, KB7QHC

4085. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 07:51:24 UTC
From: Ian Jackson <IanJacksonRemoveThisBit@g3ohx.demon.co.uk>
Message-ID: <v604mLC8H0GGFw1q@g3ohx.demon.co.uk>
Source record: 43201
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

In message <1176170073.792713.161580@y80g2000hsf.googlegroups.com>,
szilagyic@gmail.com writes
>On Apr 6, 2:27 pm, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
>> "Ed Nielsen" <e...@dslr.net> wrote in message
>>
>> news:9KmdnTQUE6Onx4vbnZ2dnUVZ_tijnZ2d@comcast.com...
>>
>> > Hex-crimp fittings have 6 points where the connector is pinched into the
>> > cable creating small impedance mismatches. Impedance mismatch creates
>> > reflection. If the reflection(s) is(are) severe enough, whatever is at
>> > that(those) frequency (frequencies) may not work. Plus, their return loss
>> > is a fair amount lower than that of compression connectors (~18dB as
>> > compared to >30dB).
>>
>> > I've replaced hex-crimp fittings on DirecTV systems because of hex-crimp
>> > fittings which were causing some channels to not work.
>>
>> Funny how it works where a bad connector will blank out just a couple of
>> cable chanels. First time this hapened to me about 20 years ago the cable
>> guy came out and said it was a bad connection. Almost laughed at him,but he
>> replaced the connector at the outside of the house and it cleared right up.
>
>
>Very good info. The interesting thing is since my original post I
>went and bought a 500 ft roll of Carol Brand RG-6 QS from Home Depot,
>and made some cables with the crimp-on connectors I already had. When
>I swapped these new RG-6 QS cables with ones I made a while back with
>regular RG-6 with the same crimp-on connectors, I got surprisingly
>horrible results. A couple of analog channels don't come in at all
>(ch 28 and 56), where they used to come in with a fairly good picture.
>Yet other channels on lower frequencies, such as VHF appear to be the
>same. I inspected the connectors and they appear to be OK, but I am
>guessing there must be an issue with these connectors and the RG-6 QS,
>where it's causing the issues that were described above with loss. Is
>this possible?? It seems to be affecting various UHF channels (ch.
>28, 56, 62).
>
>Thank you very much for the help.
>
>--
>Chris
>

I've worked in the cable TV industry for nearly 44 years, and have NEVER found that a certain type of male F-connector is, in itself, responsible for 'horrible results' in terms of RF throughput. Provided that (a) the shell makes good contact with a few strands of the braid, (b) you haven't managed to wind a strand of the braid around the inner conductor, and (c) you haven't left a thin film of the dielectric on the surface of the inner conductor (yes, I've done all of these!), the connector WILL appear to work normally. All that suffers is the screening effectiveness and mechanical reliability.

Regarding whether some male connectors create a significant mismatch due to crushing of the dielectric, even if this does happen, is not going to be significant in normal use (up to at least 2GHz) until the outer conductor is almost touching the inner. You can easily prove this for yourself by looking at the RF throughput of a piece of coax, while progressively crushing it with a large pair of pliers.

The thing which causes the most noticeable impedance mismatch is normally the female part of the connection. Connectors with a 'duck-bill' inner (two parallel fingers) tend to be more capacitive than those with a 'tulip' (three or four fingers). They are also likely to make a less reliable ohmic contact.

Don't get me wrong. I do not advocate sloppy practices when fitting connectors. In the UK, the compression and 'snap-and-seal' types are the de facto standard. However, I would not hesitate to use crimp or screw-on types for home use, provided you know how to fit them properly. And I do.

Ian.
--

4086. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 08:02:16 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <cwHSh.1242$2v1.704@newssvr14.news.prodigy.net>
Source record: 43202

K7ITM wrote:
> Go look it up yourself, lad. At this point, how am I supposed to know
> what you're talking about, since you've dropped all the original
> reference.

I did go back and read it more than once and I am still
have no idea what you are talking about. Maybe this?

> w7el wrote:
>> I think that no one will be able to draw a diagram of
>> such a summing system which doesn't also produce, due
>> solely to the reflection and transmission of the mirrors,
>> a beam or beams containing exactly the amount of energy
>> "missing" from the summed beam.

If it is this part, this is just another one of Roy's
straw men. Nobody in the world is saying that the wave
reflection model violates the conservation of energy
principle. In fact, the wave reflection model does more
to preserve the conservation of energy principle than
Roy's notion of "sloshing" energy going nowhere.
--
73, Cecil http://www.w5dxp.com

4087. Re: Unbelievable... Some people!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 10:35:28 UTC
From: Christopher Cox <chrisTOPHERcOX@coboxincORORATED.com>
Message-ID: <461b689f$0$4845$4c368faf@roadrunner.com>
Source record: 43203
Cross-posted to: rec.ham-radio.swap,rec.radio.amateur.swap,rec.radio.swap,rec.radio.amateur.antenna

Actually it probably would help, not that I would purchase something I
could easily build.

I refer you to rec.radio.amateur.antenna group for any truly insightful
comment. Some there have very large minds, others have large ego's...:-)

Chris

PowerHouse Communications wrote:
> Thanks for your input.
>
> I can see where the ones you speak of could possibly help out, however the
> item in the auction is not the same. While the adapter you speak of has a
> direct connection to the ground side of the mobile antenna, the auction item
> does not, as it is meant to hold magnet-mount antennas. I can't see how
> this would work, as there would be no ground-plain. Sure, there are the
> fancy rods sticking out, but they aren't grounded to anything, not even the
> antenna, therefore, in my opinion would do nothing to help the signal.
>
>
> "john" <fiberdriver@yahoo.com> wrote in message
> news:VL9Sh.51614$Ng1.41981@newsfe19.lga...
>
>>Actually, it will work and Maxrad sells a commercial version called the
>>MBS. We have used these to support special projects on our test range and
>>they work great!
>>
>>John
>>
>>
>>
>>
>>
>>
>>"Ed" <Huckleberry_REMOVE_@bigvalley.net> wrote in message
>>news:Xns9908D739731D0spectrumhogstarbandn@198.186.192.196...
>>
>>>>"PowerHouse Communications" <PowerHouseCom@privatebox.net> wrote in
>>>news:fcZQh.112$Ig.71@newsfe03.lga:
>>>
>>>
>>>>>Will someone actually buy this? Probably.
>>>>
>>>>>Will it work? Not as advertised... Probably not at all.

>>>>
>>>>http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=130097520553
>>>>
>>>>
>>>
>>>
>>>
>>> Its called the Free Market... or, Capitalism. Great, ain't it?
>>>
>>>
>>> Ed K7AAT
>>>
>>> Caveat Emptor
>>>
>>>
>>
>>
>>
>
>

4088. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 10:40:01 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176201601.628636.44550@n59g2000hsh.googlegroups.com>
Source record: 43204

On Apr 9, 11:49 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Jim Kelley wrote:
> > You can't get 400 watts to a load using two 100 watt PA's no matter how
> > much interfering and averaging you do, Cecil. How can you even make
> > that claim with a straight face?
>
> I didn't make that claim. I said that Keith would have to prove
> it was possible before his assertions made any sense. I challenged
> Keith to prove that was possible. I certainly have never made that
> claim. You usual lack of ethics is showing. If you are forced to
> lie to make your point, your point is not worth making.

It would be highly valuable if you would point to any step in
my solutions that require that 100 + 100 equal 400. I certainly
have never stated this.

I know I have previously offered solutions that you have declared
incorrect but you have been unwilling to point to the error.

I have also offered to check your solution but you have never
offered one, apparently because your analysis techniques are
inadequate to solve the problem.

...Keith

PS Should you wish to try, recall that the problem was a signal
generator with a 450 Ohm output impedance driving a 450 Ohm line
connected to a 75 Ohm load. What is the magnitude of the re-reflected
signal at the generator? That is, what is the magnitude of the ghost
created by the reflected signal? (And you can't make changes to the
problem to solve it.)

4089. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 10:52:08 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176202328.575095.48100@e65g2000hsc.googlegroups.com>
Source record: 43205

On Apr 10, 12:26 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Jim Kelley wrote:
> > You can't get 400 watts to a load using two 100 watt PA's no matter how
> > much interfering and averaging you do, Cecil. How can you even make
> > that claim with a straight face?
>
> I didn't make that claim. I challenged Keith to prove it
> was possible. Only then could he claim that sources
> obey the rules of superposition.
>
> But let's talk about superposing two 100 watt waves
> in a 50 ohm transmission line. Never mind exactly
> how it is accomplished for now.
>
> Wave1 = 70.7V at 0 deg and is 70.7^2/50 = 100 joules/sec
> Wave2 = 70.7V at 0 deg and is 70.7^2/50 = 100 joules/sec
>
> Please superpose those two coherent waves within a 50
> ohm transmission line and see what answer is obtained
> for total voltage and total power.
>
> Hint: Power = V^2/Z0

Oh yes, let us do this.

70.7 + 70.7 -> 141.4
141.4**2/50 -> 400

100 + 100 -> 200

But 200 is not equal to 400.

So which was the invalid step?

Adding the voltages together? (Might mean superposition is invalid?)
Or adding the powers together? (Might mean no conservation of
energy?)
Or perhaps V**2/Z0 is invalid? (Maybe this is the best choice?)
Or 200 is equal to 400? (This would be messy!)

For full marks, explain your answer.

...Keith

4090. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 11:13:33 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176203613.467813.66040@n76g2000hsh.googlegroups.com>
Source record: 43206

On Apr 9, 9:50 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> K7ITM wrote:
> > So, for example, if I send 50 watts of a sinusoid down a 50 ohm line,
> > and there's a transition to a 291.4 ohm line that's half a wave long
> > at the sinusoid's frequency, terminated in 50 ohms, there's no
> > reflected power on the 50 ohm line. Cool. I knew that.
>
> Make that no *NET* reflected power. Two reflected waves had
> to engage in wave cancellation for there to be no net
> reflected power. RF waves respond to real-world physical
> impedance discontinuities.
>
> > In re-
> > reading what Roy wrote, I see NO disagreement with that. But in the
> > 291.4 ohm line, there's 100 watts forward and 50 watts reverse. At
> > the interface between the two lines, there's a total of 100 watts
> > coming in: 50 from the 50 ohm line and 50 from the 291 ohm line. And
> > wonder of wonder, there's 100 watts going out; it happens to all be in
> > the 291 ohm line.
>
> Let's analyze that example:
>
> 50W--50 ohm line--+--1/2WL 291.4 ohm line---50 ohm load
> Pfor1=50w--> Pfor2=100w-->
> <--Pref1=0 <--Pref2=50w

You are very comfortable with this style of example, you analyze it
well,
and the numbers confirm your expectation.

But a good theory works for more than just one example.

Why don't you analyze my example:

Generator with
291.4 Ohm ------------ 291.4 Ohm line ---- 50 Ohm load
Source Impedance Pfor2=100w-->
<--Pref2=50w

What is the power emitted by the generator into the line?
Where does Pref2=50W go?
Are there ghosts?
What is the magnitude?
What power would the generator emit if the line was terminated
with 291.4 Ohms?

Please do not modify the example for analysis since this may change the results.

There is much to be learned by trying examples that may challenge your expectations.

...Keith

4091. Why S - Parameter at High frequencies?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 11:21:46 UTC
From: ilam <ilam.paridhi@gmail.com>
Message-ID: <1176204106.659945.83650@n76g2000hsh.googlegroups.com>
Source record: 43207

I am in a process of understanding the importance of S-Parameter at high frequencies, please answer my following questions:

1. Why Measuring a wave (voltage or current) is more easier than volage and current? (Why measuring S-Parameter is more easier than other parameters?)

2. How the voltage and current waves are measured?

Measuring voltage and current are difficult at high frequncies, that is why S-Parameter is more useful at high frequncies. Is the same thing is true for simulation?

Regards,
Ilam

4092. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 11:23:12 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1176204192.075498.134030@l77g2000hsb.googlegroups.com>
Source record: 43208

This thread has been a hoot - I just about snorted my coffee out my
nose a couple of times, reading this in the early AM...

Just to muddy the waters nicely, here is an excellent demonstration of
something for nothing, i.e. faster than light propagation by
constructive wave interference called "supraluminal propagation"..

http://gregegan.customer.netspace.net.au/APPLETS/20/20.html

Lets see, for starters assume that the constructively interfered wave
is propagationg at 1.2C it means that E = (MC^2)^1.2 right????

denny
<gawd, I can't wait to see how you guys handle this - worm holes,
anyone?>

4093. Re: What kind of 1/2 wave antenna is this?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 12:00:27 UTC
From: AndyS <andysharpe@juno.com>
Message-ID: <1176206427.026330.66780@y80g2000hsf.googlegroups.com>
Source record: 43209

Rick wrote:
>
> 1/4 wavelength of wire going to two egg insulators. Off of one of the egg
> insulators is another 1/4 wavelength of rope. The feedline (coax) is
> taped to the rope along its length, then the rope and feedline combination
> is enclosed in 1/4 wavelength of copper braid. The center conductor of
> the feedline goes to the wire, and the shield goes to the braid.

Andy comments:
I remember seeing something similar where a coax feedline had
the center conductor connected to 1/4 wavelength of wire, and
then 1/4 wavelength down the coax feedline, the coax was wrapped
thru a
toriod, which decoupled the "outer surface" but didn't affect the
inner power flow which was common mode..... Seems to me that it would
work the same
way.....
Anybody seen this, or have a name for it ?

Andy W4OAH

4094. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 12:17:03 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1176207423.203805.104650@y80g2000hsf.googlegroups.com>
Source record: 43210

Being that I have zero qualifications as an expert on C I will tell
you how I see it.. <pun intended>

First, C is specified as the speed of photon travel in a vacuum, per
definition... Or as our attorney brethern say it, Per Se...

Second, C' is the measured speed of the propagation of the wave front
we call light through an atomic medium, air, water, glass, diamond,
etc....

The thing to keep in mind is that the two, C and C', are not identical
physical entities...
C is the unimpeded propagation of a photon - i.e. a single entity -
through a non atomic medium we call a vacuum - 'aether' if you will...
The photon that left Proxima Centauri ~4 years ago is the same photon
that slams into the front lens of the Hubble telescope (according to
that photon's wrist watch that ~4 years happened instantaneously, but
that's another rant)...
Now if you were in orbit at the eyepiece of the Hubble the photon that
enters your retina is not the same Proxima Centauri photon that
slammed into the Hubble's mirror... And that makes all the
difference...

C' happens when the photon smashes into the Hubble's glass and is
caught up in the electrical fields sorrounding the atoms making up the
glass, primarily the electrical field of the outer (valence) electrons
of the Protons... Like a house fly at full speed hitting a spiders web
the photon begins to tumble and veer sideways and rapidly decellerate
causing it to dump it's energy, i.e. radiate an electromagnetic field
of it's own... The electron's field absorbs the energy radiated off
the photon, causing in increase in the electrons energy level, usually
forcing it to jump to a higher 'orbit'...

Now at this instant the photon has disappeared (eaten by the spider)
and the electron has been pumped up (like Hulk Hogan)... After a short
interval the electron drops back to a lower energy level emitting a
new photon... This photon takes off like a scalded rabbit at C (or
very near C) but doesn't get far before another electron field sucks
it up again... And so it goes for the passage of the photon (actually
information) through the atomic structure of the transparent
material... The photon that pops out of the eyepiece and slams into
your retina is the lebenty sebenth generation descendent of the
original photon that hit your scope... The process of repeated
absorption and emission of a photon by multiple electrons is what
slows the light (wave front) when it travels through transparent
material... (and also what creates refraction, circles of confusion,

and a bunch of other phenomena)

Clear as mud, eh wot...

denny / k8do

4095. HAMFEST - Chesapeake Va.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 12:29:30 UTC
From: Sonny Hood <wrhood@cox.net>
Message-ID: <jo0n139clqa3jqs7h14cdq3coip4ana25e@4ax.com>
Source record: 43211

Chesapeake Springfest this coming Sunday morning, April 15th, same place as last year. Location is the Moose Lodge #898 on Geo. Washington Hwy. (Rt-17) just south of the Portsmouth/Chesapeake city line. Early setup 6:30 AM $5/6 inside table while last, 7500 sqft. Tailgate over an acre. General public $6 open at 9:30 AM. Door prizes - Kodak Digital Camera, VX-150 2M HT, LDG Z100 auto tuner and more every 15 minutes.

4096. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 13:33:08 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <omMSh.13823$JZ3.10964@newssvr13.news.prodigy.net>
Source record: 43212

Keith Dysart wrote:
> It would be highly valuable if you would point to any step in
> my solutions that require that 100 + 100 equal 400. I certainly
> have never stated this.

I went over this before. In order for a source to
obey the rules for superposition, it must be linear
enough to engage in constructive interference. That
means it must be able to double its voltage and double
its current at the same time in order to supply the
total constructive interference energy requirements
required by superposition of coherent waves. No
commercially available amateur radio transmitter that
I know of will do that. Therefore, your simple proposed
method will not work on the average amateur radio
transmitter because it is NOT LINEAR. All you can do
is invent sources in your head. I'll bet you can even
leap tall buildings in a single bound, in your head.

> I have also offered to check your solution but you have never
> offered one, apparently because your analysis techniques are
> inadequate to solve the problem.

Yes, they are as are everyone else's, including yours.
That's why there has *never been a solution* and the
argument continues to rage after decades. If anyone
had ever figured it out, we wouldn't be having this
discussion.

You and I are looking at the moon. You assert that it
is 1000 miles away. I say that's wrong. You ask me how
far away is it? I answer that I don't know but I know
it is not 1000 miles away. You say that since I don't
know how far away the moon is then it has to be 1000
miles away. That's where our present argument stands.
--
73, Cecil http://www.w5dxp.com

4097. Re: Why S - Parameter at High frequencies?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 13:46:03 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <vyMSh.13914$JZ3.5605@newssvr13.news.prodigy.net>
Source record: 43213

ilam wrote:
> I am in a process of understanding the importance of S-Parameter at
> high frequencies, please answer my following questions:
>
> 1. Why Measuring a wave (voltage or current) is more easier than
> volage and current? (Why measuring S-Parameter is more easier than
> other parameters?)

The reflection coefficients are measurable physical entities
and there is a well-defined procedure for measuring them.
Virtual reflection coefficients, such as the ones used by
hams, are not used with S-Parameters. That's an advantage.
The voltages are normalized to the characteristic impedance
of the transmission line and everything obeys the rules of
the wave reflection model.

There are certainly other methods of analysis, h-parameters,
Z-parameters, etc.
--
73, Cecil http://www.w5dxp.com

4098. Re: Why S - Parameter at High frequencies?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 13:59:14 UTC
From: Frank <ve6cb@spamfree.telus.net>
Message-ID: <SKMSh.8498$Uf7.4810@edtnps89>
Source record: 43215

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:vyMSh.13914$JZ3.5605@newssvr13.news.prodigy.net...
> ilam wrote:
>> I am in a process of understanding the importance of S-Parameter at
>> high frequencies, please answer my following questions:
>>
>> 1. Why Measuring a wave (voltage or current) is more easier than
>> volage and current? (Why measuring S-Parameter is more easier than
>> other parameters?)
>
> The reflection coefficients are measurable physical entities
> and there is a well-defined procedure for measuring them.
> Virtual reflection coefficients, such as the ones used by
> hams, are not used with S-Parameters. That's an advantage.
> The voltages are normalized to the characteristic impedance
> of the transmission line and everything obeys the rules of
> the wave reflection model.
>
> There are certainly other methods of analysis, h-parameters,
> Z-parameters, etc.
> --
> 73, Cecil http://www.w5dxp.com

The problem with some of the other parameters is that
short and open circuits are required to obtain the data.
This can cause instability in active devices.

Frank

4099. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 14:00:42 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <eMMSh.13933$JZ3.5124@newssvr13.news.prodigy.net>
Source record: 43216

Keith Dysart wrote:
> On Apr 10, 12:26 am, Cecil Moore <nos...@w5dxp.com> wrote:
>> Jim Kelley wrote:
>>> You can't get 400 watts to a load using two 100 watt PA's no matter how
>>> much interfering and averaging you do, Cecil. How can you even make
>>> that claim with a straight face?
>> I didn't make that claim. I challenged Keith to prove it
>> was possible. Only then could he claim that sources
>> obey the rules of superposition.
>>
>> But let's talk about superposing two 100 watt waves
>> in a 50 ohm transmission line. Never mind exactly
>> how it is accomplished for now.
>>
>> Wave1 = 70.7V at 0 deg and is 70.7^2/50 = 100 joules/sec
>> Wave2 = 70.7V at 0 deg and is 70.7^2/50 = 100 joules/sec
>>
>> Please superpose those two coherent waves within a 50
>> ohm transmission line and see what answer is obtained
>> for total voltage and total power.
>>
>> Hint: Power = V^2/Z0
>
> Oh yes, let us do this.
>
> 70.7 + 70.7 -> 141.4
> 141.4**2/50 -> 400
>
> 100 + 100 -> 200
>
> But 200 is not equal to 400.
>
> So which was the invalid step?

There was no invalid step. The two coherent waves engaged in
total constructive interference just as they do in a Z0-matched
transmission line in the direction of the source. The extra
200 watts is supplied by total destructive interference at
the Z0-match in the direction of the source. 200 watts of
reflections have been eliminated toward the source and join
the forward power wave toward the load. In ham terms, all
the reflected power has been re-reflected.

The S-Parameter equation yields the same results where
b2 is the normalized voltage flowing toward the load.

s21(a1) = 70.7V/SQRT(50) = 10 [s21(a1)]^2 = 100W

s22(a2) = 70.7V/SQRT(50) = 10 [s22(a2)]^2 = 100W

b2 = s21(a1) + s22(a2) = 141.4V/SQRT(50) = 20

|b2|^2 = 20^2 = 400W = the forward power

constructive & destructive interference is built right
into the S-Parameter analysis. Forward and reflected
waves are built right into the S-Parameter analysis.

There was no invalid step.
--
73, Cecil http://www.w5dxp.com

4100. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 14:16:56 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <s%MSh.13935$JZ3.5783@newssvr13.news.prodigy.net>
Source record: 43217

Keith Dysart wrote:
> Why don't you analyze my example:
>
> Generator with
> 291.4 Ohm ------------ 291.4 Ohm line ---- 50 Ohm load
> Source Impedance Pfor2=100w-->
> <--Pref2=50w

Any example where reflected energy is allowed to
reach the source cannot be analyzed in any valid
real-world way. That is what the decades-old
argument between experts is all about. There has
never been a valid way to analyze such a real-world
system. Of course, you can analyze this system in
your mind but real-world results with real-world
ham transmitters will prove your analysis invalid.

If there existed a valid way to analyze real-world
ham transmitters with incident reflections, everyone
would be using that method but, so far, bench
measurements prove that no valid analysis exists.
And so the argument continues to wage on. You
are not going to resolve it with a simple-minded
model that exists only in your mind and not in
reality.

Replace the above purely imaginary generator with an
IC-706 and get back to us.
--
73, Cecil http://www.w5dxp.com

4101. Re: Why S - Parameter at High frequencies?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 14:25:42 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <G7NSh.13936$JZ3.13266@newssvr13.news.prodigy.net>
Source record: 43218

Frank wrote:
> The problem with some of the other parameters is that
> short and open circuits are required to obtain the data.
> This can cause instability in active devices.

And that, in a nutshell, is why Keith's analysis
is invalid for real-world ham transmitters. In
a real-world transmitter, incident reflected
waves do not flow through the source like they
do in the model in the human mind.
--
73, Cecil http://www.w5dxp.com

4102. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 14:34:14 UTC
From: Ed Nielsen <eblcb@dslr.net>
Message-ID: <UoydncHEVsRZPYbbnZ2dneKdnZydnZ2d@comcast.com>
Source record: 43220
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

At a trade show several years ago, a vendor demonstrated the effects stapling cables could have on signal transmission. He took a VCR, a ch. 3 modulator and a piece of drop cable and attached the cable to a piece of wood utilizing a regular staple gun that you buy at any home improvement store. Used the gun as most people would, and inspection of the cable showed it to be fine (undamaged). By the seventeenth staple, ch. 3 was completely gone..

It doesn't take major crushing to create mismatch, and as to whether it is significant sort of depends on what happens to be trying to get through at the particular point where the mismatch occurs.

At http://www.cencom94.com/gpage.html9.html, there is a picture of a sweep trace of some cable with hex-crimp connectors (gotta scroll down a little).
--

CIAO!

Ed N.

"Ian Jackson" <IanJacksonRemoveThisBit@g3ohx.demon.co.uk> wrote in message news:v604mLC8H0GGFw1q@g3ohx.demon.co.uk...
> > Regarding whether some male connectors create a significant mismatch due
> to crushing of the dielectric, even if this does happen, is not going to
> be significant in normal use (up to at least 2GHz) until the outer
> conductor is almost touching the inner. You can easily prove this for
> yourself by looking at the RF throughput of a piece of coax, while
> progressively crushing it with a large pair of pliers.
>
> Ian.
> --
>

4103. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 14:34:44 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <8gNSh.13937$JZ3.9090@newssvr13.news.prodigy.net>
Source record: 43219

Cecil Moore wrote:
> There was no invalid step. The two coherent waves engaged in
> total constructive interference just as they do in a Z0-matched
> transmission line in the direction of the source.
^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

Darn, that should have been "in the direction
of the load".
--
73, Cecil http://www.w5dxp.com

4104. Re: Why S - Parameter at High frequencies?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 14:39:07 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176215947.744558.266770@n76g2000hsh.googlegroups.com>
Source record: 43221

On Apr 10, 4:21 am, "ilam" <ilam.pari...@gmail.com> wrote:
> I am in a process of understanding the importance of S-Parameter at
> high frequencies, please answer my following questions:
>
> 1. Why Measuring a wave (voltage or current) is more easier than
> volage and current? (Why measuring S-Parameter is more easier than
> other parameters?)
>
> 2. How the voltage and current waves are measured?
>
> Measuring voltage and current are difficult at high frequncies, that
> is why S-Parameter is more useful at high frequncies. Is the same
> thing is true for simulation?
>
> Regards,
> Ilam

Hewlett-Packard were one of the early proponents of using S-parameters for calculations as well as for measurements. HP had a vested interest, in that they were one of the first companies to make accurate instruments for measuring high frequencies, up into the microwaves. Part of that effort was customer education, and there are some good applications notes from HP about S-parameters, and about RF measurements in general. You should be able to find many of them on the internet, with a bit of searching. Some of them deal with accuracy, and in them you should find answers to your questions. You'll find a great deal more than just those answers.

Measuring voltage or current at audio frequencies is easy enough. But how do you measure a current at 10GHz without disturbing and changing it? How do you accurately measure a voltage at that frequency, when the tiniest of capacitances will change the reading? But if instead you want to measure the standing wave ratio on an accurately-made piece of transmission line, that can be done relatively easily, and especially you can determine when the standing wave ratio goes to zero: when there is no variation in voltage along the length of the line. Then too, you can build a bridge circuit to enable measurements at a particular impedance. 50 ohms is convenient, though it's somewhat arbitrary. If you pick too high or too low an impedance, you run into the same difficulties as if you try to measure a voltage or a current, but at impedances between perhaps 20 ohms and 100 ohms, in a coaxial-line environment, you can build loads--resistors--that accurately terminate the line, and you can build a Wheatstone bridge circuit, essentially, that will tell you if you have a load that's the impedance of the bridge arms. The bridge is the most sensitive at

balance, when all the arms are the same impedance.

Also note that while it's very difficult to measure current or voltage accurately at high frequencies, if you can build a resistive load, then measuring power accurately is possible. When you are first starting, you can measure power by determining the temperature rise of a load resistor, which you made by trimming things carefully so that there were no standing waves on the precision line feeding that resistor. You can calibrate that quite accurately by feeding it DC power, to determine the temperature rise per watt. If you learn to make very tiny resistors and measure very smal temperature differences, you can make a thermal bridge that can detect power at a low level accurately.

Let us know if you have trouble finding the HP applications notes...look for S-parameter notes, and look for notes on making accurate measurements with (vector) network analyzers. Also, do a search for information on the history of RF and microwave measurements.

For simulation, it is simply convenient to work in the same domain as you make measurements. As you note, there are other parameter sets that give you equivalent information, and with modern computers, there is effectively no loss of accuracy if you deal in any other set of parameters used for 2-port (or N-port) networks. But do note, please, that these are linear parameters, and they won't give you information about nonlinearities, either ones you wanted as in frequency mixers or ones you didn't want, that cause unwanted distortion.

Cheers,
Tom

4105. Re: NVIS Dipoles Directional?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 14:53:54 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <76ednVCEf8FFC4bbnZ2dnUVZ_r2onZ2d@bright.net>
Source record: 43214

Dear Rick (no call sign):

A 0.5 WL dipole almost on the ground will be inefficient. What the dipole does radiate will, at high take-off-angles, be close to circular (independent of azimuth) well past 100 miles.

If both efficiency and circularity are important, an excellent solution is what the CCIR calls a TR2/2/.2. That is two, parallel one-wavelength dipoles both in a horizontal plane 0.2 WL above the ground that are 0.5 WL apart. With the dipoles fed in the middle with equal lengths of open line that meet at a point midway between the dipoles, one can achieve a reasonable input impedance.

In any case, I suggest you avail yourself of the benefit of raising whatever you use to a height of something like 0.2 WL and less than 0.3 WL.

73, Mac N8TT
--
J. Mc Laughlin; Michigan U.S.A.
Home: JCM@Power-Net.Net

4106. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 15:09:22 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <IMednY_woZ84NYbbnZ2dnUVZ_sWdnZ2d@comcast.com>
Source record: 43222

Owen,

Are you referring to the coil alone? You are correct the coil accounts
for a significant part, probably between 4 and 8 Ohms.

I am measuring real values between 52 and 56 Ohms with 0j. This varies
mainly with moisture.

So let's say the total antenna is 12 Ohms. If the measured value is 52
that says the ground is 40. This puts us back to the original question:
why is the ground so high?

- Dan

The circuit

Owen Duffy wrote:
> Owen Duffy <none@no.where> wrote in news:Xns990EA1652F44Enonenowhere@
> 61.9.191.5:
>
>> So, what do you think its impedance would be? 1500+j??
>
> Duh, ??+j1500 is more like it.
>
> Same outcome, it is probably accounting for 5 to 15 ohms of resistance that
> you haven't included in your calcs.
>
> Owen

4107. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 15:28:47 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176218927.772120.142630@n59g2000hsh.googlegroups.com>
Source record: 43223

```
On Apr 10, 10:00 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > On Apr 10, 12:26 am, Cecil Moore <nos...@w5dxp.com> wrote:
> >> Jim Kelley wrote:
> >>> You can't get 400 watts to a load using two 100 watt PA's no matter how
> >>> much interfering and averaging you do, Cecil. How can you even make
> >>> that claim with a straight face?
> >> I didn't make that claim. I challenged Keith to prove it
> >> was possible. Only then could he claim that sources
> >> obey the rules of superposition.
>
> >> But let's talk about superposing two 100 watt waves
> >> in a 50 ohm transmission line. Never mind exactly
> >> how it is accomplished for now.
>
> >> Wave1 = 70.7V at 0 deg and is 70.7^2/50 = 100 joules/sec
> >> Wave2 = 70.7V at 0 deg and is 70.7^2/50 = 100 joules/sec
>
> >> Please superpose those two coherent waves within a 50
> >> ohm transmission line and see what answer is obtained
> >> for total voltage and total power.
>
> >> Hint: Power = V^2/Z0
>
> > Oh yes, let us do this.
>
> > 70.7 + 70.7 -> 141.4
> > 141.4**2/50 -> 400
>
> > 100 + 100 -> 200
>
> > But 200 is not equal to 400.
>
> > So which was the invalid step?
>
> There was no invalid step. The two coherent waves engaged in
> total constructive interference just as they do in a Z0-matched
> transmission line in the direction of the source. The extra
> 200 watts is supplied by total destructive interference at
> the Z0-match in the direction of the source. 200 watts of
> reflections have been eliminated toward the source and join
> the forward power wave toward the load. In ham terms, all
> the reflected power has been re-reflected.
>
```

> The S-Parameter equation yields the same results where
> b2 is the normalized voltage flowing toward the load.
>
> s21(a1) = 70.7V/SQRT(50) = 10 [s21(a1)]^2 = 100W
>
> s22(a2) = 70.7V/SQRT(50) = 10 [s22(a2)]^2 = 100W
>
> b2 = s21(a1) + s22(a2) = 141.4V/SQRT(50) = 20
>
> |b2|^2 = 20^2 = 400W = the forward power
>
> constructive & destructive interference is built right
> into the S-Parameter analysis. Forward and reflected
> waves are built right into the S-Parameter analysis.
>
> There was no invalid step.

Now just above, you started with 100W + 100W and ended with 400W. And you wonder why readers think you advocate this position.

Does this not cause you some discomfort? It clearly violates conservation of energy.

For me, it is pretty clear. If you start with 200W, you can not end up with 400W.

...Keith

4108. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 15:29:56 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176218996.383240.264900@b75g2000hsg.googlegroups.com>
Source record: 43224

On Apr 10, 10:16 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Why don't you analyze my example:
>
> > Generator with
> > 291.4 Ohm ------------ 291.4 Ohm line ---- 50 Ohm load
> > Source Impedance Pfor2=100w-->
> > <--Pref2=50w
>
> Any example where reflected energy is allowed to
> reach the source cannot be analyzed in any valid
> real-world way.

A strange assertion. Consider two wire phone lines; transmitter
and receiver at each end. Consider cable modems; ditto. Consider
computer busses; ditto.

I am sure you will find a "good" reason why either these are
special cases or amateur RF is a special case and therefore
something does not apply.

Oh well.

...Keith

4109. Nested 4 square antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 15:31:52 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <461bade8$0$19445$4c368faf@roadrunner.com>
Source record: 43225

I was up until 3 last night listening to some guys talk about nesting 80M and 40M four square antennas. Does anyone know if this has ever been done and what was the results?

4110. Re: Why S - Parameter at High frequencies?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 15:37:06 UTC
From: gwatts <gwatts@frontiernet.net>
Message-ID: <CaOSh.6429$B25.6238@news01.roc.ny>
Source record: 43226

K7ITM wrote:
...
> ...and there are
> some good applications notes from HP about S-parameters, and about RF
> measurements in general. You should be able to find many of them on
> the internet, with a bit of searching.

Of course you'll have to search at Agilent.com since 'HP' no longer
exists with regards to the the test and measurement world, but to get
you started,

'S-Parameters... Circuit Analysis and Design' a/k/a AN-95, an oldie but
a goodie,
http://cp.literature.agilent.com/litweb/pdf/5952-0918.pdf

Enjoy!
- Galen, W8LNA

4111. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 16:01:27 UTC
From: richardharrison@webtv.net
Message-ID: <4541-461BB4D7-134@storefull-3251.bay.webtv.net>
Source record: 43129

Cecil, W5DXP wrote:
"Antenna gain over isotropic is an application of constructive interference."

Yes. An often offered annalog is an inflated spherical balloon. It contains the same amount of air no matter how it is squeezed. Sqeeze it one place and it bulges elsewhere.

An isotropic antenna, could one be constructed, would radiate equally well in all directions. As a radiation pattern becomes lopsided, the bulge is filled with the energy squeezed from elsewhere.

Directive gain of an antenna is a power ratio. It`s the power that you would have to put into an isotropic wersus the power you have to put into the gain antenna to lay the same signal on a point in the preffered direction.

Other things equal, if a gain antenna radiates twice the power in the preferred direction as an isotropic, it has a gain of 3 dBi.

Best regards, Richard Harrison, KB5WZI

4112. Re: NVIS Dipoles Directional?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 16:04:44 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <xAOSh.2241$XH5.2@newsfe12.lga>
Source record: 43127

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:HLESh.7574$u03.3831@newssvr21.news.prodigy.net...
> Rick wrote:
>> ... is that with an NVIS dipole, someone 100
>> miles away from me would not be able to perceive the difference if my
>> antenna was broadside to him or oriented in line with him. True, or
>> false?
>
> The broadside radiation is mostly horizontally polarized
> while the radiation off the ends is mostly vertically
> polarized. I wonder if that would make a measurable
> difference?
> --
> 73, Cecil http://www.w5dxp.com

I think polarization will play in the picture. Dealing with NVIS, we do not get much of the polarization being rolled around as with signals coming from refractions/reflections via ionosphere.
The signals at the receiving end would be coming from "above", but I would suspect that with distinct polarization component that should be detectable with receiving antenna if rotated.
So I would vote that there would be difference in NVIS signals most likely characterized by sharp minimum at the opposite polarization receiving antenna orientation.
Any RF signals have a distinct polarization at any point and time.
Add some constructive or destructive interference and one would get the picture.

73 Yuri, K3BU.us

4113. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 16:10:25 UTC
From: Bud-- <remove.BudNews@isp.com>
Message-ID: <35818$461bb6bc$4213ea1f$14297@DIALUPUSA.NET>
Source record: 43128

Jimmie D wrote:

>>>>
>>>Hopefully you are not really using the water pipe for a ground for your
>>>electrical service. Hopefully your plumbing is just bonded to the
>>>electrical ground. Dont even think about using this for lightning
>>>protection. Nothing like having lightning run in on your plumbing while
>>>taking a bath or have it run in on yor ground and eat about $7K worth of
>>>test equipment(my bad).
>>>
>>>Jimmie
>>
>>Jimmie
>>
>>DE KB3OPR
>>
>>I am an electrician by craft. The US National Electric Code Requires that
>>underground metal water piping on the premise be used as a grounding
>>electrode for the electrical system. There is no way around it. No
>>matter how fast people talk you cannot avoid using an underground metal
>>piping system as a grounding electrode unless the electrical inspector is
>>incompetent.
>>--
>>Tom Horne
>
>
> Tom you are confusing grounding with bonding, the plumbing should be bonded
> to ground but not used for ground, at least this is getting to be the rule
> in most places. I know that using the plumbing for ground is still
> acceptaable in places and in a lot of places it is still acceptable if if
> the local code permitted it at the time it was installed(grandfathering)..
>

An electrician confusing grounding and bonding - that is pretty funny.

From the US National Electrical Code
ï¿½250.50 Grounding Electrode System
All grounding electrodes as described in 250.52(A)(1) through (A)(6)
that are present at each building or structure served shall be bonded
together to form the grounding electrode system.ï¿½

ï¿½250.52(A)(1) Metal Underground Water Pipeï¿½
(10 feet or more metal in earth)

Using underground metal water pipe as a grounding electrode is REQUIRED.
And this has been a requirement for a very long time. Local codes may be

different from the NEC, but it is unlikely they are different on this.

And if you just "bond" metal water pipe it will work as a grounding
electrode anyway.

--
bud--

4114. Re: What kind of 1/2 wave antenna is this?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 17:36:38 UTC
From: Tam/WB2TT <t-tammaru@c0mca$t.net>
Message-ID: <O8OdnTJgJrSUVobbnZ2dnUVZ_tWhnZ2d@comcast.com>
Source record: 43130

"Rick" <Nospam@reply.in.gp> wrote in message
news:pan.2007.04.09.17.14.18.339756@reply.in.gp...
>
> Way back in the good old days, I had a situation where I couldn't
> center-feed an antenna, and couldn't use any kind of end-fed antenna that
> required a ground system. So, I built an antenna that's described below.
>
> 1/4 wavelength of wire going to two egg insulators. Off of one of the egg
> insulators is another 1/4 wavelength of rope. The feedline (coax) is
> taped to the rope along its length, then the rope and feedline combination
> is enclosed in 1/4 wavelength of copper braid. The center conductor of
> the feedline goes to the wire, and the shield goes to the braid.
>
I think you are describing a sleeve antenna. Usually hung vertically. It is
described in either the ARRL Antenna Book, or the Handbook.

Tam/WB2TT

4115. Re: What kind of 1/2 wave antenna is this?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 17:45:18 UTC
From: Tam/WB2TT <t-tammaru@c0mca$t.net>
Message-ID: <RPGdnY0wEN-PUIbbnZ2dnUVZ_tOmnZ2d@comcast.com>
Source record: 43131

"AndyS" <andysharpe@juno.com> wrote in message
news:1176206427.026330.66780@y80g2000hsf.googlegroups.com...
>
> Rick wrote:
>>
>> 1/4 wavelength of wire going to two egg insulators. Off of one of the
>> egg
>> insulators is another 1/4 wavelength of rope. The feedline (coax) is
>> taped to the rope along its length, then the rope and feedline
>> combination
>> is enclosed in 1/4 wavelength of copper braid. The center conductor of
>> the feedline goes to the wire, and the shield goes to the braid.
>
>
> Andy comments:
> I remember seeing something similar where a coax feedline had
> the center conductor connected to 1/4 wavelength of wire, and
> then 1/4 wavelength down the coax feedline, the coax was wrapped
> thru a
> toriod, which decoupled the "outer surface" but didn't affect the
> inner power flow which was common mode..... Seems to me that it would
> work the same
> way.....
> Anybody seen this, or have a name for it ?
>
> Andy W4OAH
>
No, but very interesting. I was going to try this, to see if it would work.
Should be able to use a 1:1 commercial current balun at the point 1/4 wave
down the coax. I think you do not take the coax propagation velocity int
account. There is also triaxial cable.

Tam/WB2TT

4116. CondoBuster - - Good Results

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 18:01:07 UTC
From: m6rf@yahoo.com
Message-ID: <1176228067.046081.267570@n59g2000hsh.googlegroups.com>
Source record: 43132

I bought one of the CondoBuster antennas off ebay. I figured for $20 or so I couldn't go wrong.

This is one of those love or hate antennas. Strangely enough, most of the hate postings on the antenna are from people who have never used one. Anyhow, in my cast, the antenna was evrything the ad said it was. I live in a second floor condo in a highly restrictive complex, where little old ladies go around looking for condo rule violations because they don't have anything else to do.

We have a large balcony with a peaked roof over it. I just stapled the center of the CondoBuster under the peak at the apex and then ran the antenna down each side of the peak. I fed it with RG-58 for about a 25 foot run to the TS-850.

I am here to tell you that it works great. I have been off the air for about four years. It is really a pleasure to be able to fire up my TS-850 and actually talk to people. I can work just about anything I hear.

The antenna is build for 10 through 20 meters, but I have been able to load it on 40 meters with the internal tuner in the TS-850. It only loads from about 7200 to 7250, but that is better then nothing.

If you are no able to get on the air because of local antenna restrictions, I would highly recommend trying one of these.
73s
Helmut

4117. CondoBuster - - Good Results

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 18:02:14 UTC
From: m6rf@yahoo.com
Message-ID: <1176228134.283848.199970@n76g2000hsh.googlegroups.com>
Source record: 43133

I bought one of the CondoBuster antennas off ebay. I figured for $20 or so I couldn't go wrong.

This is one of those love or hate antennas. Strangely enough, most of the hate postings on the antenna are from people who have never used one. Anyhow, in my cast, the antenna was evrything the ad said it was. I live in a second floor condo in a highly restrictive complex, where little old ladies go around looking for condo rule violations because they don't have anything else to do.

We have a large balcony with a peaked roof over it. I just stapled the center of the CondoBuster under the peak at the apex and then ran the antenna down each side of the peak. I fed it with RG-58 for about a 25 foot run to the TS-850.

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The antenna is build for 10 through 20 meters, but I have been able to load it on 40 meters with the internal tuner in the TS-850. It only loads from about 7200 to 7250, but that is better then nothing.

If you are no able to get on the air because of local antenna restrictions, I would highly recommend trying one of these.
73s
Helmut

4118. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 18:35:13 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131nm79c282c3da@corp.supernews.com>
Source record: 43134
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

Ed Nielsen wrote:
> At a trade show several years ago, a vendor demonstrated the effects
> stapling cables could have on signal transmission. He took a VCR, a ch.
> 3 modulator and a piece of drop cable and attached the cable to a piece
> of wood utilizing a regular staple gun that you buy at any home
> improvement store. Used the gun as most people would, and inspection of
> the cable showed it to be fine (undamaged). By the seventeenth staple,
> ch. 3 was completely gone..
>
> It doesn't take major crushing to create mismatch, and as to whether it
> is significant sort of depends on what happens to be trying to get
> through at the particular point where the mismatch occurs.

A periodically repeating mismatch, such as the one produced by the staple demonstration, can cause extreme effects as the demonstration showed. This is a very much worse case than a single mismatch.

Roy Lewallen, W7EL

4119. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 18:42:08 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <461bda7b$0$24764$4c368faf@roadrunner.com>
Source record: 43135

"Bud--" <remove.BudNews@isp.com> wrote in message
news:35818$461bb6bc$4213ea1f$14297@DIALUPUSA.NET...
> Jimmie D wrote:
>
>>>>>
>>>>Hopefully you are not really using the water pipe for a ground for your
>>>>electrical service. Hopefully your plumbing is just bonded to the
>>>>electrical ground. Dont even think about using this for lightning
>>>>protection. Nothing like having lightning run in on your plumbing while
>>>>taking a bath or have it run in on yor ground and eat about $7K worth of
>>>>test equipment(my bad).
>>>>
>>>>Jimmie
>>>
>>>Jimmie
>>>
>>>DE KB3OPR
>>>
>>>I am an electrician by craft. The US National Electric Code Requires
>>>that underground metal water piping on the premise be used as a grounding
>>>electrode for the electrical system. There is no way around it. No
>>>matter how fast people talk you cannot avoid using an underground metal
>>>piping system as a grounding electrode unless the electrical inspector is
>>>incompetent.
>>>--
>>>Tom Horne
>>
>>
>> Tom you are confusing grounding with bonding, the plumbing should be
>> bonded to ground but not used for ground, at least this is getting to be
>> the rule in most places. I know that using the plumbing for ground is
>> still acceptaable in places and in a lot of places it is still acceptable
>> if if the local code permitted it at the time it was
>> installed(grandfathering)..
>
>
> An electrician confusing grounding and bonding - that is pretty funny.
>
> From the US National Electrical Code
> 250.50 Grounding Electrode System
> All grounding electrodes as described in 250.52(A)(1) through (A)(6) that
> are present at each building or structure served shall be bonded together
> to form the grounding electrode system.

>
> ?250.52(A)(1) Metal Underground Water Pipe?
> (10 feet or more metal in earth)
>
> Using underground metal water pipe as a grounding electrode is REQUIRED.
> And this has been a requirement for a very long time. Local codes may be
> different from the NEC, but it is unlikely they are different on this.
>
> And if you just "bond" metal water pipe it will work as a grounding
> electrode anyway.
>
> --
> bud--
>

True enough but there is a difference, grounding is connecting to earth bonding is tying conductive structures together so they are at equal potential. Ground is a single point that everything else is bonded. Ground should be a stucture that the qualified electrician should be familar with not plumbing that may or may not be intact. If you dont believe me just try to get an electrical inspection on a new home without a ground rod installed.

BTW the NEC is a minimum standard not a guide on how to wire your house.or perform grounding and bonding.

You wouldnt believe what electricians dont know, like checking phase rotation before turning on a new 200KW UPS. or megging out lines before turning on new parking lot lights or making sure a generator is not backfeeding a line before working on it. All things I have seen electricans screw up in the past year.

Jimmie

4120. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 19:00:42 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1176231642.340994.22760@n76g2000hsh.googlegroups.com>
Source record: 43136

Cecil Moore wrote:
> Jim Kelley wrote:
> > Then your observation was unrelated to the topic of discussion, which
> > was your claim that 2 Joules per second could be obtained from a 1 watt
> > laser.
>
> You know that I never claimed that, Jim. As bright a guy
> as you are, why do you have to stoop to falsifying what
> I have said?

So now you start with the accusations, and here's why (from
yesterday):

"If it were total constructive interference, two 1/2W
beams would yield an intensity of 2 watts."

It was pointed out to you that that notion violates conservation of
energy, but rather than admit that you were incorrect, you attempt to
revise history. Then there was this:

> Hint: (2 watts/in^2 + 0 watts/in^2)/2 in^2 = 1 watt

:-) Actually, it's a beam of light that subtends a solid angle of
less than one degree. Let's call it a degree just to be
conservative. That would leave 719 other solid degrees where there is
0 watts, so according to Cecil's theory of spacial power averaging,
the answer could also be 2 watts+0+0+0... / 719 = 2.78 milliwatts.
But apparently those values don't give the answer you were going for.

Others have made points along these lines quite eloquently. Excellent
comments in this thread from Roy, Keith, Owen, Gene, Tom, et al.

73, Jim AC6XG

4121. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 19:32:13 UTC
From: Ian Jackson <IanJacksonRemoveThisBit@g3ohx.demon.co.uk>
Message-ID: <tgUYg$D9Y+GGFw1E@g3ohx.demon.co.uk>
Source record: 43137
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

In message <131nm79c282c3da@corp.supernews.com>, Roy Lewallen
<w7el@eznec.com> writes
>Ed Nielsen wrote:
>> At a trade show several years ago, a vendor demonstrated the effects
>>stapling cables could have on signal transmission. He took a VCR, a
>>ch. 3 modulator and a piece of drop cable and attached the cable to a
>>piece of wood utilizing a regular staple gun that you buy at any home
>>improvement store. Used the gun as most people would, and inspection
>>of the cable showed it to be fine (undamaged). By the seventeenth
>>staple, ch. 3 was completely gone..
>> It doesn't take major crushing to create mismatch, and as to whether
>>it is significant sort of depends on what happens to be trying to get
>>through at the particular point where the mismatch occurs.
>
>A periodically repeating mismatch, such as the one produced by the
>staple demonstration, can cause extreme effects as the demonstration
>showed. This is a very much worse case than a single mismatch.
>
>Roy Lewallen, W7EL

Stapling - or any other small mismatch repeated at regular intervals -
can indeed produce a severe structural mismatch (with the associated
suckout) at frequencies where the intervals are one wavelength, and
multiples thereof. However, the presence of a one-off connector where
the match is distinctly questionable will usually go completely
un-noticed (except to the most discerning of engineers). I still
maintain that any problem will be because there is no proper continuity
through the connector, or possibly an inner-to-outer short (maybe
partial). I must admit, I haven't used an RF TDR in earnest for over 20
years. I have found that, if it buzzes out OK at DC, it will generally
be OK at RF.
Ian.
--

4122. Re: NVIS Dipoles Directional?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 20:02:21 UTC
From: LA4RT Jon Kåre Hellan <dev@null.com>
Message-ID: <1mzm5gc81e.fsf@persaunet.uninett.no>
Source record: 43138

"J. Mc Laughlin" <jcm@power-net.net> writes:

> In any case, I suggest you avail yourself of the benefit of raising
> whatever you use to a height of something like 0.2 WL and less than 0.3 WL.

Or, in the case of 80 m, between 16 and 24 m up (for the metric
challenged: between 50 and 75 ft). Excellent for those who can, but
most can't.

73 de LA4RT Jon

4123. Re: NVIS Dipoles Directional?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 20:24:54 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1176236694.540737.125380@r34g2000cwr.googlegroups.com>
Source record: 43139

On 10 abr, 06:34, Rick <Nos...@reply.in.gp> wrote:
> On Mon, 09 Apr 2007 23:36:56 +0000, Dave Oldridge wrote:
> > NVIS propagation is pretty high angle stuff. If you look at the three
> > dimensional patterns for NVIS antennas you will see that they have a large
> > lobe at high angles and an almost circular omnidirectional pattern at those
> > angles. We're looking at 80 degrees and up mostly here, maybe 70 at the
> > low end....so that antennas are mainly designed to illuminate the patch of
> > ionosphere directly above the antenna.
>
> Right. That's my point. So, what I'm claiming ... and trying to get
> someone who knows more about this stuff than I do (which is just about all
> of you) to confirm or deny ... is that with an NVIS dipole, someone 100
> miles away from me would not be able to perceive the difference if my
> antenna was broadside to him or oriented in line with him. True, or false?

Hello Rick,

At 100 miles distance, the TOA is almost vertical (maybe 75 degr), so
with respect to signal strength, it is practically impossible to
detect whether the antennas are broad side. Because of the distance,
ground wave propagation loss is far higher with respect to NVIS
propagation loss under these circumstances.

One would mention polarization of the waves going up and down. I
would not matter about this. These low frequencies are strongly
affected by faraday rotation. On the way up and down, the polarization
rotates several times and several wave fronts do exist.

While you transmit (nearly vertical) with linear polarization, the
down coming wave may have a strong circular component.

With respect to the radiation pattern, you are right, the differences
in pattern are minimal below 30 feet. However the overall efficiency
is strongly depended on antenna height and soil properties. I did some
simulation and practice. I made a short document of it (for JOTA
porpuse), however the document is in Dutch Language (http://
www.tetech.nl/divers/NVISantenneNL1.pdf). Maybe you can get some
useful info out of it. At low heights, much power is dissipated into
the ground (resulting in a useful bandwidth).

Best Regards,

Wim
PA3DJS

4124. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 20:31:43 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990F42658E8AEnonenowhere@61.9.191.5>
Source record: 43140

dansawyeror <dansawyeror@comcast.net> wrote in
news:lMednY_woZ84NYbbnZ2dnUVZ_sWdnZ2d@comcast.com:

> Owen,
>
> Are you referring to the coil alone? You are correct the coil accounts
> for a significant part, probably between 4 and 8 Ohms.

I don't recall that you have told us where the coil is located, and I am not going to build a model to discover something that is relevant and that you could have told us.

You have told us the coil had an "impedance" of 60uh. If it had an inductance of 60uh, it would have an impedance of 1500/Q+j1500 where Q at 3.9MHz for a practical coil is likely to be above 100 and less than 300. The resistive component of the coil has to be referred to the feedpoint so that you can deduct it from the total feedpoint Z. The best way to do that is your NEC model.

You should be able to form a better range for the equivalent coil loss at the feedpoint than you stated above (since you seem to have the means of measuring the coil and inserting the values in your model).

> I am measuring real values between 52 and 56 Ohms with 0j. This varies
> mainly with moisture.
>
> So let's say the total antenna is 12 Ohms. If the measured value is 52
> that says the ground is 40. This puts us back to the original
> question: why is the ground so high?

You also previously said "... Even if the antenna were 6 to 8 Ohms the ground loss would be at least 42 to 44 Ohms."

I read this to mean total system R is 50 ohms.

In this post it is reported between 52 and 56.

The other issue that Frank raised is the elevated feedpoint and whether you modelled that correctly. The radiation resistance you quoted seems (without checking) reasonable for a short monopole over ideal ground, but one expects it would be higher for an elevated feed point. Have you modelled the antenna you built, or have you build an antenna you cannot model accurately and are applying model results incorrectly to the thing you have built?

Though you see only one question, "why is ground 40 ohms", you haven't disclosed enough information in your posts to convince me that it is 40

ohms. If you ask the wrong question, you might not get a useful answer.

Is ground 40 ohms?

Owen

4125. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 20:41:19 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <PDSSh.2081$w41.112@newssvr19.news.prodigy.net>
Source record: 43141

Keith Dysart wrote:
> Now just above, you started with 100W + 100W and ended with
> 400W. And you wonder why readers think you advocate this
> position.

100W + 100W is not all we started with. Somewhere
else is 100W + 100W of destructive interference
that adds up to zero.

This is very much like the equation in Born and Wolf.

Itotal = 4I1 where I1 = I2 = 100 watts/unit-area

Such is the nature of constructive interference. That
you are ignorant of such is noted.

> Does this not cause you some discomfort? It clearly
> violates conservation of energy.

Absolutely NOT! There is 200 watts of destructive
interference somewhere else. Here is a real-world
example:

---291.4 ohm line---+---1/2WL 50 ohm line---291.4 ohm load
Pfor1=200W--> Pfor2=400W-->
<--Pref1=0W <--Pref2=200W

On the load side of point '+':
P1 = Pfor1(1-rho^2) = 100W
P2 = Pref2(rho^2) = 100W

P1 + P2 + 2*SQRT(P1*P2) = Pfor2 = 400W
(200W of constructive interference)

On the source side of point '+':
P3 = Pfor1(rho^2) = 100W
P4 = Pref2(1-rho^2) = 100W

P3 + P4 - 2*SQRT(P3*P4) = Pref1 = 0W
(200W of destructive interference)
--
73, Cecil http://www.w5dxp.com

4126. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 20:46:10 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <mISSh.7664$u03.5470@newssvr21.news.prodigy.net>
Source record: 43142

Keith Dysart wrote:
>> Any example where reflected energy is allowed to
>> reach the source cannot be analyzed in any valid
>> real-world way.
>
> A strange assertion. Consider two wire phone lines; transmitter
> and receiver at each end. Consider cable modems; ditto. Consider
> computer busses; ditto.

We are discussing ham radio sources, Keith, which are
none of the above. How many hams use cable modems for
their RF transmissions? Please get real.
--
73, Cecil http://www.w5dxp.com

4127. Re: CondoBuster - - Good Results

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 20:57:02 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <qvtn13p7cdevv9vdkiafs8gd2ihiiqdle9@4ax.com>
Source record: 43143

On 10 Apr 2007 11:01:07 -0700, m6rf@yahoo.com wrote:

>I bought one of the CondoBuster antennas off ebay. I figured for $20
>or so I couldn't go wrong.

Quite odd. You could have just pulled one from your closet (probably why you didn't pay the $6 delivery charge). I also noticed you bought one last summer for your boat. Do much sailing on the Platte river in summer?

73's
Richard Clark, KB7QHC

4128. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 21:06:26 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <m%SSh.7668$u03.634@newssvr21.news.prodigy.net>
Source record: 43144

Jim Kelley wrote:

> w5dxp wrote:
> > If it were total constructive interference, two 1/2W
> > beams would yield an intensity of 2 watts.

That should have been 2 watts per unit-area. Note that
I did NOT say two 1/2W beams would yield a power of 2
watts. The correct dimensions of intensity would be
2 watts/unit-area, a power density, not a power. I have
already apologized for that goof in dimensions.

> It was pointed out to you that that notion violates conservation of
> energy, but rather than admit that you were incorrect, you attempt to
> revise history. Then there was this:

No, that notion *DOES NOT* violate the conservation of energy
principle which cannot be violated. That notion relies upon
one watt per unit area of total destructive interference
occurring somewhere else. The one watt of destructive
interference causes a flat black area. The energy from that
flat black area is redistributed to the area of constructive
interference and causes that area to be twice as bright as
the average area. Born and Wolf's equation is valid.

Itotal = 4I1 where I1 = I2 = 0.5W

2 watts/unit-area = 4(0.5) watts/unit-area

Again, I ask you to please cease from trying to twist my
words into a violation of the conservation of energy
principle. If you think I have uttered such words, you
are mistaken. Next time you are confused, instead of your
arrogant ASSumptions, please just ask me what I meant.
--
73, Cecil http://www.w5dxp.com

4129. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 21:15:54 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990F49E33A5F8nonenowhere@61.9.191.5>
Source record: 43145

"K7ITM" <k7itm@msn.com> wrote in
news:1176185821.123755.50550@o5g2000hsb.googlegroups.com:

> Hi Owen,
>
> I had a quick look at your article. Though I didn't try to proof-read
> it for accuracy, I was reminded that the equations I posted those long
> years ago said that if you know the _instantaneous_ voltage and
> current at a point on a line, and know its impedance (as a frequency-
> independent quantity), the equations apply, and you can resolve that
> instantaneous pair of values into forward and reverse. That's
> something that's not immediately obvious when people think only about
> sine waves.

Tom,

Something else that follows from the derivation is that whilst the indicated Pf and Pr do not have stand along meaning, Pf-Pr does have meaning irrespective of the nominal R for which the instrument is calculated.

For example, if we cascade a 100W source, 50 ohm directional wattmeter, a 75 ohm directional wattmeter and a 100+j0 load, the instrument readings should be:
- 75 ohm: Pf=112.4, Pr=12.4, P=100
- 50 ohm: Pf=104.1, Pr=4.1, P=100

This of course assumes that the instruments do not significantly disturb the thing they are measuring, in this case the V/I conditions at the 100 ohm load.

So, while you can nominate any reference Zo for a Pf or Pr value (and so vary those values), the power passing the instrument (Pf-Pr) is indicated correctly irrespective of the calibration R.

(The article explains that the result of Pf-Pr is only meaningful if the calibration impedance is purely real.)

Owen

4130. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 21:30:20 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176240620.603272.125780@a30g2000cwd.googlegroups.com>
Source record: 43146

On Apr 10, 4:13 am, "Keith Dysart" <k...@sympatico.ca> wrote:

> Why don't you analyze my example:

(Since the Grand PoohBah Power Master seems unwilling, here, for your
consideration, I give you...)

>
> Generator with
> 291.4 Ohm ------------ 291.4 Ohm line ---- 50 Ohm load
> Source Impedance Pfor2=100w-->
> <--Pref2=50w
>
> What is the power emitted by the generator into the line?
-- Assuming lossless line, 50W of course; 50V@1A at the load.

> Where does Pref2=50W go?
-- Into satisfying the boundary conditions at the generator
to line interface. We have way to little info to
determine if the generator dissipates more, or less, or
the same, as if it were terminated in 291.4 ohms.

> Are there ghosts?
-- Some people believe in them. I've never seen on--Oh not
THAT kind of ghost. Well, not at the load, but certainly
at the generator, if the generator is putting out a signal
that's an interesting enough function of time. TDRs really
do work.

> What is the magnitude?
-- Of what? We have enough info to resolve Vf, If, Vr and Ir
on the line, and if we knew the line length and
the excitation, we could be a lot more definitive about
things, but since steady-state excitation doesn't
produce ghosts... but the reflection coefficient at the
line-load interface is -1/sqrt(2), so that's the voltage
ratio we'll see between the forward and reverse waves.

> What power would the generator emit if the line was terminated
> with 291.4 Ohms?
-- "100 watts, of course." For those who don't immediately see
that, it's not difficult to go through some math to show that
the power delivered to a load is independent of the load
impedance so long as magnitude((Zload-Rgen)/(Zload+Rgen)) is
constant--that is, so long as the magnitude of the reflection
coefficient is constant--as it is along a lossless line...

and from that, find the Thevenin or Norton equivalent of the
source in this example ... and from that, figure the power
that source will deliver to a matched load.
>
> Please do not modify the example for analysis since this may change
> the results.
>
> There is much to be learned by trying examples that may challenge
> your expectations.

:-) This reminds me of some thoughts I posted a long time ago about
lines whose Zo is somewhat reactive. For example, if a linear
sinusoidal source of impedance Zo is connected to a line also of
impedance Zo, what load maximizes the power in the load? If you keep
magnitude((Zload-Zo)/(Zload+Zo)) constant, is the power dissipated in
the load independent of the phase angle of (Zload-Zo)/(Zload+Zo)?
>
> ...Keith

Cheers,
Tom

4131. Re: Why S - Parameter at High frequencies?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 21:40:56 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990F4E21BCD59nonenowhere@61.9.191.5>
Source record: 43147

Cecil Moore <nospam@w5dxp.com> wrote in news:vyMSh.13914$JZ3.5605
@newssvr13.news.prodigy.net:

> Virtual reflection coefficients, such as the ones used by

What is a "Virtual reflection coefficients"?

Owen

4132. Re: Nested 4 square antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 22:02:04 UTC
From: Dave <noone@nowhere.com>
Message-ID: <wPTSh.11370$jS1.2736@trndny07>
Source record: 43148

i did it and don't think the 40m one ever really worked right.

"Jimmie D" <GFENDER@carolina.rr.com> wrote in message
news:461bade8$0$19445$4c368faf@roadrunner.com...
>I was up until 3 last night listening to some guys talk about nesting 80M
>and 40M four square antennas. Does anyone know if this has ever been done
>and what was the results?
>

4133. Re: Why S - Parameter at High frequencies?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 22:17:32 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <02USh.7679$u03.2956@newssvr21.news.prodigy.net>
Source record: 43149

Owen Duffy wrote:
> Cecil Moore <nospam@w5dxp.com> wrote in news:vyMSh.13914$JZ3.5605
> @newssvr13.news.prodigy.net:
>
>> Virtual reflection coefficients, such as the ones used by
>
> What is a "Virtual reflection coefficients"?

SQRT(Pref/Pfor) which often differs from the
physical reflection coefficient (Z02-Z01)/(Z02+Z01)

Here's an example:

100W---50 ohm line--+--1/2WL 300 ohm line--50 ohm load

The virtual reflection coefficient looking into point
'+' from the source side is SQRT(Pref/Pfor) = 0

The physical reflection coefficient looking into point
'+' from the source side is (300-50)/(300+50) = 0.7143

The virtual reflection coefficient is an effect. The
physical reflection coefficient is associated with
the causes of reflections. The S-Parameter reflection
and transmission coefficients are physical. There
are *always* reflections at a physical impedance
discontinuity but they are often zeroed out by
wave cancellation.
--
73, Cecil http://www.w5dxp.com

4134. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 22:45:20 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <36WdnUivIO7ijoHbnZ2dnUVZ_jqdnZ2d@comcast.com>
Source record: 43150

I believe everything is stated:

> The antenna is a short loaded vertical. The base is about 1.1

meters long and 90mm in diameter, the coil is about 160mm long

and about 80mm in diameter, the top is 3 meters. The coil wire

is 12 gage and the spacing is about .5. As a model cross check, t

he impedance of the coil measures about 60 uH.

The order is base, coil, and top.

- Dan

Owen Duffy wrote:
> dansawyeror <dansawyeror@comcast.net> wrote in
> news:lMednY_woZ84NYbbnZ2dnUVZ_sWdnZ2d@comcast.com:
>
>> Owen,
>>
>> Are you referring to the coil alone? You are correct the coil accounts
>> for a significant part, probably between 4 and 8 Ohms.
>
> I don't recall that you have told us where the coil is located, and I am
> not going to build a model to discover something that is relevant and
> that you could have told us.
>
> You have told us the coil had an "impedance" of 60uh. If it had an
> inductance of 60uh, it would have an impedance of 1500/Q+j1500 where Q at
> 3.9MHz for a practical coil is likely to be above 100 and less than 300.
> The resistive component of the coil has to be referred to the feedpoint
> so that you can deduct it from the total feedpoint Z. The best way to do
> that is your NEC model.
>
> You should be able to form a better range for the equivalent coil loss at
> the feedpoint than you stated above (since you seem to have the means of
> measuring the coil and inserting the values in your model).
>
>> I am measuring real values between 52 and 56 Ohms with 0j. This varies
>> mainly with moisture.
>>
>> So let's say the total antenna is 12 Ohms. If the measured value is 52
>> that says the ground is 40. This puts us back to the original
>> question: why is the ground so high?
>

> You also previously said "... Even if the antenna were 6 to 8 Ohms the
> ground loss would be at least 42 to 44 Ohms."
>
> I read this to mean total system R is 50 ohms.
>
> In this post it is reported between 52 and 56.
>
> The other issue that Frank raised is the elevated feedpoint and whether
> you modelled that correctly. The radiation resistance you quoted seems
> (without checking) reasonable for a short monopole over ideal ground, but
> one expects it would be higher for an elevated feed point. Have you
> modelled the antenna you built, or have you build an antenna you cannot
> model accurately and are applying model results incorrectly to the thing
> you have built?
>
> Though you see only one question, "why is ground 40 ohms", you haven't
> disclosed enough information in your posts to convince me that it is 40
> ohms. If you ask the wrong question, you might not get a useful answer.
>
> Is ground 40 ohms?
>
> Owen

4135. Re: Nested 4 square antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 22:47:04 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1176245224.724447.236650@e65g2000hsc.googlegroups.com>
Source record: 43151

On Apr 10, 6:02 pm, "Dave" <n...@nowhere.com> wrote:
> i did it and don't think the 40m one ever really worked right.
>
> "Jimmie D" <GFEN...@carolina.rr.com> wrote in message
>
> news:461bade8$0$19445$4c368faf@roadrunner.com...
>
>
>
> >I was up until 3 last night listening to some guys talk about nesting 80M
> >and 40M four square antennas. Does anyone know if this has ever been done
> >and what was the results?- Hide quoted text -
>
> - Show quoted text -

How well did 80meters work in this configuration? This might be fun to
set up on one of the NEC programs .

Jimmie

4136. Re: Why S - Parameter at High frequencies?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 22:50:27 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990F59EAB6A12nonenowhere@61.9.191.5>
Source record: 43152

Cecil Moore <nospam@w5dxp.com> wrote in news:02USh.7679$u03.2956
@newssvr21.news.prodigy.net:

> Owen Duffy wrote:
>> Cecil Moore <nospam@w5dxp.com> wrote in news:vyMSh.13914$JZ3.5605
>> @newssvr13.news.prodigy.net:
>>
>>> Virtual reflection coefficients, such as the ones used by
>>
>> What is a "Virtual reflection coefficients"?
>
> SQRT(Pref/Pfor) which often differs from the
> physical reflection coefficient (Z02-Z01)/(Z02+Z01)

So, what you are referring to with the term "virtual reflection
coefficient" is the magnitude the reflection coefficient (rho). or |(Z02-
Z01)/(Z02+Z01)| (Gamma).

Did you get that usage from an optics text?

I haven't seen "virtual reflection coefficient" used to have that
meaning. Nor have I seen hams commonly, as you suggest, using rho in the
way in which you could use S parameters or Gamma.

I did note that in a Google search, more than half the relevant hits on
the first page were your writings, so it is clear that you use the term.

Owen

4137. Re: Nested 4 square antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 22:51:38 UTC
From: Dave <noone@nowhere.com>
Message-ID: <_xUSh.26482$Rg2.15940@trndny02>
Source record: 43153

"JIMMIE" <JIMMIEDEE123@YAHOO.COM> wrote in message
news:1176245224.724447.236650@e65g2000hsc.googlegroups.com...
> On Apr 10, 6:02 pm, "Dave" <n...@nowhere.com> wrote:
>> i did it and don't think the 40m one ever really worked right.
>>
>> "Jimmie D" <GFEN...@carolina.rr.com> wrote in message
>>
>> news:461bade8$0$19445$4c368faf@roadrunner.com...
>>
>>
>>
>> >I was up until 3 last night listening to some guys talk about nesting
>> >80M
>> >and 40M four square antennas. Does anyone know if this has ever been
>> >done
>> >and what was the results?- Hide quoted text -
>>
>> - Show quoted text -
>
> How well did 80meters work in this configuration? This might be fun to
> set up on one of the NEC programs .
>
> Jimmie
>
the 80's seemed to be ok, at least i didn't see much difference when i
un-nested them.

4138. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-10 22:51:42 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990F5A214BC0Dnonenowhere@61.9.191.5>
Source record: 43154

dansawyeror <dansawyeror@comcast.net> wrote in
news:36WdnUivIO7ijoHbnZ2dnUVZ_jqdnZ2d@comcast.com:

> The order is base, coil, and top.

That wasn't clear to me, it looked to me like you were feeding it between
the base and the top. I think Frank may have formed the same view.

Owen

4139. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 00:45:39 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <eaednT54uK8osoHbnZ2dnUVZ_vKunZ2d@comcast.com>
Source record: 43155

It's feed at the bottom.

The coil description should be inductance not impedance.

- Dan

Owen Duffy wrote:
> dansawyeror <dansawyeror@comcast.net> wrote in
> news:36WdnUivIO7ijoHbnZ2dnUVZ_jqdnZ2d@comcast.com:
>
>> The order is base, coil, and top.
>
> That wasn't clear to me, it looked to me like you were feeding it between
> the base and the top. I think Frank may have formed the same view.
>
> Owen

4140. Re: Why S - Parameter at High frequencies?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 00:48:42 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <KfWSh.9237$YL5.8923@newssvr29.news.prodigy.net>
Source record: 43156

Owen Duffy wrote:
> I haven't seen "virtual reflection coefficient" used to have that
> meaning. Nor have I seen hams commonly, as you suggest, using rho in the
> way in which you could use S parameters or Gamma.

I am handicapped by being away from my reference books
but I believe that RF engineers use rho and Gamma
interchangeably along with other symbols like RC.

The difference between a virtual reflection coefficient
and a physical reflection coefficient has nothing to
do with what it is named. No matter what is the value
of the physical reflection coefficient, e.g. s11, the
virtual reflection coefficient at a Z0-match is zero
because the reflected voltage, current, and power is
zero.
--
73, Cecil http://www.w5dxp.com

4141. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 00:58:06 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176253086.537178.48480@q75g2000hsh.googlegroups.com>
Source record: 43157

On Apr 10, 4:46 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> >> Any example where reflected energy is allowed to
> >> reach the source cannot be analyzed in any valid
> >> real-world way.
>
> > A strange assertion. Consider two wire phone lines; transmitter
> > and receiver at each end. Consider cable modems; ditto. Consider
> > computer busses; ditto.
>
> We are discussing ham radio sources, Keith, which are
> none of the above. How many hams use cable modems for
> their RF transmissions? Please get real.

Are you sure there are different rules for ham radio sources
than for all the other ones? Something different about them?
Something that makes them not amenable to the techniques used
for others?

If that is so, I am surprised at your claim that ham radio
sources have something in common with light bulbs and lasers
such that knowledge of those subjects can help analysis, while
any knowledge of the behaviour of other electrical circuits is
for naught.

Seriously though, it does all work. The problems are solvable.
You don't need to throw up your hands and say: "too tough."
And then rationalize this response by calling them "too
different" or saying "insufficient information".
Much can be learned by solving the problems set using more
controlled examples. Try it. Using the regular techniques will
produce the same answer for all the problems you can currently
solve, as well as allowing you to solve ones you currently
declare as unsolvable.

...Keith

4142. Re: Why S - Parameter at High frequencies?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 01:02:53 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <1tWSh.9238$YL5.3489@newssvr29.news.prodigy.net>
Source record: 43158

Owen Duffy wrote:
> So, what you are referring to with the term "virtual reflection
> coefficient" is the magnitude the reflection coefficient (rho). or |(Z02-
> Z01)/(Z02+Z01)| (Gamma).

I believe the following web page is indicative of
how Gamma has essentially been replaced by rho.

http://www.ac6la.com/stss.html

The ARRL Antenna Book implies that rho is used
by amateur radio operators while Gamma is still
used in some professional circles.
--
73, Cecil http://www.w5dxp.com

4143. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 01:03:53 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176253433.165795.317260@p77g2000hsh.googlegroups.com>
Source record: 43159

On Apr 10, 5:30 pm, "K7ITM" <k...@msn.com> wrote:
> On Apr 10, 4:13 am, "Keith Dysart" <k...@sympatico.ca> wrote:
>
> > Why don't you analyze my example:
>
> (Since the Grand PoohBah Power Master seems unwilling, here, for your
> consideration, I give you...)
>
>
>
> > Generator with
> > 291.4 Ohm ------------ 291.4 Ohm line ---- 50 Ohm load
> > Source Impedance Pfor2=100w-->
> > <--Pref2=50w
>
> > What is the power emitted by the generator into the line?
>
> -- Assuming lossless line, 50W of course; 50V@1A at the load.
>
> > Where does Pref2=50W go?
>
> -- Into satisfying the boundary conditions at the generator
> to line interface.

This is a different way of expressing it. But I like it.

> We have way to little info to
> determine if the generator dissipates more, or less, or
> the same, as if it were terminated in 291.4 ohms.
>
> > Are there ghosts?
>
> -- Some people believe in them. I've never seen on--Oh not
> THAT kind of ghost. Well, not at the load, but certainly
> at the generator, if the generator is putting out a signal
> that's an interesting enough function of time. TDRs really
> do work.
>
> > What is the magnitude?
>
> -- Of what?

I was think of the ghost, for those who believe in them, mostly
to force some computation. If there is one, it must be quantifiable.

> We have enough info to resolve Vf, If, Vr and Ir
> on the line, and if we knew the line length and
> the excitation, we could be a lot more definitive about
> things, but since steady-state excitation doesn't
> produce ghosts... but the reflection coefficient at the
> line-load interface is -1/sqrt(2), so that's the voltage
> ratio we'll see between the forward and reverse waves.
>
> > What power would the generator emit if the line was terminated
> > with 291.4 Ohms?
>
> -- "100 watts, of course." For those who don't immediately see
> that, it's not difficult to go through some math to show that
> the power delivered to a load is independent of the load
> impedance so long as magnitude((Zload-Rgen)/(Zload+Rgen)) is
> constant--that is, so long as the magnitude of the reflection
> coefficient is constant--as it is along a lossless line...
> and from that, find the Thevenin or Norton equivalent of the
> source in this example ... and from that, figure the power
> that source will deliver to a matched load.
>
> > There is much to be learned by trying examples that may challenge
> > your expectations.
>
> :-) This reminds me of some thoughts I posted a long time ago about
> lines whose Zo is somewhat reactive. For example, if a linear
> sinusoidal source of impedance Zo is connected to a line also of
> impedance Zo, what load maximizes the power in the load? If you keep
> magnitude((Zload-Zo)/(Zload+Zo)) constant, is the power dissipated in
> the load independent of the phase angle of (Zload-Zo)/(Zload+Zo)?

Hmmmmmm. I'll have to think on this. Perhaps after I work out whether
the source impedance of a properly tuned amateur transmitter is the
complex conjugate of the load impedance.

...Keith

4144. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 01:17:17 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <xGWSh.9242$YL5.7840@newssvr29.news.prodigy.net>
Source record: 43160

Keith Dysart wrote:
> Are you sure there are different rules for ham radio sources
> than for all the other ones? Something different about them?
> Something that makes them not amenable to the techniques used
> for others?

You are using the rules of superposition in your examples.
I don't know if the rules of superposition apply to those
other sources but I do know that a ham transmitter, like
my IC-706, is not linear enough to abide by the rules of
superposition. How is superposition supposed to handle
foldback?

Ham transmitters cannot willy-nilly be shorted and opened
in order to ascertain their linear model characteristics.

A signal generator equipped with a circulator load solves
all the experimental problems but doesn't act like a ham
transmitter.

> Seriously though, it does all work. The problems are solvable.

If that is true, why hasn't anyone ever solved them,
published the results, and ended the arguments? The
"solutions" produce different results depending upon
whose brain is being used. Nobody has ever *solved*
the problem and therefore the argument still continues
to rage.
--
73, Cecil http://www.w5dxp.com

4145. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 01:28:29 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176254909.086303.83260@l77g2000hsb.googlegroups.com>
Source record: 43161

On Apr 10, 4:41 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Now just above, you started with 100W + 100W and ended with
> > 400W. And you wonder why readers think you advocate this
> > position.
>
> 100W + 100W is not all we started with. Somewhere
> else is 100W + 100W of destructive interference
> that adds up to zero.
>
> This is very much like the equation in Born and Wolf.
>
> Itotal = 4I1 where I1 = I2 = 100 watts/unit-area
>
> Such is the nature of constructive interference. That
> you are ignorant of such is noted.
>
> > Does this not cause you some discomfort? It clearly
> > violates conservation of energy.

I see no connection between what you have posted above and what
you posted below.

Above: Itotal = 4I1
Below: nothing with a factor of 4

Above: 100 + 100 becomes 400
Below: 200 + 200 becomes 400
but then you compute a 100 and claim some relationship

> Absolutely NOT! There is 200 watts of destructive
> interference somewhere else. Here is a real-world
> example:
>
> ---291.4 ohm line---+---1/2WL 50 ohm line---291.4 ohm load
> Pfor1=200W--> Pfor2=400W-->
> <--Pref1=0W <--Pref2=200W
>
> On the load side of point '+':
> P1 = Pfor1(1-rho^2) = 100W
> P2 = Pref2(rho^2) = 100W
>
> P1 + P2 + 2*SQRT(P1*P2) = Pfor2 = 400W
> (200W of constructive interference)

Now once again you have assumed that there are only positive roots.

> On the source side of point '+':
> P3 = Pfor1(rho^2) = 100W
> P4 = Pref2(1-rho^2) = 100W
>
> P3 + P4 - 2*SQRT(P3*P4) = Pref1 = 0W
> (200W of destructive interference)

And positive roots here again, but this time it is subtracted.
Isn't that the same as adding the negative root?
So the two equations are identical, they just use the different roots.

But how do you know which to use?

Enquiring minds...

...Keith

4146. Re: NVIS Dipoles Directional?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 01:38:06 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns990EBD90CE39Bdoldridgsprintca@64.59.135.159>
Source record: 43162

Rick <Nospam@reply.in.gp> wrote in
news:pan.2007.04.10.04.34.39.629296@reply.in.gp:

> On Mon, 09 Apr 2007 23:36:56 +0000, Dave Oldridge wrote:
>
>> NVIS propagation is pretty high angle stuff. If you look at the
>> three dimensional patterns for NVIS antennas you will see that they
>> have a large lobe at high angles and an almost circular
>> omnidirectional pattern at those angles. We're looking at 80 degrees
>> and up mostly here, maybe 70 at the low end....so that antennas are
>> mainly designed to illuminate the patch of ionosphere directly above
>> the antenna.
>
> Right. That's my point. So, what I'm claiming ... and trying to get
> someone who knows more about this stuff than I do (which is just about
> all of you) to confirm or deny ... is that with an NVIS dipole,
> someone 100 miles away from me would not be able to perceive the
> difference if my antenna was broadside to him or oriented in line with
> him. True, or false?

Absolutely true. Any difference would be insignificant. The path
elevation is about 79 degrees for that path.

--
Dave Oldridge+
ICQ 1800667

4147. Re: NVIS Dipoles Directional?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 01:40:20 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns990EBDF1B75C5doldridgsprintca@64.59.135.159>
Source record: 43163

LA4RT Jon =?utf-8?Q?K=C3=A5re?= Hellan <dev@null.com> wrote in
news:1mzm5gc81e.fsf@persaunet.uninett.no:

> "J. Mc Laughlin" <jcm@power-net.net> writes:
>
>> In any case, I suggest you avail yourself of the benefit of
>> raising
>> whatever you use to a height of something like 0.2 WL and less than
>> 0.3 WL.
>
> Or, in the case of 80 m, between 16 and 24 m up (for the metric
> challenged: between 50 and 75 ft). Excellent for those who can, but
> most can't.

A horizontal quad loop at 50 feet is almost ideal for NVIS.

--
Dave Oldridge+
ICQ 1800667

4148. Re: Nested 4 square antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 01:52:55 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1176256375.131281.212560@y80g2000hsf.googlegroups.com>
Source record: 43164

On Apr 10, 6:51 pm, "Dave" <n...@nowhere.com> wrote:
> "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote in message
>
> news:1176245224.724447.236650@e65g2000hsc.googlegroups.com...
>
>
>
> > On Apr 10, 6:02 pm, "Dave" <n...@nowhere.com> wrote:
> >> i did it and don't think the 40m one ever really worked right.
>
> >> "Jimmie D" <GFEN...@carolina.rr.com> wrote in message
>
> >>news:461bade8$0$19445$4c368faf@roadrunner.com...
>
> >> >I was up until 3 last night listening to some guys talk about nesting
> >> >80M
> >> >and 40M four square antennas. Does anyone know if this has ever been
> >> >done
> >> >and what was the results?- Hide quoted text -
>
> >> - Show quoted text -
>
> > How well did 80meters work in this configuration? This might be fun to
> > set up on one of the NEC programs .
>
> > Jimmie
>
> the 80's seemed to be ok, at least i didn't see much difference when i
> un-nested them.- Hide quoted text -
>
> - Show quoted text -

A pity you dont still have them set up, It might be fun to experiment
a little and try the 40m antenna with the input s to the 80m towers
shorted/ open or maybe you have done this.

Jimmie

4149. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 02:14:56 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <AwXSh.4711$5e2.479@newssvr11.news.prodigy.net>
Source record: 43165

Keith Dysart wrote:
> Above: Itotal = 4I1
> Below: nothing with a factor of 4

Look again. P1=100W, Pfor2=400W

> Above: 100 + 100 becomes 400

No, above: 100 + 100 + 2*SQRT(100*100) becomes 400
That's the nature of constructive interference.

There is 200W of destructive interference on the source
side of the Z0-match which is supplying the 200W of
constructive interference on the load side.

> Now once again you have assumed that there are only positive roots.

Since there is no such thing as negative power, the negative
root is discarded as not representing reality. The sign of
the interference comes from cos(0) for constructive interference
and cos(180) for destructive interference.
--
73, Cecil http://www.w5dxp.com

4150. Re: screwdriver vs. tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 02:24:23 UTC
From: Pro Shop at Home <firecracker@vfaa.org>
Message-ID: <evhguckak1@news04.infoave.net>
Source record: 43166

Both!!

"KE5MBX" <nelson.blaha@gmail.com> wrote in message
news:1172609662.492672.322020@z35g2000cwz.googlegroups.com...
> I'm planning to get a Yaesu FT-857D and operate mobile HF on as many
> bands as possible. I see two options so far for my Jeep Wrangler- a
> 102" whip with a tuner or a screwdriver antenna. Which is the better
> way to go?
>

4151. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 02:59:28 UTC
From: davem@cs.ubc.ca
Message-ID: <evhiug$of4$1@swain.cs.ubc.ca>
Source record: 43167
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

"Ed Nielsen" <eblcb@dslr.net> writes:

>It doesn't take major crushing to create mismatch, and as to whether it is
>significant sort of depends on what happens to be trying to get through at
>the particular point where the mismatch occurs.

>At http://www.cencom94.com/gpage.html9.html, there is a picture of a sweep
>trace of some cable with hex-crimp connectors (gotta scroll down a little).

That particular sweep seems to be from a highrise building which had hex
crimp connectors every 25 feet all the way up the building. A single
hex crimp, or a bunch of hex crimps spaced irregularly, would have far
less effect. So whether this matters partly depends on whether you're
wiring an apartment building or just a house.

Dave

4152. Re: Not understanding some parts of wave refraction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 03:08:42 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1176260922.450209.49250@q75g2000hsh.googlegroups.com>
Source record: 43168

On Apr 5, 11:00 am, Richard Clark <kb7...@comcast.net> wrote:
> On 5 Apr 2007 07:36:49 -0700, "MRW" <mr.whate...@gmail.com> wrote:
>
> >c = f*w (c = m/s, f = frequency, w = wavelength)
>
> This frequency is relevant ONLY for vacuum (or with a very, very
> slight alteration) air.
>
> Now, it may seem that all air is air, but no. There are slight
> variations here too that on the global scale small shifts make large
> changes. Those small shifts are accounted for by pressure, water
> content (vapor), and temperature.
>
> 73's
> Richard Clark, KB7QHC

Same thing happens with light through water, the light slows down but
doesnt change in color(frequency).

Jimmie

4153. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 03:39:36 UTC
From: Ed Nielsen <eblcb@dslr.net>
Message-ID: <sNGdnfjRx6tExYHbnZ2dnUVZ_qSrnZ2d@comcast.com>
Source record: 43170
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

With all due respect, that's a rather frightening position to maintain. I've had to replace both .750 and .500 because of dings. Complaints were that certain channels were out. A couple of years ago I had to replace a 4 foot piece of RG 6 inside a wall (splitter to outlet) that had the attenuation of a 100 foot cable. 950MHz to 1450MHz worked (though not near as well as it should have), but the rest of the bandwidth up to 2200MHz didn't work at all. Electricians had greatly exceeded the minimum bend radius when they made up the outlet.

DC does not necessarily mean that RF will work, nor does RF necessarily mean that DC will work.

--

CIAO!

Ed N.

"Ian Jackson" <IanJacksonRemoveThisBit@g3ohx.demon.co.uk> wrote in message news:tgUYg$D9Y+GGFw1E@g3ohx.demon.co.uk...
> years. I have found that, if it buzzes out OK at DC, it will generally be
> OK at RF.
> Ian.
> --
>

4154. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 04:14:00 UTC
From: Thomas Horne <hornetd@mindspring.com>
Message-ID: <cgZSh.20289$PL.14373@newsread4.news.pas.earthlink.net>
Source record: 43171

Jimmie D wrote:
> "Bud--" <remove.BudNews@isp.com> wrote in message
> news:35818$461bb6bc$4213ea1f$14297@DIALUPUSA.NET...
>> Jimmie D wrote:
>>
>>>>> Hopefully you are not really using the water pipe for a ground for your
>>>>> electrical service. Hopefully your plumbing is just bonded to the
>>>>> electrical ground. Dont even think about using this for lightning
>>>>> protection. Nothing like having lightning run in on your plumbing while
>>>>> taking a bath or have it run in on yor ground and eat about $7K worth of
>>>>> test equipment(my bad).
>>>>>
>>>>> Jimmie
>>>> Jimmie
>>>>
>>>> DE KB3OPR
>>>>
>>>> I am an electrician by craft. The US National Electric Code Requires
>>>> that underground metal water piping on the premise be used as a grounding
>>>> electrode for the electrical system. There is no way around it. No
>>>> matter how fast people talk you cannot avoid using an underground metal
>>>> piping system as a grounding electrode unless the electrical inspector is
>>>> incompetent.
>>>> --
>>>> Tom Horne
>>>
>>> Tom you are confusing grounding with bonding, the plumbing should be
>>> bonded to ground but not used for ground, at least this is getting to be
>>> the rule in most places. I know that using the plumbing for ground is
>>> still acceptaable in places and in a lot of places it is still acceptable
>>> if if the local code permitted it at the time it was
>>> installed(grandfathering)..
>>
>> An electrician confusing grounding and bonding - that is pretty funny.
>>
>> From the US National Electrical Code
>> 250.50 Grounding Electrode System
>> All grounding electrodes as described in 250.52(A)(1) through (A)(6) that
>> are present at each building or structure served shall be bonded together
>> to form the grounding electrode system.
>>
>> 250.52(A)(1) Metal Underground Water Pipe
>> (10 feet or more metal in earth)

>>
>> Using underground metal water pipe as a grounding electrode is REQUIRED.
>> And this has been a requirement for a very long time. Local codes may be
>> different from the NEC, but it is unlikely they are different on this.
>>
>> And if you just "bond" metal water pipe it will work as a grounding
>> electrode anyway.
>>
>> --
>> bud--
>>
>
> True enough but there is a difference, grounding is connecting to earth
> bonding is tying conductive structures together so they are at equal
> potential. Ground is a single point that everything else is bonded. Ground
> should be a stucture that the qualified electrician should be familar with
> not plumbing that may or may not be intact. If you dont believe me just try
> to get an electrical inspection on a new home without a ground rod
> installed.
>
> BTW the NEC is a minimum standard not a guide on how to wire your house.or
> perform grounding and bonding.
>
> You wouldnt believe what electricians dont know, like checking phase
> rotation before turning on a new 200KW UPS. or megging out lines before
> turning on new parking lot lights or making sure a generator is not
> backfeeding a line before working on it. All things I have seen electricans
> screw up in the past year.
>
> Jimmie

Jimmie
I can assure you I don't do that sort of careless nonsense. I can also assure you that whenever I'm involved before the foundation is poured or at least prior to it being back filled there will be no driven rods on that job. They are the single least effective electrode you can install. When I have to install driven rods, such as for a heavy up, I will stack them using rod couplers until I'm under twenty five ohms and perform a witnessed test for the inspector. I consider eight foot driven rods a complete waste of time. Mind you I'll install them when I'm forced to but you will usually find mine driven through the bottom of a three foot deep trench on at least twenty feet of bare copper number two AWG grounding electrode conductor.

As for the US NEC being a minimum standard that is not always true. In at least ten states it is both the minimum and the maximum standard that a public electrical inspector may apply. So called "min max" states do not allow the local governments to amend the US NEC. Were the US NEC is the minimum standard you have to use underground metal water piping as a grounding electrode whether or not it jibes with your religious beliefs

about what constitutes an electrode or not. If you were bonding the plumbing you could do that with a conductor sized for the largest branch circuit supplying an appliance that is attached to the plumbing. When you are using the piping as an electrode you must size the conductor to the size of the service entry conductors. People like W Tom cannot bring themselves to admit that underground metal water piping is an effective grounding electrode and worse still that it more effective then most of the other electrodes listed in the US NEC at least in homes. I always check the impedance of my grounding electrodes and that's what the measurements say to me.
--
Tom Horne

4155. Re: NVIS Dipoles Directional?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 04:14:35 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <69ydnWpJKJMcz4HbnZ2dnUVZ_hSdnZ2d@bright.net>
Source record: 43169

Dear Wim PA3DJS:

How I wish that I could read Dutch. However, in looking over all of
your work, it continually occurred to me that much of the base of English
comes from Northern Nederland.

I looked at the first table on page 20 of your work. The information so
intrigued me that I ran almost the same information through NEC4, which does
well with antennas close to the ground. I assumed: a center frequency of
3.6 MHz, a horizontal half wave dipole slightly adjusted to be resonant at
3.6 MHz at each height, the use of Cu wire 2 mm in diameter, and earth with
a sigma of 0.01 and a relative dielectric constant of 15. This is what I
found without too obsessive an amount of tweaking:

The data is in this order:
height of the dipole in meters
the real part of the dipole's impedance in ohms
(the phase angle of the impedance was kept under 2 degrees)
the approximate SWR=2 BW in a 50 ohm system in kHz
the total apparent loss of the system in dB
(this is found by integrating gain in all directions)
the peak antenna gain in dBi

4.2 38.1 125 6.25 2.0
5.8 37.7 120 4.31 4.1
8.3 42.1 130 2.59 5.8
10.4 49.0 140 1.81 6.5
15 66.5 145 1.04 6.9
20.8 85.7 125 0.7 6.5

Most of my results are close to your results. It is interesting to know if
I used the same assumptions. Please let me know.

I encourage you to consider translating your work, or at least parts of it,
into English.

73, Mac N8TT
--
J. Mc Laughlin; Michigan U.S.A.
Home: JCM@Power-Net.Net
"Wimpie" <wimtel@tetech.nl> wrote in message

>
> Hello Rick,
>
> At 100 miles distance, the TOA is almost vertical (maybe 75 degr), so
> with respect to signal strength, it is practically impossible to

> detect whether the antennas are broad side. Because of the distance,
> ground wave propagation loss is far higher with respect to NVIS
> propagation loss under these circumstances.
>
> One would mention polarization of the waves going up and down. I
> would not matter about this. These low frequencies are strongly
> affected by faraday rotation. On the way up and down, the polarization
> rotates several times and several wave fronts do exist.
>
> While you transmit (nearly vertical) with linear polarization, the
> down coming wave may have a strong circular component.
>
> With respect to the radiation pattern, you are right, the differences
> in pattern are minimal below 30 feet. However the overall efficiency
> is strongly depended on antenna height and soil properties. I did some
> simulation and practice. I made a short document of it (for JOTA
> porpuse), however the document is in Dutch Language (http://
> www.tetech.nl/divers/NVISantenneNL1.pdf). Maybe you can get some
> useful info out of it. At low heights, much power is dissipated into
> the ground (resulting in a useful bandwidth).
>
> Best Regards,
>
> Wim
> PA3DJS
>

4156. probe feed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 05:47:11 UTC
From: ybjith <ybjith@gmail.com>
Message-ID: <1176270431.047671.249970@l77g2000hsb.googlegroups.com>
Source record: 43172

hi friends...i am currently working on the bandwidth enhancement of a probe fed patchantenna. can any body help me out with where i can get the standard probe measuremets(inner condutor radius) that can be used and availabe in the markets..

4157. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 07:43:33 UTC
From: Ian Jackson <IanJacksonRemoveThisBit@g3ohx.demon.co.uk>
Message-ID: <BWTzd2ElGJHGFwLM@g3ohx.demon.co.uk>
Source record: 43173
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

In message <sNGdnfjRx6tExYHbnZ2dnUVZ_qSrnZ2d@comcast.com>, Ed Nielsen
<eblcb@dslr.net> writes

"Ian Jackson" <IanJacksonRemoveThisBit@g3ohx.demon.co.uk> wrote in
message news:tgUYg$D9Y+GGFw1E@g3ohx.demon.co.uk...
>> years. I have found that, if it buzzes out OK at DC, it will
generally be
>>OK at RF.
> >Ian.

>With all due respect, that's a rather frightening position to maintain.
>I've had to replace both .750 and .500 because of dings. Complaints
>were that certain channels were out. A couple of years ago I had to
>replace a 4 foot piece of RG 6 inside a wall (splitter to outlet) that
>had the attenuation of a 100 foot cable. 950MHz to 1450MHz worked
>(though not near as well as it should have), but the rest of the
>bandwidth up to 2200MHz didn't work at all. Electricians had greatly
>exceeded the minimum bend radius when they made up the outlet.
>
>DC does not necessarily mean that RF will work, nor does RF necessarily
>mean that DC will work.
>

Ed, I'm sure what you say is true. However, one-off moderate mismatches
(or even repeated moderate mismatches which are buffered by
attenuation), such as might be caused by the use of poor quality
connectors, should not cause a failure of service unless the service
would have been marginal if the connectors were good.

As for bends in cable, if you can, tie a loose knot in a piece of coax,
run a wideband sweep through it, and observe the output. Now pull the
knot tight. Let me know when the output starts to be affected.

Let me say again, I'm not advocating sloppy practices and poor
workmanship. Manufacturers' specs and industry standards should always
be adhered to. This avoids endless truck-rolls (God - I hate that
Americanism!) to the 1% of customers where some bright spark has cut one
corner too many. But, especially in the amateur world, we should maybe
not worry too much about using things which industry has rejected, often
for reasons which have absolutely no impact on what we are trying to do.
So I'm NOT throwing out my stash of crimp and screw-on F-connectors!

Ian.
--

4158. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 09:43:07 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176284587.747661.315560@n76g2000hsh.googlegroups.com>
Source record: 43174

On Apr 10, 10:14 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Now once again you have assumed that there are only positive roots.
>
> Since there is no such thing as negative power, the negative
> root is discarded as not representing reality.

Isn't negative power just power that is going the other way?

...Keith

4159. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 10:04:10 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176285850.850871.204490@b75g2000hsg.googlegroups.com>
Source record: 43175

On Apr 10, 9:17 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Are you sure there are different rules for ham radio sources
> > than for all the other ones? Something different about them?
> > Something that makes them not amenable to the techniques used
> > for others?
>
> You are using the rules of superposition in your examples.
> I don't know if the rules of superposition apply to those
> other sources but I do know that a ham transmitter, like
> my IC-706, is not linear enough to abide by the rules of
> superposition. How is superposition supposed to handle
> foldback?

One of the principles of superposition is that you can apply
it to non-linear systems as long as they remain linear in the
operating range that is of interest.

> Ham transmitters cannot willy-nilly be shorted and opened
> in order to ascertain their linear model characteristics.

Read
http://www.w2du.com/R2ch19.pdf and
http://www.w2du.com/R3ch19a.pdf
for descriptions on how to do so without needing to short or
open the output. These articles argue that at least the
amateur transmitters examined are linear over the operating
range of interest.

> If that is true, why hasn't anyone ever solved them,
> published the results, and ended the arguments?

The problems presented in the examples are solvable and
have been solved in public on this group.

> The
> "solutions" produce different results depending upon
> whose brain is being used. Nobody has ever *solved*
> the problem and therefore the argument still continues
> to rage.

The continuing argument is more a reflection on the people
involved than on the problems. For the most part, the various
approaches produce the same answer to the questions, except
that some approaches provide no answer to some of the questions.
Those who support those approaches then declare those questions

unanswerable rather than exploring the approaches that do answer the questions.

An interesting question is why do people reject the approaches that work without examination? I am sure that there must be some opportunities for psychological study there.

...Keith

4160. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 11:14:04 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131pgo519itfm24@corp.supernews.com>
Source record: 43176

Keith Dysart wrote:
>
> Isn't negative power just power that is going the other way?

I'm leery of the concept of propagating power (especially after seeing the morass it's led its adherents into), but most certainly negative power is the time rate of movement of energy that's going the other way. If we make a simple circuit of sine wave source and load where the load is anything but pure resistance, we can see that the energy goes one way for part of the cycle, the other way for the rest of half the cycle, then repeats the movement in alternate directions during the second half of the cycle. The powers (observed at a single point) during the movement in the two directions are positive and negative. Which direction of energy flow represents positive and which represents negative is entirely a matter of choice.

The constant mixing of and confusion between power and energy is one of the tools used to keep the discussion's rational participants off balance, and it has been shown to work quite well. A real analysis of energy flow involves calculating the power at various points and times in the circuit or transmission line of interest. This gives a view of energy flow very different from the bouncing waves of average power; flurry of s-parameter gobbledigook; virtual shorts, opens, photons, and reflection coefficients; and vague parallels to optical phenomena that unceasingly issue forth. But the view that comes from calculation is correct, while the alternative is just so much smoke and noise.

Roy Lewallen, W7EL

4161. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 11:14:57 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <Rq3Th.2219$Q23.1563@newssvr17.news.prodigy.net>
Source record: 43077

Keith Dysart wrote:
> Isn't negative power just power that is going the other way?

That is just a mathematical convention. If we say
left to right is positive, then right to left
becomes negative. If we say right to left is
positive, then left to right becomes negative.
Same for up/down or down/up or 45 degrees vs
225 degrees. It is a purely arbitrary mathematical
convention. True negative power just doesn't exist.
Negative energy would violate the conservation of
energy principle.

Is a Poynting vector pointing toward Alpha Centauri
positive or negative?

Since true negative power is impossible, the negative
power result of a square root process is discarded
as an artifact.
--
73, Cecil http://www.w5dxp.com

4162. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 11:41:47 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <%P3Th.9265$YL5.7463@newssvr29.news.prodigy.net>
Source record: 43078

Keith Dysart wrote:
> One of the principles of superposition is that you can apply
> it to non-linear systems as long as they remain linear in the
> operating range that is of interest.

One of the assumptions in your model is that the source
impedance remains constant with varying degrees of
incident reflected energy. That assumption is false for
an IC-706. Variable constant source impedances are not
allowed by the rules of superposition.

> The problems presented in the examples are solvable and
> have been solved in public on this group.

:-) Then publish the results in QEX and settle it once
and for all. :-) I predict that QEX will refuse to publish
your ideas. The problems "solved in public on this group"
are simple-minded and bear no resemblance to reality.
They are akin to: Assume a lossless transmission line.
Therefore: There are no losses in transmission lines.
In classical logic, your "solution" is known as
petitio principii.

> An interesting question is why do people reject the approaches
> that work without examination?

Translation: Why would anyone disagree with me and be
wrong when they could agree with me and be right? :-)

> I am sure that there must be
> some opportunities for psychological study there.

It's already been done. It's in the psychotic
section under "delusions of grandeur". :-)
--
73, Cecil http://www.w5dxp.com

4163. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 11:55:45 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <514Th.9267$YL5.5384@newssvr29.news.prodigy.net>
Source record: 43079

Roy Lewallen wrote:
> A real analysis of
> energy flow involves calculating the power at various points and times
> in the circuit or transmission line of interest.

Here's what I said years ago in my energy analysis
article:

"The term "power flow" has been avoided in favor of
"energy flow". Power is a measure of that energy flow
per unit time through a plane. Likewise, the EM fields
in the waves do the interfering. Powers, treated as
scalars, are incapable of interference."

Seems you are still trying to influence people through
false innuendo.

> ... flurry of s-parameter gobbledigook;

There you have it, folks. Everyone give up on your
S-Parameter analysis. It's only "gobbledigook" (sic).

> But the view that comes from calculation is correct, while
> the alternative is just so much smoke and noise.

One wonders why that smoke and noise yields the same results
as your short-cut methods plus the tracking of energy through
the system. Could it be that the wave reflection model is a
super-set of your simplified model?
--
73, Cecil http://www.w5dxp.com

4164. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 12:01:16 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns990FDFFE43D16nonenowhere@61.9.191.5>
Source record: 43080

Roy Lewallen <w7el@eznec.com> wrote in news:131pgo519itfm24
@corp.supernews.com:

...
> I'm leery of the concept of propagating power (especially after seeing
> the morass it's led its adherents into), but most certainly negative
> power is the time rate of movement of energy that's going the other
way.
> If we make a simple circuit of sine wave source and load where the load
> is anything but pure resistance, we can see that the energy goes one
way
> for part of the cycle, the other way for the rest of half the cycle,
> then repeats the movement in alternate directions during the second
half
> of the cycle. The powers (observed at a single point) during the
> movement in the two directions are positive and negative. Which
> direction of energy flow represents positive and which represents
> negative is entirely a matter of choice.

Roy, one of the questions I continue to ask myself is why certain explanations of transmission line / load behaviour seem inconsistent with basic AC circuit theory as it applies at 50Hz or 60Hz, why the explanations hinge on a restriction that forward power and reflected power are purely real when in the general sense, a load may be reactive and therefore there is real and reactive power at the line-load interface, and similarly, depending on the transformed impedance, the source-line interface.

One can only guess at the motivation for all the obfuscation that we see here. The invention of new terms, multiple meanings for terms, inconsistent properties for entities, switching in and out of optics, photon explanations, changing dimensions of quantities for convenience, construction of special cases to demonstrate assertions and that don't even qualify as inductive inferences, etc, are all part of a vast array of obfuscation.

Thankfully, textbooks are not as confusing.

Owen

4165. all informations delta loop antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 12:41:29 UTC
From: oli <oli004@wanadoo.fr>
Message-ID: <461cd78a$0$5075$ba4acef3@news.orange.fr>
Source record: 43081

Hi all,

I'am looking for a maximum informations about delta loop antennas.
First of all, I found a lot of interesting documents with Antenna Searh
http://www.les-antennes.fr/index.php?antenna=delta+loop+calculator
that can help me, but I don't find any document who explain what is the
best mechanical technics to fixed elements to the boom.

Best regards

Oli

4166. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 13:02:09 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <I%4Th.1511$2v1.1235@newssvr14.news.prodigy.net>
Source record: 43082

Owen Duffy wrote:
> Roy, one of the questions I continue to ask myself is why certain
> explanations of transmission line / load behaviour seem inconsistent with
> basic AC circuit theory as it applies at 50Hz or 60Hz, ...

That's an easy one, Owen. The wavelength is so long at
60 Hz (5,000,000 meters) that the lumped circuit model
usually works just fine. As you probably know, the lumped
circuit model is a sub-set of the distributed network model.
If the lumped circuit model worked for RF, the distributed
network model (wave reflection model) would have been
abandoned long ago.

100m of transmission line is 0.00002 wavelengths at 60 Hz.
Distributed network effects are negligible.

100m of transmission line is 10 wavelengths at 30 MHz.
Distributed network effects are at a 100% level. Current
in the loop is flowing in opposite directions at ten
points around the loop at the same time.

Somewhere in between 60 Hz and 30 MHz, that old patched-up
lumped circuit model must necessarily be discarded.

> One can only guess at the motivation for all the obfuscation that we see
> here.

Sorry, but the actual obfuscation seems to me to originate
with trying to use an inadequate, patched-up, lumped circuit
model on distributed network problems. When the lumped circuit
model yields correct results, the distributed network model
yields the same results. When the lumped circuit model yields
incorrect results, the distributed network model yields
correct results.

Again, the challenge is for you guys to generate standing-
waves in the complete absence of reverse traveling waves.
Until you provide a valid example of that, the reverse
traveling waves continue to exist (in spite of all your
hand-waving). They obey the rules of the wave reflection
model and the principles of superposition and conservation
of energy.

The principle of superposition gives us permission to treat
forward traveling waves and reverse traveling waves
separately and then superpose the results. We get the
correct answer every time.

If you fail at generating standing waves without reverse
traveling waves, then for what you guys say to be true,
you must be able to generate traveling waves that contain
zero energy.

It appears that some people have been using mashed potato
short-cuts for so long, they have lost track of the basic
principles underlying the component wave behavior. Anyone
who believes an S-Parameter analysis is "gobbledigook" (sic)
falls into that category.
--
73, Cecil http://www.w5dxp.com

4167. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 13:18:50 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176297530.234487.319080@y80g2000hsf.googlegroups.com>
Source record: 43083

On Apr 11, 7:41 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > One of the principles of superposition is that you can apply
> > it to non-linear systems as long as they remain linear in the
> > operating range that is of interest.
>
> One of the assumptions in your model is that the source
> impedance remains constant with varying degrees of
> incident reflected energy. That assumption is false for
> an IC-706.

Which is, of course, why all my examples explicitly state the
construction of the generator to be one that is guaranteed
linear. But if the behaviour for this kind of simple case
can not be understood, there is no hope for understanding
a real transmitter. The argument "since I can not understand
a real transmitter, there is no value in understanding a
linear generator" seems weak.

> > The problems presented in the examples are solvable and
> > have been solved in public on this group.
>
> :-) Then publish the results in QEX and settle it once
> and for all. :-) I predict that QEX will refuse to publish
> your ideas.

I would hope so. The ideas are quite basic, not mine, and can
be found in any standard text book on transmission lines and
circuit analysis. No need to publish in QEX. Or perhaps I
misunderstand QEX's audience and it is appropriate for them.
But then I suspect that more capable writers than myself would
be the appropriate authors.

Have you considered putting optics aside for a moment (after
all, we are trying to understand circuits, especially in the
transmitter), and cracking open any textbook that deals directly
with the subjects at hand?

...Keith

4168. Re: antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 13:21:17 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <461ce0c8$0$24726$4c368faf@roadrunner.com>
Source record: 43084

"genev" <genev2000@hotmail.com> wrote in message
news:4TsSh.67685$s8.18208@newsfe21.lga...
> I'm looking at the hustler g6-270 and the diamond x50a; I live near the
> ocean so need a fiberglass ant, which I believe both of these are.
> Does anyone have an opinion on either ant?
> Richard
> K1TAV
>

I am not sure which is worse the salt on the al or the sun on the
fiberglass. Periodically paint fiberglass antennas with automotive acrylic
enamel. Start when you take it out of the box.

Jimmie

4169. Re: How do I break it to the neighbors

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 13:29:38 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <461ce2c5$0$27082$4c368faf@roadrunner.com>
Source record: 43085

"garlicman" <None> wrote in message
news:kO2dnbXw9qJB8pDbnZ2dnUVZ_tyinZ2d@comcast.com...
>I moved here about seven months ago. There is not HOA, but some neighbors
>are rather sensitive to how others keep their property in our modest street
>of 34 homes on lots about 70 x 120. I just upgraded to General. So far,
>I've got a 40m dipole that is just strung across the back of the roof, but
>I plan to string it between a tree and the chimney when I get a chance.
>
> I would appreciate your ideas on how to calm down neighbors that might be
> worried about RF interference, appearance, and property value.
>
> GM
>

Dont fasten the antenna to your chimney, Chimneys arent made to handle a lot
of lateral force.

Jimmie

4170. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 13:39:34 UTC
From: Ed Nielsen <eblcb@dslr.net>
Message-ID: <C9CdnWVW55XgeIHbnZ2dnUVZ_tadnZ2d@comcast.com>
Source record: 43086
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

Let's just agree to disagree. We both hold positions based, at least in part, on many years of experiences.

I did not say that hex-crimp fittings WILL cause issues, I said they COULD cause issues.

As for the knot/sweep thing; no need. I have already seen the results.

--

CIAO!

Ed N.

"Ian Jackson" <IanJacksonRemoveThisBit@g3ohx.demon.co.uk> wrote in message news:BWTzd2ElGJHGFwLM@g3ohx.demon.co.uk...
> In message <sNGdnfjRx6tExYHbnZ2dnUVZ_qSrnZ2d@comcast.com>, Ed Nielsen
> <eblcb@dslr.net> writes
>
> "Ian Jackson" <IanJacksonRemoveThisBit@g3ohx.demon.co.uk> wrote in message
> news:tgUYg$D9Y+GGFw1E@g3ohx.demon.co.uk...
> >> years. I have found that, if it buzzes out OK at DC, it will
> generally be
> >>OK at RF.
> > >Ian.
>
>>With all due respect, that's a rather frightening position to maintain.
>>I've had to replace both .750 and .500 because of dings. Complaints were
>>that certain channels were out. A couple of years ago I had to replace a
>>4 foot piece of RG 6 inside a wall (splitter to outlet) that had the
>>attenuation of a 100 foot cable. 950MHz to 1450MHz worked (though not
>>near as well as it should have), but the rest of the bandwidth up to
>>2200MHz didn't work at all. Electricians had greatly exceeded the minimum
>>bend radius when they made up the outlet.
>>
>>DC does not necessarily mean that RF will work, nor does RF necessarily
>>mean that DC will work.
>>
>
> Ed, I'm sure what you say is true. However, one-off moderate mismatches
> (or even repeated moderate mismatches which are buffered by attenuation),
> such as might be caused by the use of poor quality connectors, should not
> cause a failure of service unless the service would have been marginal if
> the connectors were good.
>

> As for bends in cable, if you can, tie a loose knot in a piece of coax,
> run a wideband sweep through it, and observe the output. Now pull the knot
> tight. Let me know when the output starts to be affected.
>
> Let me say again, I'm not advocating sloppy practices and poor
> workmanship. Manufacturers' specs and industry standards should always be
> adhered to. This avoids endless truck-rolls (God - I hate that
> Americanism!) to the 1% of customers where some bright spark has cut one
> corner too many. But, especially in the amateur world, we should maybe not
> worry too much about using things which industry has rejected, often for
> reasons which have absolutely no impact on what we are trying to do. So
> I'm NOT throwing out my stash of crimp and screw-on F-connectors!
>
> Ian.
> --
>

4171. Re: all informations delta loop antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 13:49:09 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <461ce752$0$9932$4c368faf@roadrunner.com>
Source record: 43087

"oli" <oli004@wanadoo.fr> wrote in message
news:461cd78a$0$5075$ba4acef3@news.orange.fr...
> Hi all,
>
> I'am looking for a maximum informations about delta loop antennas.
> First of all, I found a lot of interesting documents with Antenna Searh
> http://www.les-antennes.fr/index.php?antenna=delta+loop+calculator
> that can help me, but I don't find any document who explain what is the
> best mechanical technics to fixed elements to the boom.
>
> Best regards
>
> Oli
>

Welding , I think this antenna got started as a CB gimmick, well maybe not,
The idea is something akin to a cubical quad using plumbers delight
constrction. I built one for CB back in the early 70s because I was afraid
of tackling a quad then. Believe me the quad was much easier to build and I
think it performed noticably better than the delta.

Jimmie

4172. Re: antenna question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 14:06:44 UTC
From: Danny Richardson <n_group@k6mhe.com>
Message-ID: <oqpp13906ovoq51teqm95vrkpsd9hbspif@4ax.com>
Source record: 43088

On Wed, 11 Apr 2007 09:21:17 -0400, "Jimmie D"
<GFENDER@carolina.rr.com> wrote:

>
>"genev" <genev2000@hotmail.com> wrote in message
>news:4TsSh.67685$s8.18208@newsfe21.lga...
>> I'm looking at the hustler g6-270 and the diamond x50a; I live near the
>> ocean so need a fiberglass ant, which I believe both of these are.
>> Does anyone have an opinion on either ant?
>> Richard
>> K1TAV
>>
>
>I am not sure which is worse the salt on the al or the sun on the
>fiberglass. Periodically paint fiberglass antennas with automotive acrylic
>enamel. Start when you take it out of the box.
>
>Jimmie
>

Good point! I live on the coast and I've found aluminum will be the
first to go (about five years or less depending upon the alloy) while
my white unpainted fiberglass held up over 12 years before showing
signs of fiberglass disintegration. When I replaced it with the same
model antenna I spray painted the new antenna with two coats of black
Krylon fusion.

Danny, K6MHE

4173. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 14:16:54 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <q56Th.9282$YL5.4342@newssvr29.news.prodigy.net>
Source record: 43089

Owen Duffy wrote:
> One can only guess at the motivation for all the obfuscation that we see
> here.

Here's a list of questions for you and everyone else.

1. Is the distributed network model valid? If not,
please explain where it is invalid.

2. Is the wave reflection model valid? If not,
please explain where it is invalid.

3. Is the base of knowledge and laws of physics
from the field of optics valid? If not, please
explain where they are invalid.

4. Is an S-Parameter analysis valid? If not,
please explain where it is invalid.

5. Does the principle of superposition give us
permission to analyze the forward wave and
reflected wave separately and then superpose
the results? If not, please explain why not.

6. Does the conservation of energy principle
work for forward and reflected waves? If not,
why not?

7. Does the label of "obfuscation" really apply
to items 1-6?

8. Do you and other gurus already know everything
there is to know or does every person have holes
in his/her limited knowledge base?
--
73, Cecil, w5dxp.com

4174. Re: NVIS Dipoles Directional?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 14:18:28 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <W66Th.5$na.1@newsfe12.lga>
Source record: 43090

"Dave Oldridge" <doldridg@leavethisoutshaw.ca> wrote in message
news:Xns990EBD90CE39Bdoldridgsprintca@64.59.135.159...
> Rick <Nospam@reply.in.gp> wrote in
> news:pan.2007.04.10.04.34.39.629296@reply.in.gp:
>
>> On Mon, 09 Apr 2007 23:36:56 +0000, Dave Oldridge wrote:
>>
>>> NVIS propagation is pretty high angle stuff. If you look at the
>>> three dimensional patterns for NVIS antennas you will see that they
>>> have a large lobe at high angles and an almost circular
>>> omnidirectional pattern at those angles. We're looking at 80 degrees
>>> and up mostly here, maybe 70 at the low end....so that antennas are
>>> mainly designed to illuminate the patch of ionosphere directly above
>>> the antenna.
>>
>> Right. That's my point. So, what I'm claiming ... and trying to get
>> someone who knows more about this stuff than I do (which is just about
>> all of you) to confirm or deny ... is that with an NVIS dipole,
>> someone 100 miles away from me would not be able to perceive the
>> difference if my antenna was broadside to him or oriented in line with
>> him. True, or false?
>
> Absolutely true. Any difference would be insignificant. The path
> elevation is about 79 degrees for that path.
>
> --
> Dave Oldridge+
> ICQ 1800667

Absolutely???

So if you suspended another dipole above your NVIS dipole and oriented 90
degrees to each other, the difference would be insignificant?
Then move it up into the "clouds", then move down to earth at the distance
and you will see "insignificant" difference in signal levels?

Seems that direction finders should not work according to this "verdict",
Eh?

One thing is the direction of the signals (maximum) another one is the
polarization. Based on the orientation of antennas, one can orient the
antenna to find the minimum signal.

Yuri, K3BU.us

4175. Re: screwdriver vs. tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 14:20:43 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <096Th.6$na.4@newsfe12.lga>
Source record: 43091

"Pro Shop at Home" <firecracker@vfaa.org> wrote in message
news:evhguckak1@news04.infoave.net...
> Both!!
>
>
> "KE5MBX" <nelson.blaha@gmail.com> wrote in message
> news:1172609662.492672.322020@z35g2000cwz.googlegroups.com...
>> I'm planning to get a Yaesu FT-857D and operate mobile HF on as many
>> bands as possible. I see two options so far for my Jeep Wrangler- a
>> 102" whip with a tuner or a screwdriver antenna. Which is the better
>> way to go?
>>
>
>
For those selling them :-)
As far as efficiency, screwdriver will beat the pants off whip with base
tuner, especially on low bands.

Yuri, K3BU.us

4176. Re: screwdriver vs. tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 14:31:47 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <oh6Th.2229$Q23.619@newssvr17.news.prodigy.net>
Source record: 43092

Yuri Blanarovich wrote:
> For those selling them :-)
> As far as efficiency, screwdriver will beat the pants off whip with base
> tuner, especially on low bands.

To the tune of a measured 12 dB difference in 75m
mobile shootouts.
--
73, Cecil, w5dxp.com

4177. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 14:42:16 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <et6Th.33531$XH5.8567@newsfe12.lga>
Source record: 43093

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:q56Th.9282$YL5.4342@newssvr29.news.prodigy.net...
> Owen Duffy wrote:
>> One can only guess at the motivation for all the obfuscation that we see
>> here.
>
> Here's a list of questions for you and everyone else.
>
> 1. Is the distributed network model valid? If not,
> please explain where it is invalid.
>
> 2. Is the wave reflection model valid? If not,
> please explain where it is invalid.
>
> 3. Is the base of knowledge and laws of physics
> from the field of optics valid? If not, please
> explain where they are invalid.
>
> 4. Is an S-Parameter analysis valid? If not,
> please explain where it is invalid.
>
> 5. Does the principle of superposition give us
> permission to analyze the forward wave and
> reflected wave separately and then superpose
> the results? If not, please explain why not.
>
> 6. Does the conservation of energy principle
> work for forward and reflected waves? If not,
> why not?
>
> 7. Does the label of "obfuscation" really apply
> to items 1-6?
>
> 8. Do you and other gurus already know everything
> there is to know or does every person have holes
> in his/her limited knowledge base?
> --
> 73, Cecil, w5dxp.com

I have no beef with above, and would like to thank you and Walt for
persisting in defending, explaining and trying to correct some "wrongos" out
there.

Seems that the unbelievers are in the same camp with those who could not
digest the behavior of loading coils in standing wave antenna circuit. Seems

it would be much nicer if the discussions were more in the line "oh, yea, why?" rather than "you fool, you know notin'" ...or something like that.

I have experienced special case of interference between two antennas, fed from the same transmitter and separate amplifiers. The result was distorted signal on SSB, seems was a bit wider and modulation being raspy. It appears that part of the "other" RF was picked up by other antenna and amp, "processed" and retransmitted. I have observed this effect on one YU station, alerted him to it, asked to switch one PA-ANT off, and signal became "crystal" clean.
Let the "it can't be" games begin :-)

So it seems that if I want transmit the same signal in two or three different directions- antennas, they should not "see" each other, or they will interfere (until they go through atmo/ionosphere "massaging") and lose their correlating identity?

Thanks Cecil and Walt!

73 Yuri, K3BU.us

4178. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 14:57:58 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <WH6Th.9284$YL5.9258@newssvr29.news.prodigy.net>
Source record: 43094

Yuri Blanarovich wrote:
> Seems that the unbelievers are in the same camp with those who could not
> digest the behavior of loading coils in standing wave antenna circuit. Seems
> it would be much nicer if the discussions were more in the line "oh, yea,
> why?" rather than "you fool, you know notin'" ...or something like that.

If you remember, two of those gurus tried to use standing-
wave current to measure the phase shift through a loading
coil apparently not realizing that their simple-minded model
wouldn't accomplish that task because the phase of standing-
wave current is essentially unchanging all up and down the
mobile antenna. Last I heard, they were rabidly defending
those obviously flawed measurements because, of course,
gurus know everything and never make mistakes. :-)
--
73, Cecil, w5dxp.com

4179. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 14:59:28 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1176303568.150707.101420@p77g2000hsh.googlegroups.com>
Source record: 43095

On Apr 11, 4:14 am, Cecil Moore <nos...@w5dxp.com> wrote:

> True negative power just doesn't exist.
> Negative energy would violate the conservation of
> energy principle.

Correct. Therefore 2*sqrt(P1*P2)cos(180) is impossible as well as
ridiculous.

> Since true negative power is impossible, the negative
> power result of a square root process is discarded
> as an artifact.

But what is TRUE negative power, and how does it differ from other
types of negative power? :-)

ac6xg

4180. Re: NVIS Dipoles Directional?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 14:59:38 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1176303578.800751.20210@y5g2000hsa.googlegroups.com>
Source record: 43096

>
> So if you suspended another dipole above your NVIS dipole and oriented 90
> degrees to each other, the difference would be insignificant?
> Then move it up into the "clouds", then move down to earth at the distance
> and you will see "insignificant" difference in signal levels?
>
> Seems that direction finders should not work according to this "verdict",
> Eh?
>
> One thing is the direction of the signals (maximum) another one is the
> polarization. Based on the orientation of antennas, one can orient the
> antenna to find the minimum signal.
>
> Yuri, K3BU.us

Hi Yuri,

As the wave pass through the ionosphere, strange things happen. You could google on Faraday rotation, ordinary and extraordinary waves to find out that at low frequency, the change in polarization is significant.

Based on the down coming wave, you cannot determine the orientation of the transmitting antenna, neither the position with reasonable accuracy (for NVIS propagation).

When you place the receiving antenna just above the transmitting antenna you are right, but we were discussing NVIS propagation.

Best Regards,

Wim
PA3DJS

4181. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 15:48:33 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176306513.556332.125540@w1g2000hsg.googlegroups.com>
Source record: 43097

On Apr 11, 9:02 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Again, the challenge is for you guys to generate standing-
> waves in the complete absence of reverse traveling waves.

I do recall a textbook derivation of the voltages and currents
on a trasmission line that used the distributed model and
differential equations. It expressed the result in terms
of x (distance along the line) and t (time). It was messy.

It then followed this with a proof showing that thinking of
the system as having a forward and reverse wave produced the
same result. This was much simpler.

But which one was real?

In the end, it is the actual distributed voltage and current on
the line that are real, not the means of describing them.

Both methods accurately describe these, but I certainly prefer
the latter since I can do the math for it.

Still, just because I like to think of it that way, just because
it gives me the right answers, does not mean that that is the way
it is.

Reality is the distributed voltage and current.

Use the analysis technique of your choice, but only as long as
it gives you the correct answers.

...Keith

4182. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 15:48:41 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <tr7Th.14133$JZ3.12724@newssvr13.news.prodigy.net>
Source record: 43098

Jim Kelley wrote:

> Cecil Moore <nos...@w5dxp.com> wrote:
>> True negative power just doesn't exist.
>> Negative energy would violate the conservation of
>> energy principle.
>
> Correct. Therefore 2*sqrt(P1*P2)cos(180) is impossible as well as
> ridiculous.

That's the interference term, Jim. Hecht, Born, and Wolf
all agree that the interference term can be negative.
Suggest you take a refresher course and alleviate the
ignorance you are displaying for everyone to observe.

Remember that P1 and P2 are Poynting vectors, i.e. power
densities and the negative sign simply denotes the
decrease in power density due to destructive interference.
The negative destructive interference subtracts from the
P1+P2 power and the result of that subtraction can *never*
be negative. The interference term has NO separate existence
aside from the existence of the power density components of
P1 and P2.

Please tell Hecht, Born, and Wolf that they are ridiculous.

2SQRT(I1*I2)cos(A)

That's the third term in equation (15) page 259, 4th
edition of "Principles of Optics".

If cos(A) is 180 degrees, the interference term becomes
negative and subtracts from the I1+I2 sum.

Born and Wolf continue, "... and minima of intensity

Imin = I1 + I2 - 2*SQRT(I1*I2)"

Exactly the same equations appear in "Optics", by Hecht,
4th edition, page 388.

"Imin = I1 + I2 - 2*SQRT(I1*I2)"

Note that I is intensity or irradiance, the dimensions
of which are watts/unit-area, exactly the same dimensions
as the Poynting vectors, P1 and P2 above.

In "Fields and Waves in Modern Radio", Ramo and Whinnery
subtract Poynting vectors that are 180 degrees out of
phase to obtain the net Poynting vector?

>> Since true negative power is impossible, the negative
>> power result of a square root process is discarded
>> as an artifact.
>
> But what is TRUE negative power, and how does it differ from other
> types of negative power? :-)

The sign on a power term denotes a decrease in power level
but never to a negative level. Thus, reflected power subtracts
from the forward power to obtain power delivered to the load.
Destructive interference power subtracts from average power
to allow for constructive interference power. In no case does
the net power go negative.
--
73, Cecil, w5dxp.com

4183. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 15:54:01 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <tw7Th.14138$JZ3.9072@newssvr13.news.prodigy.net>
Source record: 43099

Keith Dysart wrote:
> But which one was real?

That's a metaphysical question. First please prove
that you are real. :-)

> Use the analysis technique of your choice, but only as long as
> it gives you the correct answers.

It has in every case so far. Other techniques, like
using standing-wave current to try to measure the
phase shift through a loading coil, have failed
miserably.
--
73, Cecil, w5dxp.com

4184. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 16:25:23 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176308723.836912.151990@e65g2000hsc.googlegroups.com>
Source record: 43100

On Apr 11, 11:54 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > But which one was real?
>
> That's a metaphysical question.

So it is settled then. There is no NEED for a forward OR reverse
travelling wave. Differential equations rule.

> First please prove that you are real. :-)

It doesn't matter if I am real as long as you think I am.

> > Use the analysis technique of your choice, but only as long as
> > it gives you the correct answers.
>
> It has in every case so far.

Well, except for the inability to explain where the "reflected
power" goes in the transmitter. Of course this is not an issue
for carefully selected examples where no "reflected power" reaches
the transmitter. A more general analysis technique would not
require such careful selection of examples.

...Keith

4185. Re: How do I break it to the neighbors

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 16:28:21 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <evj29qhuq1@nnrp.linuxfan.it>
Source record: 43101
Body handling: Binary attachment payload not displayed: lol.gif

Cecil Moore wrote:
> Jim Higgins wrote:
>> A few of the hams I know have equally selfish wives. Some let
>> themselves get run over and some don't.
>
> Are you advocating running over selfish wives? :-)

I couldn't even threaten to run over the XYL--she'd kill me :-(

JS

[One or more binary attachments are retained only in the source text.]

4186. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 16:34:49 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <evj2m0$jb7$1@nnrp.linuxfan.it>
Source record: 43102

Keith Dysart wrote:

> ...
> Well, except for the inability to explain where the "reflected
> power" goes in the transmitter. Of course this is not an issue
> for carefully selected examples where no "reflected power" reaches
> the transmitter. A more general analysis technique would not
> require such careful selection of examples.
>
> ...Keith
>

When I fire up the big russian 3.5KW linear into a high swr, I don't have to guess about where the reflected power is going at the xmitter, the nice red glow on the plates are an excellent indication when they begin dumping unknown amounts of power as infrared radiation ... when I grab the coax (150 ft. run) and feel its warmth, I even wonder about how much power it takes to elevate it's temp!

JS

4187. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 17:03:33 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <evj4ep$s23$1@news.service.uci.edu>
Source record: 43104

Cecil Moore wrote:
> Jim Kelley wrote:
>
>> Cecil Moore <nos...@w5dxp.com> wrote:
>>
>>> True negative power just doesn't exist.
>>> Negative energy would violate the conservation of
>>> energy principle.
>>
>>
>> Correct. Therefore 2*sqrt(P1*P2)cos(180) is impossible as well as
>> ridiculous.
>
>
> That's the interference term, Jim. Hecht, Born, and Wolf
> all agree that the interference term can be negative.
> Suggest you take a refresher course and alleviate the
> ignorance you are displaying for everyone to observe.

Ah, but the ignorance being seen by all is all yours, sir. You continue to ignore a significant detail, Cecil. See if you can find it. Hint: people who write physics books know that power does not interfere.

> Please tell Hecht, Born, and Wolf that they are ridiculous.

I agree with them, and they don't post here. But if they did, they'd be telling you the same thing as everyone else here.

ac6xg

4188. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 17:06:30 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <qA8Th.16108$Um6.12524@newssvr12.news.prodigy.net>
Source record: 43103

Keith Dysart wrote:
> So it is settled then. There is no NEED for a forward OR reverse
> travelling wave. Differential equations rule.

Yes, it is settled in your own mind. In my mind,
there is certainly a need for forward and reverse
traveling waves without which standing-waves would
not be possible. If you want to deny the existence
of the cause of standing-waves, there is nothing
I can to stop you.

> Well, except for the inability to explain where the "reflected
> power" goes in the transmitter. Of course this is not an issue
> for carefully selected examples where no "reflected power" reaches
> the transmitter. A more general analysis technique would not
> require such careful selection of examples.

The more general analysis technique tells us that
the moon is 1000 miles away from the earth. I don't
know how far away the moon is but I know it is not
1000 miles away.
--
73, Cecil, http://www.qsl.net/w5dxp

4189. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 17:51:18 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <qe9Th.14152$JZ3.7607@newssvr13.news.prodigy.net>
Source record: 43105

Jim Kelley wrote:
> Hint:
> people who write physics books know that power does not interfere.

Please tell that to someone who disagrees with
that statement, Jim, which is not me. Here's what
I said in my years old energy analysis article.

"The term 'power flow' has been avoided in favor of
'energy flow'. Power is a measure of that energy flow
per unit time through a plane. Likewise, the EM fields
in the waves do the interfering. Powers, treated as
scalars, are incapable of interference."

You keep making statements like the above in hopes
someone somewhere will believe that I disagree with
it. Old trick - doesn't work.

I say, *EM WAVES DO THE INTERFERING*. Do you want
to argue about that?

I say, *POWERS ARE INCAPABLE OF INTERFERENCE*. Do
you want to argue about that?

Please, if we are going to argue about something,
make it something upon which we disagree.
--
73, Cecil, http://www.qsl.net/w5dxp

4190. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 19:06:37 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <461d31cf$0$5763$4c368faf@roadrunner.com>
Source record: 43106

"Thomas Horne" <hornetd@mindspring.com> wrote in message
news:cgZSh.20289$PL.14373@newsread4.news.pas.earthlink.net...
> Jimmie D wrote:
>> "Bud--" <remove.BudNews@isp.com> wrote in message
>> news:35818$461bb6bc$4213ea1f$14297@DIALUPUSA.NET...
>>> Jimmie D wrote:
>>>
>>>>>> Hopefully you are not really using the water pipe for a ground for
>>>>>> your electrical service. Hopefully your plumbing is just bonded to
>>>>>> the electrical ground. Dont even think about using this for lightning
>>>>>> protection. Nothing like having lightning run in on your plumbing
>>>>>> while taking a bath or have it run in on yor ground and eat about $7K
>>>>>> worth of test equipment(my bad).
>>>>>>
>>>>>> Jimmie
>>>>> Jimmie
>>>>>
>>>>> DE KB3OPR
>>>>>
>>>>> I am an electrician by craft. The US National Electric Code Requires
>>>>> that underground metal water piping on the premise be used as a
>>>>> grounding electrode for the electrical system. There is no way around
>>>>> it. No matter how fast people talk you cannot avoid using an
>>>>> underground metal piping system as a grounding electrode unless the
>>>>> electrical inspector is incompetent.
>>>>> --
>>>>> Tom Horne
>>>>
>>>> Tom you are confusing grounding with bonding, the plumbing should be
>>>> bonded to ground but not used for ground, at least this is getting to
>>>> be the rule in most places. I know that using the plumbing for ground
>>>> is still acceptaable in places and in a lot of places it is still
>>>> acceptable if if the local code permitted it at the time it was
>>>> installed(grandfathering)..
>>>
>>> An electrician confusing grounding and bonding - that is pretty funny.
>>>
>>> From the US National Electrical Code
>>> ?250.50 Grounding Electrode System
>>> All grounding electrodes as described in 250.52(A)(1) through (A)(6)
>>> that are present at each building or structure served shall be bonded
>>> together to form the grounding electrode system.?
>>>
>>> ?250.52(A)(1) Metal Underground Water Pipe?

>>> (10 feet or more metal in earth)
>>>
>>> Using underground metal water pipe as a grounding electrode is REQUIRED.
>>> And this has been a requirement for a very long time. Local codes may be
>>> different from the NEC, but it is unlikely they are different on this.
>>>
>>> And if you just "bond" metal water pipe it will work as a grounding
>>> electrode anyway.
>>>
>>> --
>>> bud--
>>>
>>
>> True enough but there is a difference, grounding is connecting to earth
>> bonding is tying conductive structures together so they are at equal
>> potential. Ground is a single point that everything else is bonded.
>> Ground should be a stucture that the qualified electrician should be
>> familar with not plumbing that may or may not be intact. If you dont
>> believe me just try to get an electrical inspection on a new home without
>> a ground rod installed.
>>
>> BTW the NEC is a minimum standard not a guide on how to wire your
>> house.or perform grounding and bonding.
>>
>> You wouldnt believe what electricians dont know, like checking phase
>> rotation before turning on a new 200KW UPS. or megging out lines before
>> turning on new parking lot lights or making sure a generator is not
>> backfeeding a line before working on it. All things I have seen
>> electricans screw up in the past year.
>>
>> Jimmie
>
> Jimmie
> I can assure you I don't do that sort of careless nonsense. I can also
> assure you that whenever I'm involved before the foundation is poured or
> at least prior to it being back filled there will be no driven rods on
> that job. They are the single least effective electrode you can install.
> When I have to install driven rods, such as for a heavy up, I will stack
> them using rod couplers until I'm under twenty five ohms and perform a
> witnessed test for the inspector. I consider eight foot driven rods a
> complete waste of time. Mind you I'll install them when I'm forced to but
> you will usually find mine driven through the bottom of a three foot deep
> trench on at least twenty feet of bare copper number two AWG grounding
> electrode conductor.
>
> As for the US NEC being a minimum standard that is not always true. In at
> least ten states it is both the minimum and the maximum standard that a
> public electrical inspector may apply. So called "min max" states do not
> allow the local governments to amend the US NEC. Were the US NEC is the
> minimum standard you have to use underground metal water piping as a

> grounding electrode whether or not it jibes with your religious beliefs
> about what constitutes an electrode or not. If you were bonding the
> plumbing you could do that with a conductor sized for the largest branch
> circuit supplying an appliance that is attached to the plumbing. When you
> are using the piping as an electrode you must size the conductor to the
> size of the service entry conductors. People like W Tom cannot bring
> themselves to admit that underground metal water piping is an effective
> grounding electrode and worse still that it more effective then most of
> the other electrodes listed in the US NEC at least in homes. I always
> check the impedance of my grounding electrodes and that's what the
> measurements say to me.
> --
> Tom Horne

The point I am trying to make is that the ground system must be sufficent on its own and not need to connect to the buildings plumbing to improve the ground. You should never depend on the plumbing especially on residential work because you can not maintain control of modifications to that plumbing system. Good example is my in-laws home, for years the house connected to the well via 1 inch metal pipe and this was also the ground for the house as it was built in 1974. When the new well was drilled plastic pipe was installed to the new well with no groundwire going back to the well casing. A couple of years later a new HVAC system was installed and when there was an accidental short circuit the well pump was fried. This would not have happened if a proper grounding system had been installed at the house instead of relying on the plumbing. Professionals have a responsibility to idiot -proof there work as much as possible but you know how it is, sooner or later someone makes a better idiot.

The fact that the water pipes may be effective or even better than the installed ground really have nothing to do with anything. Ground sytems are for grounding, Plumbing is for water. Electrians dont do plumbing and plumbers dont rewire homes.

Jimmie

4191. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 20:33:26 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns991042B01D94Enonenowhere@61.9.191.5>
Source record: 43008

Cecil Moore <nospam@w5dxp.com> wrote in
news:l%4Th.1511$2v1.1235@newssvr14.news.prodigy.net:

> Owen Duffy wrote:
>> Roy, one of the questions I continue to ask myself is why certain
>> explanations of transmission line / load behaviour seem inconsistent
>> with basic AC circuit theory as it applies at 50Hz or 60Hz, ...
>
> That's an easy one, Owen. The wavelength is so long at
...

Cecil, you have conveniently clipped the context (as you do), the relevant context being the line-load interface and source-line interface.

Statements in some explanations (by others) like "This clearly proves that reflected power and forward power in a transmission line are both real power, and that no fictitious power, or reactive volt-amperes, exists in either one." seem incompatible with the basic AC circuit theory explanation of a reactive load which must exchange reactive energy with the transmission line over a complete cycle (and the same effect at the source end).

Perhaps it is explained by hopping in an out of the instantaneous and average context, just like switching between lossless lines and lossy lines context with declaration, while actually carrying the analytical simplicity of lossless lines and selectively layering selected aspects of the loss.

BTW, I am not surprised at your dissertation apparently dismissing the distributed impedance model of a line, because after all it is the solution of that model that gives us the classic transmission line equations that you seem to not want to use.

If the distributed network model you favour is the S paramater model, properly applied, it is in fact entirely consistent with the distributed impedance line model because the parameters are derived from the solution to the distributed impedance line model.

Owen

4192. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 20:40:33 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns991043E4BCF4Cnonenowhere@61.9.191.5>
Source record: 43107

John Smith I <assemblywizard@gmail.com> wrote in news:evj2m0$jb7$1
@nnrp.linuxfan.it:

> When I fire up the big russian 3.5KW linear into a high swr, I don't
> have to guess about where the reflected power is going at the xmitter,
> the nice red glow on the plates are an excellent indication when they
> begin dumping unknown amounts of power as infrared radiation ... when I
> grab the coax (150 ft. run) and feel its warmth, I even wonder about how
> much power it takes to elevate it's temp!

John,

With that insight and rigorous development, it must be time for you to
publish a book.

Owen

4193. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 20:58:53 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <evji53$kf9$1@nnrp.linuxfan.it>
Source record: 43108

Owen Duffy wrote:

> ...
> John,
>
> With that insight and rigorous development, it must be time for you to
> publish a book.
>
> Owen

Owen:

How'd you guess?

Title of book, "Spontaneous Thermal Emission of RF Finals and Feedline
in Amateur Radio Systems With No Apparent Cause(s)!"

Trouble is, the book stores keep putting it with the works on fiction :-(

JS

4194. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 21:00:30 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99104746EFE15nonenowhere@61.9.191.5>
Source record: 43109

Owen Duffy <none@no.where> wrote in
news:Xns991042B01D94Enonenowhere@61.9.191.5:

> lines context with declaration, while actually carrying the analytical

That should have read "without declaration".

4195. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 21:00:58 UTC
From: richardharrison@webtv.net
Message-ID: <9683-461D4C8A-1113@storefull-3257.bay.webtv.net>
Source record: 43110

Roy Lewallen, W7EL wrote:
"A real analysis of energy flow involves calculating the power at
various points and times in the circuit or transmission line of
interest."

Yes. Bird Electronic Corporation has done a good job of this with its
"Thruline" wattmeter for several decades.

Its practice is to measure in a 50-ohm Zo resistive lossless impedance
environment where forward and reflected waves are 180 regrees
out-of-phase. This allows Bird to say:
"Power delivered and dissipated in the load is given by:
Watts into Load = Wforward - Wreflected"

I would not argue with success.

Best regards, Richard Harrison, KB5WZI

4196. Re: NVIS Dipoles Directional?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 21:18:40 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns990F9194A3B86doldridgsprintca@64.59.135.159>
Source record: 43111

```
"Yuri Blanarovich" <K3BU@optonline.net> wrote in
news:W66Th.5$na.1@newsfe12.lga:

>
> "Dave Oldridge" <doldridg@leavethisoutshaw.ca> wrote in message
> news:Xns990EBD90CE39Bdoldridgsprintca@64.59.135.159...
>> Rick <Nospam@reply.in.gp> wrote in
>> news:pan.2007.04.10.04.34.39.629296@reply.in.gp:
>>
>>> On Mon, 09 Apr 2007 23:36:56 +0000, Dave Oldridge wrote:
>>>
>>>> NVIS propagation is pretty high angle stuff. If you look at the
>>>> three dimensional patterns for NVIS antennas you will see that they
>>>> have a large lobe at high angles and an almost circular
>>>> omnidirectional pattern at those angles. We're looking at 80
>>>> degrees and up mostly here, maybe 70 at the low end....so that
>>>> antennas are mainly designed to illuminate the patch of ionosphere
>>>> directly above the antenna.
>>>
>>> Right. That's my point. So, what I'm claiming ... and trying to
>>> get someone who knows more about this stuff than I do (which is just
>>> about all of you) to confirm or deny ... is that with an NVIS
>>> dipole, someone 100 miles away from me would not be able to perceive
>>> the difference if my antenna was broadside to him or oriented in
>>> line with him. True, or false?
>>
>> Absolutely true. Any difference would be insignificant. The path
>> elevation is about 79 degrees for that path.
>>
>> --
>> Dave Oldridge+
>> ICQ 1800667
>
> Absolutely???
>
> So if you suspended another dipole above your NVIS dipole and oriented
> 90 degrees to each other, the difference would be insignificant?
> Then move it up into the "clouds", then move down to earth at the
> distance and you will see "insignificant" difference in signal levels?
>
> Seems that direction finders should not work according to this
> "verdict", Eh?

And they don't actually work on NVIS signals unless you use them to
measure elevation, in which case they point fairly high up.
```

>
> One thing is the direction of the signals (maximum) another one is the
> polarization. Based on the orientation of antennas, one can orient the
> antenna to find the minimum signal.

You're assuming the ionosphere doesn't rotate the signal (or even render its polarization elliptical). Whether that's happening or not will likely depend on conditions at the time. But if it doesn't, then it doesn't matter which way the antennas are oriented in azimuth so long as they are both oriented the same.

--
Dave Oldridge+
ICQ 1800667

4197. Re: screwdriver vs. tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 21:22:49 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns990F92488659Edoldridgsprintca@64.59.135.159>
Source record: 43112

"Yuri Blanarovich" <K3BU@optonline.net> wrote in news:096Th.6$na.4
@newsfe12.lga:

>
> "Pro Shop at Home" <firecracker@vfaa.org> wrote in message
> news:evhguckak1@news04.infoave.net...
>> Both!!
>>
>>
>> "KE5MBX" <nelson.blaha@gmail.com> wrote in message
>> news:1172609662.492672.322020@z35g2000cwz.googlegroups.com...
>>> I'm planning to get a Yaesu FT-857D and operate mobile HF on as many
>>> bands as possible. I see two options so far for my Jeep Wrangler- a
>>> 102" whip with a tuner or a screwdriver antenna. Which is the better
>>> way to go?
>>>
>>
>>
> For those selling them :-)
> As far as efficiency, screwdriver will beat the pants off whip with
base
> tuner, especially on low bands.

Yep....a GOOD screwdriver with a really high-Q coil will run rings around
most other short antennas. Especially if you use a capacity hat. But
for mobile operation while travelling, that gets a bit bulky and hard to
tame, physically.

--
Dave Oldridge+
ICQ 1800667

4198. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 21:26:27 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131qkkchudg9677@corp.supernews.com>
Source record: 43113

Richard Harrison wrote:
> Roy Lewallen, W7EL wrote:
> "A real analysis of energy flow involves calculating the power at
> various points and times in the circuit or transmission line of
> interest."
>
> Yes. Bird Electronic Corporation has done a good job of this with its
> "Thruline" wattmeter for several decades.
> . . .

No, the Bird wattmeter measures only the average power and only at one point. That's vastly different from what I described, which is instantaneous power as a function of time at many points along the line. A complete analysis of energy flow would include equations for the power as a function of time and position. You're sadly mistaken if you think you're getting this information from your Bird wattmeter.

Roy Lewallen, W7EL

4199. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 21:36:00 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99104D4BBE778nonenowhere@61.9.191.5>
Source record: 43114

John Smith I <assemblywizard@gmail.com> wrote in news:evji53$kf9$1
@nnrp.linuxfan.it:

> Owen Duffy wrote:
>
> > ...
>> John,
>>
>> With that insight and rigorous development, it must be time for you to
>> publish a book.
>>
>> Owen
>
> Owen:
>
> How'd you guess?
>
> Title of book, "Spontaneous Thermal Emission of RF Finals and Feedline
> in Amateur Radio Systems With No Apparent Cause(s)!"
>
> Trouble is, the book stores keep putting it with the works on fiction
:-(

John, it will never sell to the amateur market... you need a simple,
catchy title. If it is destined for the fiction category, you could offer
an sub title like "How reflections ruined my PA... from a ham who
survived to tell the REAL story", with "Don't let it happen to you"
emblazened in flouro red across the cover.

Seriously, simple explanations are appealing, they provide content for
discussion by experts on-air, whether they are correct or not. Simple
explanations can be good, but incorrect ones are never good.

Owen

4200. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 21:51:51 UTC
From: richardharrison@webtv.net
Message-ID: <9684-461D5877-176@storefull-3257.bay.webtv.net>
Source record: 43116

Roy Lewallen, W7EL wrote:
"No, the Bird wattmeter measures only the average power and only at one point."

True. The Bird wattmeter measures average power, the same as any a-c wattmeter, and only at the point of measurement. If the line is lossy, the numbers are higher near the generator, and difference between forward numbers, for example, is an indication of loss between insertion points.

Best regards, Richard Harrison, KB5WZI

4201. Re: all informations delta loop antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 22:01:36 UTC
From: Amerigo Vespucci <eat@italian.res>
Message-ID: <4VcTh.15011$Cl.7959@trndny08>
Source record: 43115

"oli" <oli004@wanadoo.fr> wrote in message
news:461cd78a$0$5075$ba4acef3@news.orange.fr...
> Hi all,
>
> I'am looking for a maximum informations about delta loop antennas.
> First of all, I found a lot of interesting documents with Antenna Searh
> http://www.les-antennes.fr/index.php?antenna=delta+loop+calculator
> that can help me, but I don't find any document who explain what is the
> best mechanical technics to fixed elements to the boom.
>
> Best regards
>
> Oli

Anything you want to know (and then some) about antennas can be found here

http://www.cebik.com/

4202. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 22:13:52 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns991053B783C42nonenowhere@61.9.191.5>
Source record: 43117

richardharrison@webtv.net (Richard Harrison) wrote in news:9684-461D5877-176@storefull-3257.bay.webtv.net:

> Roy Lewallen, W7EL wrote:
> "No, the Bird wattmeter measures only the average power and only at one
> point."
>
> True. The Bird wattmeter measures average power, the same as any a-c

... where "measures" and "average" are used quite loosely.

Owen

4203. Re: screwdriver vs. tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 22:16:57 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <t7dTh.16158$Um6.9395@newssvr12.news.prodigy.net>
Source record: 43118

Dave Oldridge wrote:
> Yep....a GOOD screwdriver with a really high-Q coil will run rings around
> most other short antennas. Especially if you use a capacity hat. But
> for mobile operation while travelling, that gets a bit bulky and hard to
> tame, physically.

Not at all, Dave. $5 worth of PVC pipe works wonders.

http://www.w5dxp.com/shootout.htm
--
73, Cecil http://www.w5dxp.com

4204. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 22:25:33 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <xfdTh.16160$Um6.1899@newssvr12.news.prodigy.net>
Source record: 43119

Roy Lewallen wrote:
> You're sadly mistaken if you think
> you're getting this information from your Bird wattmeter.

Richard seems to be getting all the information from
the Bird that he needs. However, your psychological
compulsion to measure something besides average power
is a perplexing need indeed.
--
73, Cecil http://www.w5dxp.com

4205. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 22:28:46 UTC
From: catv tech <torey54@hotmail.com>
Message-ID: <1176330526.439303.75700@e65g2000hsc.googlegroups.com>
Source record: 43120
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

On Apr 5, 12:53 pm, "szilagyic" <c...@groupinfo.com> wrote:
> Hello,
>
> I am just trying to get an updated list of the top brands of RG-6 quad
> shield coax cable. I have seen posts from a few years back mentioning
> Belden, Carol, and Commscope, but I just wanted to get an updated
> list. I have seen Carol and Zenith brands at local stores recently,
> are these any good? Mainly going to use this cable for running feeds
> from HDTV & analog TV antennas in the walls of a house.
>
> Thank you very much for all feedback,
> --
> Chris

I'm almost certain that I'm out of my league (having read some of the previous replies), but for some reason feel bound to input my 2 cents worth (unsure of equivalent value in the mother country <United Kingdom>).

1). periodicity, as I understand it, is more likely to "suck out" ONE particular channel frequency, not several. On the surface, it sounds more like ingress, or some kind of beat.

2). say what you will about crimp and screw on connectors, but the fact is that I make a living as a "noise / leakage" technician, and replace a LOT of them having tracked them down with a spectrum analyzer. Lot's of home builders and home owners use them because they're less expensive, but not installed correctly. Perhaps a trained and experienced installer can put them on properly, but those are few and far between ..... screw on connectors <especially> SUCK in my humble opinion.

3). I'm wondering about perhaps a "store bought" / inferior brand of splitter that might also have been replaced along with the connectors, or perhaps a cross-threaded, corroded (or otherwise inferior) connection, that might be creating the problem. Though unlikely, might be bad cable (even if it IS new "brand name" wire .... stranger things have happened).

Subtle problem, more info is needed. Ideally, a good tech with the proper equipment could look at it and track down the problem. In here, it's all speculation and educated guesses.

I only have 30 + yrs experience in the cable industry, so I'm apparently the FNG in this thread.

Good luck.

4206. RF/antennas hands-on book

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 22:40:40 UTC
From: Theo Markettos <theom+news@chiark.greenend.org.uk>
Message-ID: <Cqq*6J1Hr@news.chiark.greenend.org.uk>
Source record: 43121
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.misc

I need to brush up my RF and antenna knowledge, which is always something that I've almost but not quite understood. I've got a few books on the subject (two by Kraus, Electromagnetics and Antennas, and another on RFIC design) but they're often dry academic tomes and it's hard to get a feel for the subject. I'd really like something along the lines of The Art of Electronics for RF. The AofE has a high-frequency chapter but it's a bit too brief (though I ought to go and reread it, it's been a while).

Any recommendations for hands-on books that are relatively easy to read, to give an idea of practicalities as well as theory?

Thanks
Theo

4207. Re: NVIS Dipoles Directional?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 22:47:47 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <pAdTh.33567$XH5.970@newsfe12.lga>
Source record: 43122

"Wimpie" <wimtel@tetech.nl> wrote in message
news:1176303578.800751.20210@y5g2000hsa.googlegroups.com...
>
>>
>> So if you suspended another dipole above your NVIS dipole and oriented 90
>> degrees to each other, the difference would be insignificant?
>> Then move it up into the "clouds", then move down to earth at the
>> distance
>> and you will see "insignificant" difference in signal levels?
>>
>> Seems that direction finders should not work according to this "verdict",
>> Eh?
>>
>> One thing is the direction of the signals (maximum) another one is the
>> polarization. Based on the orientation of antennas, one can orient the
>> antenna to find the minimum signal.
>>
>> Yuri, K3BU.us
>
> Hi Yuri,
>
> As the wave pass through the ionosphere, strange things happen. You
> could google on Faraday rotation, ordinary and extraordinary waves to
> find out that at low frequency, the change in polarization is
> significant.
>

Change does not mean that polarization dissapears.

> Based on the down coming wave, you cannot determine the orientation of
> the transmitting antenna, neither the position with reasonable
> accuracy (for NVIS propagation).
>
> When you place the receiving antenna just above the transmitting
> antenna you are right, but we were discussing NVIS propagation.
>
> Best Regards,
>
> Wim
> PA3DJS
>

So when signal is reflected, the polarization disappears?

73 Yuri, K3BU

4208. Re: RF/antennas hands-on book

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 22:51:07 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131qpj45m3gur5c@corp.supernews.com>
Source record: 43123
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.misc

Theo Markettos wrote:
> I need to brush up my RF and antenna knowledge, which is always something
> that I've almost but not quite understood. I've got a few books on the
> subject (two by Kraus, Electromagnetics and Antennas, and another on RFIC
> design) but they're often dry academic tomes and it's hard to get a feel for
> the subject. I'd really like something along the lines of The Art of
> Electronics for RF. The AofE has a high-frequency chapter but it's a bit
> too brief (though I ought to go and reread it, it's been a while).
>
> Any recommendations for hands-on books that are relatively easy to read, to
> give an idea of practicalities as well as theory?

The ARRL Antenna Book.

Among texts, King, Mimno, and Wing's _Transmission Lines, Antennas, and Wave Guides_ is one I find particularly clearly written. The Dover paperback edition (1965) can usually be found at a reasonable price.

Roy Lewallen, W7EL

4209. Re: RF/antennas hands-on book

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-11 22:51:46 UTC
From: Bill Shymanski <wtshyman@mts.net>
Message-ID: <YMdTh.9806$2q7.7793@newsfe19.lga>
Source record: 43124
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.misc

"Theo Markettos" <theom+news@chiark.greenend.org.uk> wrote in message
news:Cqq*6J1Hr@news.chiark.greenend.org.uk...
> I need to brush up my RF and antenna knowledge, which is always
something
> that I've almost but not quite understood. I've got a few books on
the
> subject (two by Kraus, Electromagnetics and Antennas, and another on
RFIC
> design) but they're often dry academic tomes and it's hard to get a
feel for
> the subject. I'd really like something along the lines of The Art of
> Electronics for RF. The AofE has a high-frequency chapter but it's a
bit
> too brief (though I ought to go and reread it, it's been a while).
>
> Any recommendations for hands-on books that are relatively easy to
read, to
> give an idea of practicalities as well as theory?
>
> Thanks
> Theo

Amateur radio, perhaps? In the UK look for publications by the Radio
Society of Great Britain; or possibly some libraries and bookstores have
the ARRL Handbooks.

Bill

4210. Re: all informations delta loop antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 00:18:55 UTC
From: Bob Bob <bob3bob3@suddenlink.net>
Message-ID: <gga0f4-rfs.ln1@p400bob.personal.cox.net>
Source record: 43125

Hi Oli

Construction method of course depends on the size/freq of the thing. In some cases you can use plumping or electrical conduit fittings . I have also seen muffler clamps used but be careful not to weaken the element too much my drilling. Possibly a muffler clamp bolted to some flat bar which is then attached to the elements with hose clamps. Watch out for dissimilar metal corrosion though..

These loops can also be hung from trees. You may even be able to use PVC pipe as supports if the frequency isn't too low..

I had a double delta some years ago that had two elements arrange bow-tie like off opposite sides of the boom. This reduced the torque stress somewhat as the element from one side mechanically continued to the other.

Cheers Bob

oli wrote:
> Hi all,
>
> I'am looking for a maximum informations about delta loop antennas.
> First of all, I found a lot of interesting documents with Antenna Searh
> http://www.les-antennes.fr/index.php?antenna=delta+loop+calculator
> that can help me, but I don't find any document who explain what is the
> best mechanical technics to fixed elements to the boom.
>
> Best regards
>
> Oli
>
>

4211. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 03:16:33 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <evk894$4v3$1@nnrp.linuxfan.it>
Source record: 43126

Cecil Moore wrote:

> ...
> Richard seems to be getting all the information from
> the Bird that he needs. ...

Better to get 'yer information from the bird, then to be given the bird.
Seems to be more than one bird "flying" around here! <chuckle>

Regards,
JS

4212. Re: RF/antennas hands-on book

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 03:20:14 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <evk8g1$4v3$2@nnrp.linuxfan.it>
Source record: 42977
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.misc

Theo Markettos wrote:
> I need to brush up my RF and antenna knowledge, which is always something
> that I've almost but not quite understood. I've got a few books on the
> subject (two by Kraus, Electromagnetics and Antennas, and another on RFIC
> design) but they're often dry academic tomes and it's hard to get a feel for
> the subject. I'd really like something along the lines of The Art of
> Electronics for RF. The AofE has a high-frequency chapter but it's a bit
> too brief (though I ought to go and reread it, it's been a while).
>
> Any recommendations for hands-on books that are relatively easy to read, to
> give an idea of practicalities as well as theory?
>
> Thanks
> Theo

On this, I have to admit, The ARRL Antenna Book is well done ... also,
past editions of the ARRL handbooks can be had for a song in used book
stores ... antenna design in amateur circles is rather stagnant, old
literature can still be utilized.

Regards,
JS

4213. Getting an R8 Saturday!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 03:31:47 UTC
From: garlicman <None>
Message-ID: <uN2dnbUVZZy1NYDbnZ2dnUVZ_tmknZ2d@comcast.com>
Source record: 42978

Woohoo! I recently upgraded to General and am getting my used R8 tomorrow.
Can't wait!

4214. Off Topic

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 05:03:11 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <j4jTh.160591$Ko5.74163@newsfe08.phx>
Source record: 42979

Heard the Swain's Island DXpedition on 14.195 USB tonight around 0430 GMT.
He was working a split, so I couldn't work him with just my one TS-120.
Pity. Would've been a real catch.

4215. Re: Off Topic

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 05:12:41 UTC
From: Bryan <bryan.swadenerNOSPAM@comcast.net>
Message-ID: <RNKdnbqJdZ6KXIDbnZ2dnUVZ_tunnZ2d@giganews.com>
Source record: 42980

Sal M. Onella wrote:
> Heard the Swain's Island DXpedition on 14.195 USB tonight around 0430 GMT.
> He was working a split, so I couldn't work him with just my one TS-120.
> Pity. Would've been a real catch.
>
I found the VFO-120 to cure the problem of "split-itis". ;^)
They turn up for sale more often than you might think.
73,
Bryan WA7PRC

PS: Mine's *not* for sale!

4216. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 05:27:07 UTC
From: Bryan <bryan.swadenerNOSPAM@comcast.net>
Message-ID: <rdadnZp4VNIdWYDbnZ2dnUVZ_o-knZ2d@giganews.com>
Source record: 42981

Jimmie D wrote:
[big snip]
> ...and plumbers dont rewire homes.
>
> Jimmie

They're not *supposed* to! >:-(
Bryan

4217. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 10:35:40 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176374140.155615.271780@o5g2000hsb.googlegroups.com>
Source record: 42982

On Apr 11, 1:06 pm, Cecil Moore <myc...@hotmail.com> wrote:
> Keith Dysart wrote:
> > So it is settled then. There is no NEED for a forward OR reverse
> > travelling wave. Differential equations rule.
>
> Yes, it is settled in your own mind. In my mind,
> there is certainly a need for forward and reverse
> traveling waves without which standing-waves would
> not be possible. If you want to deny the existence
> of the cause of standing-waves, there is nothing
> I can to stop you.

My mistake. But it is difficult to know your position when
you don't indicate clearly that you disagree, so I thought
that with your reply you were agreeing. Apologies.

> > Well, except for the inability to explain where the "reflected
> > power" goes in the transmitter. Of course this is not an issue
> > for carefully selected examples where no "reflected power" reaches
> > the transmitter. A more general analysis technique would not
> > require such careful selection of examples.
>
> The more general analysis technique tells us that
> the moon is 1000 miles away from the earth. I don't
> know how far away the moon is but I know it is not
> 1000 miles away.

This is a bit of a non sequitur. So what is it that you really
disagree with in the analyses performed by myself and others?

Just for clarity, an example problem that has been previously
analysed is the following:
A generator with a 450 Ohm source impedance drives a 450 Ohm
ideal transmission line terminated in 75 Ohms. What is the
magnitude of the re-reflected wave at the generator?

I think you object to computing the amount of the reverse wave
that is reflected at the generator by using the source impedance.
More specifically you do not agree that the reflection
coefficient at the generator can be derived using
RC = (Zsource - Zline)/(Zsource + Zline).
Also, you do not agree that superposition applies at the source.

Given this, you then do not agree with the computations of the
quantity of the reverse wave that is reflected at the source which
then invalidates any further analysis.

Have I managed to capture the essence of your disagreement with my and others analyses?

Note that these analyses have been performed without the use of powers or interference so these side issues are not part of this question.

...Keith

4218. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 12:15:31 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <DppTh.7898$Kd3.7487@newssvr27.news.prodigy.net>
Source record: 42983

Keith Dysart wrote:
> My mistake. But it is difficult to know your position when
> you don't indicate clearly that you disagree, so I thought
> that with your reply you were agreeing. Apologies.

I don't disagree with anyone's metaphysics. What
you do inside your own mind is none of my business.
(In my mind, I can still dunk a basketball.)

> This is a bit of a non sequitur. So what is it that you really
> disagree with in the analyses performed by myself and others?

I have told you many times. Bench test measurements
performed over the past 20 years or so prove that it
works only in your mind, not in reality. The source
impedance of a typical ham transmitter remains somewhat
of a mystery during actual operation. The arguments
continue to rage after decades of bench test experiments
and measurements. The pages of QEX are filled with those
arguments.

> A generator with a 450 Ohm source impedance ...

False assumption. That transmitters's source impedance
changes away from 450 ohms just as soon as the reflections
arrive incident upon the source, i.e. the source impedance
is a *variable* that depends upon the magnitude and phase
of the reflected wave. If your source impedance is constant,
it doesn't match real-world conditions.

> I think you object to computing the amount of the reverse wave
> that is reflected at the generator by using the source impedance.

I certainly don't object to your computations but the
results of those computations have been disproved on
the bench using real world ham transmitters over the
past 20 years or so. Your simple mental model doesn't
correspond to reality unless you take some extraordinary
steps which deviate from real-world ham transmitters.
Have you taken the time to review those experiments?
--
73, Cecil http://www.w5dxp.com

4219. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 12:18:47 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <HspTh.7899$Kd3.492@newssvr27.news.prodigy.net>
Source record: 42984

Jim Kelley wrote:
> Hint:
> people who write physics books know that power does not interfere.

Jim, I'll make the same deal with you that I have offered
to others with, so far, no takers. If you can prove that
I said that powers interfere, I will send you $100. If
you cannot prove that, you send me $100, and cease your
unfair straw man argument methods.
--
73, Cecil http://www.w5dxp.com

4220. Re: Getting an R8 Saturday!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 13:39:13 UTC
From: Bob Miller <NOSPAM@neosoft.com>
Message-ID: <9dds1394fi469m73il9se47vcnm0futmli@4ax.com>
Source record: 42985

On Wed, 11 Apr 2007 20:31:47 -0700, "garlicman" <None> wrote:

>Woohoo! I recently upgraded to General and am getting my used R8 tomorrow.
>Can't wait!
>

I used to have one of its predecessors, an R5, and it was a pretty
decent antenna. You may have to play with it a bit, jiggling the
sections back and forth to get each band resonant, but otherwise it
should go up nicely.

bob
k5qwg

4221. Re: Why S - Parameter at High frequencies?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 13:39:56 UTC
From: Wes <n7ws@yahoo.com>
Message-ID: <1176385196.714553.293960@y5g2000hsa.googlegroups.com>
Source record: 42986

```
>
> The ARRL Antenna Book implies that rho is used
> by amateur radio operators while Gamma is still
> used in some professional circles.
> --

As far as I'm concerned, Gamma is the complex reflection coefficient;
rho is its magnitude.
```

4222. Re: Why S - Parameter at High frequencies?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 13:54:23 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <jSqTh.2565$2v1.2484@newssvr14.news.prodigy.net>
Source record: 42987

Wes wrote:
>> The ARRL Antenna Book implies that rho is used
>> by amateur radio operators while Gamma is still
>> used in some professional circles.
>
> As far as I'm concerned, Gamma is the complex reflection coefficient;
> rho is its magnitude.

That works as long as everyone else understands what you
are talking about. Here's a quote from:

http://www.ac6la.com/stss.html

"The SWR meter is only concerned with the magnitude of the
reflection coefficient, but rho is a complex quantity having
both a magnitude and angle. If rho were to be measured at
various points along a transmission line, the magnitude would
be fairly constant but the angle would change depending on
the electrical length of the line at the point of measurement."

And from the "ARRL Antenna Book":

"In some professional literature, Gamma is used in place of rho
to represent the reflection coefficient."

Wes, you must be a professional. :-)
--
73, Cecil http://www.w5dxp.com

4223. Re: RF/antennas hands-on book

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 14:26:41 UTC
From: The Shadow <repose@zilch.com>
Message-ID: <BkrTh.184571$6P2.13164@newsfe16.phx>
Source record: 42988
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.misc

> Theo Markettos wrote:
>> I need to brush up my RF and antenna knowledge, which is always something
>> that I've almost but not quite understood. I've got a few books on the
>> subject (two by Kraus, Electromagnetics and Antennas, and another on RFIC
>> design) but they're often dry academic tomes and it's hard to get a feel
>> for
>> the subject. I'd really like something along the lines of The Art of
>> Electronics for RF. The AofE has a high-frequency chapter but it's a bit
>> too brief (though I ought to go and reread it, it's been a while).
>>
>> Any recommendations for hands-on books that are relatively easy to read,
>> to
>> give an idea of practicalities as well as theory?
>>
>> Thanks
>> Theo
>
Take alook at Bill Orr's books The W6SAI Hf Antenna Handbook (Paperback)
Amazon
http://www.amazon.com/W6Sai-Hf-Antenna-Handbook/dp/0943016150/ref=sr_1_20/102-5966852-2841
725?ie=UTF8&s=books&qid=1176387485&sr=1-20

Also on line is the Navy Training series
http://www.tpub.com/content/neets/14182/css/14182_167.htm

On the upper right - click on NEXT to continue reading page by page.

Good Radiating
Lamont

4224. Re: all informations delta loop antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 16:29:26 UTC
From: richardharrison@webtv.net
Message-ID: <19453-461E5E66-68@storefull-3251.bay.webtv.net>
Source record: 42989

Oli wrote:
"I`m looking for maximum informations about delta loop antennas."

Oli`s internet finds include the fine article by KA1FSB which makes most additions redundant. But, ON4UN`s "Low-Band DXing", 1994 edition devotes chapter 10 to "Large Loop Antennas". It is 19 pages of vital information.

Best regards, Richard Harrison, KB5WZI

4225. Re: CondoBuster - - Good Results

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 17:20:53 UTC
From: Mike Kulyk <mkulyk@optonline.net>
Message-ID: <6UtTh.16$1H2.5@newsfe12.lga>
Source record: 42990

Does anyone have a print of each of the lengths of the legs.

Mike WB2GLW
"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:qvtn13p7cdevv9vdkiafs8gd2ihiiqdle9@4ax.com...
> On 10 Apr 2007 11:01:07 -0700, m6rf@yahoo.com wrote:
>
>>I bought one of the CondoBuster antennas off ebay. I figured for $20
>>or so I couldn't go wrong.
>
> Quite odd. You could have just pulled one from your closet (probably
> why you didn't pay the $6 delivery charge). I also noticed you bought
> one last summer for your boat. Do much sailing on the Platte river in
> summer?
>
> 73's
> Richard Clark, KB7QHC

4226. Re: Why S - Parameter at High frequencies?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 17:25:19 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176398719.638926.68870@l77g2000hsb.googlegroups.com>
Source record: 42991

On Apr 12, 6:39 am, "Wes" <n...@yahoo.com> wrote:

> As far as I'm concerned, Gamma is the complex reflection coefficient;
> rho is its magnitude.

As far as I'm concerned, S11 = (Z-Zo)/(Z+Zo), and is commonly known as the (port 1) reflection coefficient, and Zo = 50+j0 unless otherwise specified -- and |S11| is the magnitude of that reflection coefficient. If I see rho without a definition, I only have its context to go by, and in some circles that's pretty weak and often inaccurate. For other ports of a multiport network, of course, S22, S33, and so forth serve.

Almost all I need to know about a TEM line can be expressed by the set of 2-port S parameters versus frequency for the line. Normal coaxial and open-wire lines come about as close as anything I work with to being true linear systems. However, the two-port model covers only the differential TEM propagation on the line, not the line versus ground: it's not useful for analyzing the "antenna" currents on a line. It also doesn't tell me whether lost power is lost to heating or to radiation, and it doesn't tell me about radiation received by the line. The S parameter set for the line can be referenced to 50 ohms (or any other useful impedance), independent of the impedance of the line. With the S parameter set, I can determine power loss, power transmission, images, ... all the usual things. Of course, it's not the only way to characterize the line, but it's complete and accurate to the extent the line really does behave linearly and that only the TEM propagation is important. The line doesn't even have to be uniform; it can be exponentially expanding, or have ripples in its impedance. If the line isn't uniform, the S parameters won't be able to tell you power dissipation versus distance along the line, but they'll still give you net power dissipation under specified conditions of excitation and load.

Cheers,
Tom

4227. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 18:01:18 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176400878.840885.77970@y5g2000hsa.googlegroups.com>
Source record: 42992

On Apr 12, 3:35 am, "Keith Dysart" <k...@sympatico.ca> wrote:

>
> Just for clarity, an example problem that has been previously
> analysed is the following:
> A generator with a 450 Ohm source impedance drives a 450 Ohm
> ideal transmission line terminated in 75 Ohms. What is the
> magnitude of the re-reflected wave at the generator?

Interesting to me that CM railed at me for complaining that his trivial trumped-up non-real-world example wasn't worth considering, and now he's unwilling to accept an example that IS quite realizable. I can EASILY do it on my bench, though I'd prefer to use a 50 ohm generator and 50 ohm line, and a 300 ohm load at the end of the line. It's certainly no more difficult to get a known output source impedance than it is to get a lossless transmission line, but we talk about lossless lines all the time, to remove an unnecessary complication from our discussions. Since we have to test our generators to insure that they really are 50 ohm sources, I feel quite confident that their source impedance doesn't depend on the load you put on them.

With respect to the output impedance of a transmitter, it may indeed depend on the tuning/loading of the transmitter's PA, likely even the power level it's running, and _maybe_ even on the load impedance you put on the transmitter's output terminals. But what I do doubt is that it _changes_ for a given setup including a given load impedance, and in steady state, for sure the load impedance isn't changing. So in steady state, can we determine if there are or are not reflections on a transmission line connected to the transmitter, at that interface? If you can't, how much do you have to disturb steady state to make that measurement?

If battles have raged on for years about the output source impedance of a transmitter, I submit that the people making the measurements either (a) don't understand what they are doing, or (b) have not fully specified the conditions under which they made the measurement, or both. I assume they would't battle if they agreed they measured different values, but that the conditions were also different, but that may not be a valid assumption--some are known to battle regardless.

As I mentioned, we have to be very careful about input and output port impedances in measurement equipment. It's not necessarily an easy thing to get "right," but I'm confident that we've been doing it right, and probably for longer than the "debate" over transmitter

output source impedance has been going on.

If you don't believe there's a solution to the example Keith posted,
you have no right to believe in the results of a measurement with a
vector network analyzer, and you should certainly not trust the
indicated output level of any signal generator.

Cheers,
Tom

4228. Lenght of CONDOBUSTER antenna,

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 18:14:09 UTC
From: Mike Kulyk <mkulyk@optonline.net>
Message-ID: <%FuTh.29$6C6.1@newsfe12.lga>
Source record: 42993

What is the length of each of the legs on a condobuster antenna. I know its 37 ft. Is it 37ft/2. or is one leg longer.

Mike WB2GLW

4229. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 18:22:55 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176402175.852996.133490@y5g2000hsa.googlegroups.com>
Source record: 42994

On Apr 12, 8:15 am, Cecil Moore <nos...@w5dxp.com> wrote:
> I have told you many times. Bench test measurements
> performed over the past 20 years or so prove that it
> works only in your mind, not in reality. The source
> impedance of a typical ham transmitter remains somewhat
> of a mystery during actual operation. The arguments
> continue to rage after decades of bench test experiments
> and measurements. The pages of QEX are filled with those
> arguments.

So your only beef with my examples is that they do not
accurately model a "typical ham transmitter"?

> > A generator with a 450 Ohm source impedance ...
>
> False assumption. That transmitters's source impedance
> changes away from 450 ohms just as soon as the reflections
> arrive incident upon the source, i.e. the source impedance
> is a *variable* that depends upon the magnitude and phase
> of the reflected wave.

When you say that source impedance is a "variable", do you
mean this for a "typical ham transmitter", or do you assert
that it applies to every generator, even those which can be
accurately modelled with a Thevenin equivalent circuit (as
many signal generators, even TVSGs can)?

> > I think you object to computing the amount of the reverse wave
> > that is reflected at the generator by using the source impedance.
>
> I certainly don't object to your computations but the
> results of those computations have been disproved on
> the bench using real world ham transmitters over the
> past 20 years or so.

Which results have been disproved on the bench?

> Your simple mental model doesn't
> correspond to reality unless you take some extraordinary
> steps which deviate from real-world ham transmitters.
> Have you taken the time to review those experiments?

Are the experiments documented in Reflections chapter 19 and
19a representative examples?

My read of these chapters is that they offer compelling
argument and evidence (at least for the tube style

transmitters examined) that ham transmitters are linear*,
at least over their normal region of operation.

Is it your assertion that these claims are incorrect?

...Keith

* Don't confuse this use of linear, which is that the
output stage is linear, with whether the input to output
transfer function of the transmitter is linear. The transfer
function may be non-linear even though the output stage is.

4230. Re: NVIS Dipoles Directional?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 18:23:14 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1176402194.738827.135040@y5g2000hsa.googlegroups.com>
Source record: 42995

On 12 abr, 00:47, "Yuri Blanarovich" <K...@optonline.net> wrote:
> "Wimpie" <wim...@tetech.nl> wrote in message
>
> news:1176303578.800751.20210@y5g2000hsa.googlegroups.com...
>
>
>
>
>
> >> So if you suspended another dipole above your NVIS dipole and oriented 90
> >> degrees to each other, the difference would be insignificant?
> >> Then move it up into the "clouds", then move down to earth at the
> >> distance
> >> and you will see "insignificant" difference in signal levels?
>
> >> Seems that direction finders should not work according to this "verdict",
> >> Eh?
>
> >> One thing is the direction of the signals (maximum) another one is the
> >> polarization. Based on the orientation of antennas, one can orient the
> >> antenna to find the minimum signal.
>
> >> Yuri, K3BU.us
>
> > Hi Yuri,
>
> > As the wave pass through the ionosphere, strange things happen. You
> > could google on Faraday rotation, ordinary and extraordinary waves to
> > find out that at low frequency, the change in polarization is
> > significant.
>
> Change does not mean that polarization dissapears.
>
> > Based on the down coming wave, you cannot determine the orientation of
> > the transmitting antenna, neither the position with reasonable
> > accuracy (for NVIS propagation).
>
> > When you place the receiving antenna just above the transmitting
> > antenna you are right, but we were discussing NVIS propagation.
>
> > Best Regards,
>
> > Wim
> > PA3DJS

>
> So when signal is reflected, the polarization disappears?

No, mostly the down comming wave has a circular component (eliptical polarization), therefore the orientation is not of significant importance. Wim, PA3DJS.

>
> 73 Yuri, K3BU

4231. Smith Chart program

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 18:25:45 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131sudifreks2e4@corp.supernews.com>
Source record: 42996
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

I'd appreciate any recommendations for an inexpensive Smith chart based program which can be used for the design of basic matching networks and the like. I'm looking for something along the line of MicroSmith or WinSMITH, neither of which is any longer available.

Thanks,
Roy Lewallen, W7EL

4232. Re: Smith Chart program

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 18:31:55 UTC
From: Allodoxaphobia <bit-bucket@config.com>
Message-ID: <slrnf1suor.14n6.bit-bucket@shell.config.com>
Source record: 42997
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

["Followup-To:" header set to rec.radio.amateur.antenna.]
On Thu, 12 Apr 2007 11:25:45 -0700, Roy Lewallen wrote:
> I'd appreciate any recommendations for an inexpensive Smith chart based
> program which can be used for the design of basic matching networks and
> the like. I'm looking for something along the line of MicroSmith or
> WinSMITH, neither of which is any longer available.

http://www.jcoppens.com/soft/linsmith/index.en.php

See also:

http://education.tm.agilent.com/index.cgi?CONTENT_ID=5

using a JAVA-enabled browser. Pretty neat, that.

73
Jonesy
--
Marvin L Jones | jonz | W3DHJ | linux
38.24N 104.55W | @ config.com | Jonesy | OS/2
*** Killfiling google posts: <http://jonz.net/ng.htm>

4233. Re: Smith Chart program

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 18:41:16 UTC
From: Allodoxaphobia <bit-bucket@config.com>
Message-ID: <slrnf1svac.14n6.bit-bucket@shell.config.com>
Source record: 42998

On 12 Apr 2007 18:31:55 GMT, Allodoxaphobia wrote:
> ["Followup-To:" header set to rec.radio.amateur.antenna.]
> On Thu, 12 Apr 2007 11:25:45 -0700, Roy Lewallen wrote:
>> I'd appreciate any recommendations for an inexpensive Smith chart based
>> program which can be used for the design of basic matching networks and
>> the like. I'm looking for something along the line of MicroSmith or
>> WinSMITH, neither of which is any longer available.
>
>
> http://www.jcoppens.com/soft/linsmith/index.en.php
>
> See also:
>
> http://education.tm.agilent.com/index.cgi?CONTENT_ID=5
>
> using a JAVA-enabled browser. Pretty neat, that.

Oh, and (sorry to followup to my own post) see the "External links"
at the bottom of the Wikipedia entry:

http://en.wikipedia.org/wiki/Smith_chart

73 agn
Jonesy
--
Marvin L Jones | jonz | W3DHJ | linux
38.24N 104.55W | @ config.com | Jonesy | OS/2
*** Killfiling google posts: <http://jonz.net/ng.htm>

4234. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 18:55:30 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <jkvs13ldhvn3ehkef2bdii51j3db7t147q@4ax.com>
Source record: 42999

On Mon, 09 Apr 2007 16:42:10 -0700, Roy Lewallen <w7el@eznec.com> wrote:

>> Brown, Lewis and Epstein were REPORTING, not inventing, nor offering
>> pedant readings of scripture. Scribes, such as we are, are free to
>> interpret within the bounds of their own data, assumptions, and
>> conclusions. I've offered mine that conforms to many of their points.
>> If you have your own, you must survive by the same strictures. Given
>> the specific contention, I am especially intrigued in how you would
>> answer why the current departed the wire, and where it goes in light
>> of a potential map created by the phase shifts.
>>
>> 73's
>> Richard Clark, KB7QHC
>
>Ok, I understand that. Your answers to the two questions I asked are
>that you don't know and you don't know. In the absence of any evidence,
>I'll continue to disbelieve there's a circumferential component of the
>current.
>
>Roy Lewallen, W7EL

Roy, it seems to me everyone has missed an important point concerning a circumferential component of the
current.

We know that the current flowing on the radial wires is radial in direction. What seems to be missed is the
current that returns to earth between the wire radials. That current is going to flow in the direction of the
lowest resistance. As such it's not going to flow radially alongside the currents flowing on the wire, because
the radial resistance of earth between the radial wires is much greater than the resistance of the wires.
Consequently, currents reaching earth between the wires will find a lower resistance by traveling toward the
nearest radial wire instead of continuing in a perfectly radial direction. This new direction of current flow
will not necessarily perfectly circumferential, but will certainly be somewhere between radial and
circumferential.

Walt, W2DU

4235. Re: NVIS Dipoles Directional?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 18:59:07 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1176404347.111447.123310@d57g2000hsg.googlegroups.com>
Source record: 43000

On 11 abr, 06:14, "J. Mc Laughlin" <j...@power-net.net> wrote:
> Dear Wim PA3DJS:
>
> How I wish that I could read Dutch. However, in looking over all of
> your work, it continually occurred to me that much of the base of English
> comes from Northern Nederland.
>
> I looked at the first table on page 20 of your work. The information so
> intrigued me that I ran almost the same information through NEC4, which does
> well with antennas close to the ground. I assumed: a center frequency of
> 3.6 MHz, a horizontal half wave dipole slightly adjusted to be resonant at
> 3.6 MHz at each height, the use of Cu wire 2 mm in diameter, and earth with
> a sigma of 0.01 and a relative dielectric constant of 15. This is what I
> found without too obsessive an amount of tweaking:
>
> The data is in this order:
> height of the dipole in meters
> the real part of the dipole's impedance in ohms
> (the phase angle of the impedance was kept under 2 degrees)
> the approximate SWR=2 BW in a 50 ohm system in kHz
> the total apparent loss of the system in dB
> (this is found by integrating gain in all directions)
> the peak antenna gain in dBi
>
> 4.2 38.1 125 6.25 2.0
> 5.8 37.7 120 4.31 4.1
> 8.3 42.1 130 2.59 5.8
> 10.4 49.0 140 1.81 6.5
> 15 66.5 145 1.04 6.9
> 20.8 85.7 125 0.7 6.5
>
> Most of my results are close to your results. It is interesting to know if
> I used the same assumptions. Please let me know.
>
> I encourage you to consider translating your work, or at least parts of it,
> into English.
>
> 73, Mac N8TT
> --
> J. Mc Laughlin; Michigan U.S.A.
> Home: J...@Power-Net.Net
>[rest removed]

Dear Mac,

Thank you for sharing your results with me. You are fully right, the results are almost the same. The difference with my assumptions is wire diameter only. I used 10mm. I expected more difference in useful bandwidth, because of the factor 5 in wire diameter.

The simulations were carried out on IE3D with a lossy dielectric as ground. The first table on page 17, shows the results for a perfect ground.

I wasn't satisfied with the bandwidth, so the actual antenna consists of 2 wires (1m separation). This gave me sufficient bandwidth to use the antenna without a tuner.

The results between the brackets are with 3 floating reflector wires under the antenna (about 1 m above ground). This gives an evident increase in gain. The gain increases somewhat by raising the 3 wires to about 1.5..2m above ground.

At this moment there are no plans to translate the document into English language. As you have seen, the text in the images is in English language, so you never know what happens during a vacation.....
The birdth of the Dutch version was in Spain.

Best Regards,

Wim
PA3DJS.

4236. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 19:23:26 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <MGvTh.1$Ir2.0@newssvr17.news.prodigy.net>
Source record: 43001

K7ITM wrote:
> If you don't believe there's a solution to the example Keith posted,
> you have no right to believe in the results of a measurement with a
> vector network analyzer, and you should certainly not trust the
> indicated output level of any signal generator.

Methinks you have missed the context of the discussion.
If the model doesn't work for an IC-706 it is not much
use to amateur radio operators. I have already said that
a valid model can be had for a signal generator equipped
with a circulator load. Now do it for an IC-706.
--
73, Cecil http://www.w5dxp.com

4237. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 19:34:28 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <rc2t13tffat3h507egj3slmk4qgef1l6o7@4ax.com>
Source record: 43002

On Sun, 08 Apr 2007 20:26:41 GMT, Owen Duffy <none@no.where> wrote:

>Walter Maxwell <walt@w2du.com> wrote in
>news:bj5i13tj06fi39mpqq71g1vr5aol4oossa@4ax.com:
>
>Walt, I can see that you have taken my comment as personal criticism. That
>was not intended, and to the extent that I may have caused that, I
>apologise. In that context, it is better that I refrain from further
>comment.
>
>Regards
>Owen

Hi Owen,

Please excuse the long delay in responding to your post of 4-8-07, 4:26 pm EDT. I have been away from the
computer since then, attending to personal chores that took priority over rraa.

I'm sure your comments weren't meant as a personal attack, and I accept your apology.

However, your consideration of statements appearing in Reflections as flawed on the assumption that the
concepts presented there concerning impedance matching apply only to lossless and distortionless lines, IMHO
is unfair, because it is not true.

For readers of your post who now may be questioning the reliability of statements appearing in Reflections,
I'm working on a more detailed discussion of the issue for clarification that I will enter on the rraa as a
new thread.

Walt

4238. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 19:37:50 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <iUvTh.14421$JZ3.11108@newssvr13.news.prodigy.net>
Source record: 43003

Keith Dysart wrote:
> So your only beef with my examples is that they do not
> accurately model a "typical ham transmitter"?

Yes, I have said so about a half-dozen times now.

> When you say that source impedance is a "variable", do you
> mean this for a "typical ham transmitter", ...

Yes, the discussion is about typical ham
transmitters - nothing else matters to typical
hams.

> Which results have been disproved on the bench?

Please research the grand argument between Warren
Bruene, w5oly, and Walter Maxwell, w2du.

> Are the experiments documented in Reflections chapter 19 and
> 19a representative examples?

As far as I know, the Bruene/Maxwell argument first saw
light in a QST article in the early '90s and has been
raging ever since.

> My read of these chapters is that they offer compelling
> argument and evidence (at least for the tube style
> transmitters examined) that ham transmitters are linear*,
> at least over their normal region of operation.

Linear is not the requirement for your source impedance.
Constant, fixed, and linear is the requirement for your
source impedance. Nothing you have presented had the
source impedance as a linear variable.
--
73, Cecil http://www.w5dxp.com

4239. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 19:45:15 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ep1t13lk83qihdr4i844rfb4p36vf9ojbo@4ax.com>
Source record: 43004

On Thu, 12 Apr 2007 18:55:30 GMT, Walter Maxwell <walt@w2du.com>
wrote:

>This new direction of current flow
>will not necessarily perfectly circumferential, but will certainly be somewhere between
radial and
>circumferential.

Hi Walt,

So as BL&H report without too much pain:
>>>at page 760:
>>> "When the earth is of good conductivity,
>>> the current leaves the wires and enters the earth closer to
>>> the antenna than it does when the earth is a poor conductor."

Now, as to your comment
>That current is going to flow in the direction of the
>lowest resistance.

It is awfully damned hard to beat the least resistance path of copper
over earth. And yet BL&H offer us this observation I requote above.

What will trump a higher resistance path is greater potential
difference and proximity. Note that BL&H are quite specific about
proximity to the antenna, and hence it follows that the separation
between radials is closer there, than further out from the antenna.
Certainly I can find no where to quote this observation of growing
closeness from BL&H for Roy's consideration, but I trust my common
sense of geometry here too, and I will proceed.

BL&H report (without going into the how, or how much):
>>> "From (8) [that formula] we see that the earth
>>> current proper leads the current in the wires
>>> by 90 electrical degrees."
such that at "that" radial distance, there must exist the greatest
circumferential potential difference between the wire and the earth
currents which is clearly mandated by phase. If a potential gradient
along the circumference is greater than that along the radial, and the
distance along the circumference is smaller than the distance along
the radial; then it stands to reason why BL&H even offer to comment
"current leaves the wire."

Current through earth is largely lost to heat although I do have a
fractal antenna that uses earth current to optimize its low angle
launch characteristics.

Ultimately this reduces to the rather pedestrian observation that more radials closer in serve efficiency - observed and reported by BL&H.

73's
Richard Clark, KB7QHC

4240. Re: CondoBuster - - Good Results

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 19:51:36 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <b73t13heed50cqjo8iqunjbdc6snc670ge@4ax.com>
Source record: 43005

On Thu, 12 Apr 2007 13:20:53 -0400, "Mike Kulyk"
<mkulyk@optonline.net> wrote:

>Does anyone have a print of each of the lengths of the legs.
>
>Mike WB2GLW
>"Richard Clark" <kb7qhc@comcast.net> wrote in message
>news:qvtn13p7cdevv9vdkiafs8gd2ihiiqdle9@4ax.com...
>> On 10 Apr 2007 11:01:07 -0700, m6rf@yahoo.com wrote:
>>
>>>I bought one of the CondoBuster antennas off ebay. I figured for $20
>>>or so I couldn't go wrong.
>>
>> Quite odd. You could have just pulled one from your closet (probably
>> why you didn't pay the $6 delivery charge). I also noticed you bought
>> one last summer for your boat. Do much sailing on the Platte river in
>> summer?

This reminds me of one of Woody Allen's old stand-up jokes.

Two old women in a Catskill's resort are standing in the buffet line.
One scowls at the other about what she sees:
"Look at this terrible food they offer."
she quickly adds:
"And such small portions!"

73's
Richard Clark, KB7QHC

4241. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 19:52:41 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <evm2o8$ei0$1@news.service.uci.edu>
Source record: 43006

Cecil Moore wrote:
> Jim Kelley wrote:
>
>> Hint: people who write physics books know that power does not interfere.
>
>
> Jim, I'll make the same deal with you that I have offered
> to others with, so far, no takers. If you can prove that
> I said that powers interfere, I will send you $100. If
> you cannot prove that, you send me $100, and cease your
> unfair straw man argument methods.

Please don't take this the wrong way, Cecil, but after seeing this response to a fairly inert remark, I'm not feeling comfortable enough to take you entirely at your word.

Perhaps we just misunderstand each other, but I don't know of another way to interpret what you have written. If you don't believe that power interferes, then why else would you continually write interference equations in terms of power? You can't just arbitrarily throw quantities with any units you like into equations, and then claim authoritative references as your source, Cecil. Is it your contention that interference is not a validating pre-requisite for use in an interference equation?

I'm pretty sure somebody using the name Cecil Moore posted Ptot = P1 + P2 +2*SQRT(P1*P2), and used the equation to show how two 100 watt generators generate 400 watts. Help me out. Where did I mess up here?

73, Jim AC6XG

4242. Re: Why S - Parameter at High frequencies?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 20:02:50 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99113D803D91Bnonenowhere@61.9.191.5>
Source record: 43007

"Wes" <n7ws@yahoo.com> wrote in news:1176385196.714553.293960
@y5g2000hsa.googlegroups.com:

>
>>
>> The ARRL Antenna Book implies that rho is used
>> by amateur radio operators while Gamma is still
>> used in some professional circles.
>> --
>
> As far as I'm concerned, Gamma is the complex reflection coefficient;
> rho is its magnitude.

Hi Wes,

My preferred usage is the same, and for the reason that Gamma and rho can be written directly in html as the greek symbols, and in ascii text as Gamma and rho. The notation that rho is the magnitude of the complex reflection coefficient and that the complex reflection coefficient is written as rho with a bar over it is not conveniently and consistently expressed in a short notation in ascii only media.

If it is declared (as I did in my post) then the usage is fair. The sidetrack onto "standard" notation was just another diversionary tactic from YKW.

Owen

Glossary:
YKW - You Know Who

4243. Re: Smith Chart program

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 20:40:37 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131t6af1stpfp1d@corp.supernews.com>
Source record: 43009
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Thanks for the suggestions, but I see I need to be more specific about what I need.

I'm looking for a Windows-based program that runs on a local machine rather than remotely as at a web site. The objective is to find a program for EZNEC to write input files for, so that its frequency sweep impedance data can be easily and directly imported into the Smith chart program for visual analysis and to aid in designing narrow and broadband matching networks for antennas. EZNEC originally did this for MicroSmith, then WinSMITH input file writing was added when MicroSmith became unavailable. Now WinSMITH is also unavailable, so I'm looking for another one which I can adapt EZNEC to.

Roy Lewallen, W7EL

4244. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 20:53:30 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131t72k2ecuet39@corp.supernews.com>
Source record: 43010

Walter Maxwell wrote:
>
> Roy, it seems to me everyone has missed an important point concerning a circumferential component of the
> current.
>
> We know that the current flowing on the radial wires is radial in direction. What seems to be missed is the
> current that returns to earth between the wire radials. That current is going to flow in the direction of the
> lowest resistance. As such it's not going to flow radially alongside the currents flowing on the wire, because
> the radial resistance of earth between the radial wires is much greater than the resistance of the wires.
> Consequently, currents reaching earth between the wires will find a lower resistance by traveling toward the
> nearest radial wire instead of continuing in a perfectly radial direction. This new direction of current flow
> will not necessarily perfectly circumferential, but will certainly be somewhere between radial and
> circumferential.

Walt,

I hadn't missed that phenomenon, but didn't mention it because it doesn't produce a circumferential current. If you look at the current flowing from the earth to each radial wire, you'll see that the sum of these currents will be purely radial, assuming that the system is symmetrical, i.e., radials are equally spaced and equal length, the ground is homogeneous, and the radiator is vertical. Consider a bit of current returning between two radials, which is a little closer to the radial on the right. It'll detour to the right, giving it a rightward component as well as an inward radial component. But for every such bit of current, there's another one the same distance from the radial to the left which will have leftward and inward radial components. The radial components are in the same direction (inward) so will add but the circumferential ones (leftward and rightward) cancel, leaving a net radial current flow. You can say that the returning currents bend to the right or left as they propagate toward the antenna base, but not that there's a systematic circumferential current flow -- no current crosses from radial to radial in a clockwise or counterclockwise circular pattern like Richard implied.

I recall reading a paper which showed that connecting radials with circumferential wires actually degrades a ground system's effectiveness,

but I wasn't able to lay my hand on it when I looked.

Roy Lewallen, W7EL

4245. Re: Why S - Parameter at High frequencies?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 21:04:11 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131t7mkkq5c57d1@corp.supernews.com>
Source record: 43011

This topic has been discussed in this newsgroup several times in the
past. In my posting of June 17, 2005 in the thread "Re: Calculating VSWR
from rho and rho from VSWR" you'll find a summary of what I found in use
by authors of 16 different textbooks. As you'll see, if you look it up
at http://groups.google.com, there's no single standard usage.

Personally, my preference is the same as Wes' and Owen's - Gamma for
complex reflection coefficient, rho for its magnitude. But usage is so
varied that it's necessary to explicitly show what the symbols mean
unless it's obvious from the context.

Roy Lewallen, W7EL

Owen Duffy wrote:
> "Wes" <n7ws@yahoo.com> wrote in news:1176385196.714553.293960
> @y5g2000hsa.googlegroups.com:
>
>>> The ARRL Antenna Book implies that rho is used
>>> by amateur radio operators while Gamma is still
>>> used in some professional circles.
>>> --
>> As far as I'm concerned, Gamma is the complex reflection coefficient;
>> rho is its magnitude.
>
> Hi Wes,
>
> My preferred usage is the same, and for the reason that Gamma and rho can
> be written directly in html as the greek symbols, and in ascii text as
> Gamma and rho. The notation that rho is the magnitude of the complex
> reflection coefficient and that the complex reflection coefficient is
> written as rho with a bar over it is not conveniently and consistently
> expressed in a short notation in ascii only media.
>
> If it is declared (as I did in my post) then the usage is fair. The
> sidetrack onto "standard" notation was just another diversionary tactic
> from YKW.
>
> Owen
>
> Glossary:
> YKW - You Know Who

4246. Re: NVIS Dipoles Directional?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 21:40:10 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <0HxTh.157$Q64.27@newsfe12.lga>
Source record: 43012

"Wimpie" <wimtel@tetech.nl> wrote in message
news:1176402194.738827.135040@y5g2000hsa.googlegroups.com...
> On 12 abr, 00:47, "Yuri Blanarovich" <K...@optonline.net> wrote:
>> "Wimpie" <wim...@tetech.nl> wrote in message
>>
>> news:1176303578.800751.20210@y5g2000hsa.googlegroups.com...
>>
>>
>>
>>
>>
>> >> So if you suspended another dipole above your NVIS dipole and oriented
>> >> 90
>> >> degrees to each other, the difference would be insignificant?
>> >> Then move it up into the "clouds", then move down to earth at the
>> >> distance
>> >> and you will see "insignificant" difference in signal levels?
>>
>> >> Seems that direction finders should not work according to this
>> >> "verdict",
>> >> Eh?
>>
>> >> One thing is the direction of the signals (maximum) another one is the
>> >> polarization. Based on the orientation of antennas, one can orient the
>> >> antenna to find the minimum signal.
>>
>> >> Yuri, K3BU.us
>>
>> > Hi Yuri,
>>
>> > As the wave pass through the ionosphere, strange things happen. You
>> > could google on Faraday rotation, ordinary and extraordinary waves to
>> > find out that at low frequency, the change in polarization is
>> > significant.
>>
>> Change does not mean that polarization dissapears.
>>
>> > Based on the down coming wave, you cannot determine the orientation of
>> > the transmitting antenna, neither the position with reasonable
>> > accuracy (for NVIS propagation).
>>
>> > When you place the receiving antenna just above the transmitting
>> > antenna you are right, but we were discussing NVIS propagation.
>>

>> > Best Regards,
>>
>> > Wim
>> > PA3DJS
>>
>> So when signal is reflected, the polarization disappears?
>
> No, mostly the down comming wave has a circular component (eliptical
> polarization), therefore the orientation is not of significant
> importance. Wim, PA3DJS.
>>
>> 73 Yuri, K3BU
>
>
So if there is ANY polarization left how can you claim that is not of
significant importance.
The proof in the pudding is that on any signal one can with any antenna,
especially directional, find the spot where signal is minimal or nulled out.
Nulls are sharp vs. broad pattern, but one has to be aware of them and
understand the difference between the pattern and polarization.

Yuri, K3BU.us

4247. Re: all informations delta loop antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 21:50:41 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1176414641.614066.56220@y80g2000hsf.googlegroups.com>
Source record: 43013

On Apr 11, 9:49 am, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
> "oli" <oli...@wanadoo.fr> wrote in message
>
> news:461cd78a$0$5075$ba4acef3@news.orange.fr...
>
> > Hi all,
>
> > I'am looking for a maximum informations about delta loop antennas.
> > First of all, I found a lot of interesting documents with Antenna Searh
> >http://www.les-antennes.fr/index.php?antenna=delta+loop+calculator
> > that can help me, but I don't find any document who explain what is the
> > best mechanical technics to fixed elements to the boom.
>
> > Best regards
>
> > Oli
>
> Welding , I think this antenna got started as a CB gimmick, well maybe not,
> The idea is something akin to a cubical quad using plumbers delight
> constrction. I built one for CB back in the early 70s because I was afraid
> of tackling a quad then. Believe me the quad was much easier to build and I
> think it performed noticably better than the delta.
>
> Jimmie

I forgot I did make one rotatable delta beam befor this one, sort of a
prototype. It was made of wood and wire. The wire was supported by
bamboo poles.The bamboo was fastened to a wooden boom with lagbolts.
Cut of the head of the labolt in stick it up the bottom end of the
bamboo and clamp with radiator clamps. This actually worked better
than the all metal one. I let my friend have it after I made the metal
one, should have kept this one. He had it up for 4 or 5 years before
the boom finally broke. Im sure it would have lasted a lot longer if
the wood had been varnished.

Jimmie

4248. Re: Smith Chart program

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 22:23:30 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176416610.202140.277850@q75g2000hsh.googlegroups.com>
Source record: 43014
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

On Apr 12, 11:25 am, Roy Lewallen <w...@eznec.com> wrote:
> I'd appreciate any recommendations for an inexpensive Smith chart based
> program which can be used for the design of basic matching networks and
> the like. I'm looking for something along the line of MicroSmith or
> WinSMITH, neither of which is any longer available.
>
> Thanks,
> Roy Lewallen, W7EL

Hi Roy,

Darn, sorry that WinSMITH is no longer available. Hope you'll
continue to support that format for those of us with that program.
Based on what I just found, I don't have any reason to quit using it.

You might try LLSmith from
http://tools.rfdude.com/RFdude_Smith_Chart_Program/RFdude_smith_chart_program.html.
I don't like it as much as WinSMITH, but it looks like it does
somewhat similar things. I found it via a Google search, which led me
among other places to http://www.sss-mag.com/smith.html and
http://www.circuitsage.com/matching.html. The latter one provided the
link to LLSmith. I think I have a useable version of Motorola's Smith
chart program somewhere, but the version I just downloaded is pure
garbage from my point of view; it may work but it's so awkward that
it's worthless to me.

Cheers,
Tom

4249. Re: Smith Chart program

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 22:39:44 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131td9q38uvg182@corp.supernews.com>
Source record: 43015
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

K7ITM wrote:
>
> Darn, sorry that WinSMITH is no longer available. Hope you'll
> continue to support that format for those of us with that program.
> Based on what I just found, I don't have any reason to quit using it.
>
> You might try LLSmith from
http://tools.rfdude.com/RFdude_Smith_Chart_Program/RFdude_smith_chart_program.html.
> I don't like it as much as WinSMITH, but it looks like it does
> somewhat similar things. I found it via a Google search, which led me
> among other places to http://www.sss-mag.com/smith.html and
> http://www.circuitsage.com/matching.html. The latter one provided the
> link to LLSmith. I think I have a useable version of Motorola's Smith
> chart program somewhere, but the version I just downloaded is pure
> garbage from my point of view; it may work but it's so awkward that
> it's worthless to me.

Thanks, I'll look those up. Negative recommendations are as useful as
positive ones, so thanks for those too.

Don't worry, EZNEC will continue to write your choice of either
MicroSmith or WinSMITH files as well as whatever program I choose for
their successor.

Roy Lewallen, W7EL

4250. Re: Smith Chart program

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 22:51:19 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176418279.488131.265110@w1g2000hsg.googlegroups.com>
Source record: 43016
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

On Apr 12, 11:25 am, Roy Lewallen <w...@eznec.com> wrote:
> I'd appreciate any recommendations for an inexpensive Smith chart based
> program which can be used for the design of basic matching networks and
> the like. I'm looking for something along the line of MicroSmith or
> WinSMITH, neither of which is any longer available.
>
> Thanks,
> Roy Lewallen, W7EL

Additional comment: if you write impedance files in standard network analyzer format, they can be used by a lot of programs. I believe you can find fairly detailed descriptions of the .s1p format on the web. In particular, RFSim99 can read such files and use them in a 1-port representation. It will even do an automatic L match to an impedance, and will display S11 on a Smith chart. (But I'm remembering a problem if you write them in dB format, something about that RFSim99 uses 10^(dB/10) instead of 10^(dB/20) to convert them to linear before it uses them...)

Cheers,
Tom

4251. Re: Smith Chart program

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 22:54:38 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176418478.644338.202130@y5g2000hsa.googlegroups.com>
Source record: 43017
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

On Apr 12, 1:40 pm, Roy Lewallen <w...@eznec.com> wrote:
> Thanks for the suggestions, but I see I need to be more specific about
> what I need.
>
> I'm looking for a Windows-based program that runs on a local machine
> rather than remotely as at a web site. The objective is to find a
> program for EZNEC to write input files for, so that its frequency sweep
> impedance data can be easily and directly imported into the Smith chart
> program for visual analysis and to aid in designing narrow and broadband
> matching networks for antennas. EZNEC originally did this for
> MicroSmith, then WinSMITH input file writing was added when MicroSmith
> became unavailable. Now WinSMITH is also unavailable, so I'm looking for
> another one which I can adapt EZNEC to.
>
> Roy Lewallen, W7EL

OK, I gotta quit looking at Smith chart stuff...

Are you sure WinSMITH is no longer available? See http://www.scitechpub.com/WinSmith.htm.
Looks pretty current to me. My 2.0 version was provided on floppy,
and I see they've gotten into the 21st century and have it on CD-ROM.

Cheers,
Tom

4252. Re: Smith Chart program

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 22:55:57 UTC
From: Bob <bobZstein@sbcglobal.net>
Message-ID: <aOyTh.18$Yo2.3@newssvr19.news.prodigy.net>
Source record: 43018
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Roy Lewallen wrote:
> I'd appreciate any recommendations for an inexpensive Smith chart based
> program which can be used for the design of basic matching networks and
> the like. I'm looking for something along the line of MicroSmith or
> WinSMITH, neither of which is any longer available.
>
> Thanks,
> Roy Lewallen, W7EL

Try SmartSmith for Windows by W9DMK.

Bob, w6nbi

--
When replying direct, remove the Z in my email address.

4253. Re: screwdriver vs. tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 22:59:08 UTC
From: nm5k@wt.net
Message-ID: <1176418748.869765.29590@q75g2000hsh.googlegroups.com>
Source record: 43019

On Feb 27, 6:34 pm, jim...@earthlink.net wrote:
> On Feb 27, 12:54 pm, "KE5MBX" <nelson.bl...@gmail.com> wrote:

>
> And, no matter how you look at it, you're only adjusting one parameter
> (series L), which limits the best possible match you can get.
> Granted, with the lossiness of a typical screwdriver, and the usual
> clever 4:1 transformer with leakage C, you can do pretty well. better
> than 2:1 from 10-40 is no problem and you can probably do somewhat
> better.

Not all screwdrivers are the same though.. Some are pretty close to
a bugcatcher as far as efficiency. Some are horrible due to excess
coil loss. In general, a screwdriver will usually be one notch down
from
a bugcatcher, which I consider king of the hill. The bugcatcher is
often better due to it's often better coil location. Most screwdrivers
have the coil fairly low, which limits them as far as current
distribution.
I don't use transformers to match per say.. I usually use an
inductor,
and this inductance can be included with the main lumped loading coil.

>
> A whip and auto tuner at the base of the antenna, on the other hand,
> is virtually instantaneous to tune and requires no manual intervention
> on the part of the operator. Squeeze the pickle and you're matched
> and ready to go. I suspect that the loss in the tuner is not
> materially different than in the variable loading coil, particularly
> when you consider the mismatch from only having one adjustable device,
> and besides, the dominant efficiency issue is going to be from having
> a physically short radiator on lower frequencies, which is the same
> regardless of how you tune it.

The screwdriver is likely to be much more efficient than the tuner/
whip.
The efficiency is most certainly not the same for a given size whip.
A tuner/whip is likely to be 10-12 db down from a good bugcatcher,
or high quality screwdriver.
The current distribution through the whip effects the efficiency
greatly.
If you feed a whip with a tuner, maximum current is at the tuner.
If this tuner is in the car, maximum current is in the car with you.
A center fed antenna will be a good bit more efficient than a normal
base

fed for a given short height.
The tuner/whip can do semi ok on the higher bands, because it doesn't take much there to begin with. On the low bands, they will be fairly horrible.
Anyway, as far as the OP, the screwdriver would be much better, as long as it's a decent screwdriver. Some screwdrivers have lousy coil design, some don't.
MK

4254. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 23:15:30 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <m4zTh.14476$JZ3.510@newssvr13.news.prodigy.net>
Source record: 43020

Jim Kelley wrote:
> Perhaps we just misunderstand each other, but I don't know of another
> way to interpret what you have written.

Yes, you do, Jim. You know that I agree with you on almost
every technical point yet you incessantly try to erect
straw men so you can knock them down. You are almost
always trying to discredit someone who agrees with you.
To that unfair tactic my response is:

From: "An Energy Analysis at an Impedance Discontinuity in
an RF Transmission Line", by W5DXP, WorldRadio, Oct. 2005

"Single-source RF energy in a transmission line and laser
light are both coherent electromagnetic energy waves that
obey the laws of superposition, interference, conservation
of energy, and conservation of momentum."

"The term 'power flow' has been avoided in favor of 'energy
flow'. Power is a measure of that energy flow per unit time
through a plane. Likewise, the EM fields in the waves do the
interfering. Powers, treated as scalars, are incapable of
interference. Any sign associated with a power in this paper
is the sign of the cosine of the phase angle between two
voltage phasors."

> If you don't believe that power
> interferes, then why else would you continually write interference
> equations in terms of power?

Because that's what Dr. Best, Hecht, and Born and Wolf do.
Intensity, irradiance, and Poynting vectors are *power*
densities. Multiply the following intensity-irradiance
equation by unit-area and what do you get? Why, you get
WATTS of power!

Itot = I1 + I2 + 2*SQRT(I1*I2)cos(A) in watts/unit-area

Multiplying both sides of the equation by unit-area

Ptot = P1 + P2 + 2*SQRT(P1*P2)cos(A) in watts

I assume that's how Dr. Best came up with the equation.

Or don't even multiply by unit area - just use Poynting
vectors instead where each P above is a Poynting vector.
The dimensions of a Poynting vector are identical to
the dimensions of irradiance and intensity.

> You can't just arbitrarily throw
> quantities with any units you like into equations, and then claim
> authoritative references as your source, Cecil.

I have not done that, Jim. The Poynting vector has exactly
the same units as intensity and irradiance. Multiply both
sides of the equation by unit-area and the result is WATTS,
the unit of power and that's fully consistent with the
rules of mathematics.

> Is it your contention
> that interference is not a validating pre-requisite for use in an
> interference equation?

The question appears to have a trivial answer so it must
be just another straw man. Yes, interference exists if
interference exists and interference doesn't exist if
interference doesn't exist. Satisfied?

> I'm pretty sure somebody using the name Cecil Moore posted Ptot = P1 +
> P2 +2*SQRT(P1*P2), and used the equation to show how two 100 watt
> generators generate 400 watts. Help me out. Where did I mess up here?

False so just another straw man. I said two 100 watt generators
do *NOT* generate 400 watts because there is no interference
between the generators. Maybe you need your glasses changed?
I did follow that posting up showing how two 100 watt *waves*
can engage in total constructive interference and obtain a total
of 400 watts.

Even you should be able to figure out how two 100 watt generators
can be made to produce a forward power of 400 watts in a
transmission line with an SWR of 5.83:1 and that is perfectly
consistent with Hecht, and Born & Wolf's intensity equations.

****
HECHT AND BORN & WOLF'S TOTAL CONSTRUCTIVE INTERFERENCE EQUATIONS
ASSUME THERE IS AN EQUAL MAGNITUDE OF TOTAL DESTRUCTIVE INTERFERENCE
OCCURRING SOMEWHERE ELSE TO SATISFY THE REQUIREMENTS OF THE
CONSERVATION OF ENERGY PRINCIPLE. For every total constructive
interference equation I1 + I2 + 2*SQRT(I1*I2), there exists a
total destructive interference equation I1 + I2 - 2*SQRT(I1*I2)
The destructive interference and constructive interference
always sum to a net power density of ZERO such that the AVERAGE
power always remains the same.
****

Let's say we have two light waves of 100 watts/cm^2 intensity
and we cause them to interfere constructively. Here's the
intensity equation for total constructive interference.

I1 + I2 + 2*SQRT(I1*I2) = 100 + 100 + 2*SQRT(100*100) = 400 watts/cm^2

Multiply both sides of the equation by cm^2 and you get
400 watts of power and indeed that square cm would be
getting very warm. Somewhere else exists a square cm
with zero intensity.

That is Born and Wolf's equation (16a) on page 259 of the 4th
edition of "Principles of Optics). The equation is correct
and the dimensions are correct. It is also Hecht's equation (9.15)
on page 388 of the 4th edition of "Optics". Those authors all label
the 2*SQRT(I1*I2) term as the *interference term*.

Let's say we have two RF waves or 100 watts/cm^2 intensity and
we cause them to interfere constructively in a coax transmission
line with a cross sectional area of one square cm.

P1 + P2 + 2*SQRT(P1*P2) = 100 + 100 + 2*SQRT(100*100) = 400 watts/cm^2.

With those dimensions, the intensity equation and the Poynting
vector equation are EXACTLY the same. This is equation 12 from
Dr. Best's QEX article, "Wave Mechanics of Transmission Lines,
Part 3: ..." in the Nov/Dec 2001 edition. The fixed cross sectional
area of the coax is redundant and we can choose to deal entirely
with watts.
--
73, Cecil http://www.w5dxp.com

4255. Re: Smith Chart program

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 23:25:36 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <2pft139qvc4jhulqjb665m7975blueos7m@4ax.com>
Source record: 43021
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

On Thu, 12 Apr 2007 11:25:45 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>I'd appreciate any recommendations for an inexpensive Smith chart based
>program which can be used for the design of basic matching networks and
>the like. I'm looking for something along the line of MicroSmith or
>WinSMITH, neither of which is any longer available.
>
>Thanks,
>Roy Lewallen, W7EL

Hi Roy,

There is a very slick one Switzerland:
http://www.fritz.dellsperger.net/downloads.htm
from Dr. Fritz Dellsperger.

It, like your software, has a free but limited use. Getting the full
use one is rather more obscure as there is nothing mentioned at his
site as how to get a key or otherwise obtain full use (more than a
limited number of points). Somewhere, there was the suggestion of
accommodating a user if they emailed, but that never worked for me.

73's
Richard Clark, KB7QHC

4256. Re: high earth resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 23:31:56 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <d3gt13dlnbsk0djf2gftjuqi4q9pc9p25k@4ax.com>
Source record: 43022

On Thu, 12 Apr 2007 13:53:30 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

> no current crosses
>from radial to radial in a clockwise or counterclockwise circular
>pattern like Richard implied.

Hi Roy,

This, like:
>Your answers to the two questions I asked are
>that you don't know and you don't know.
inject your meaning into this dialog as though I wrote it.

I wrote neither that I didn't know (this is strictly your
interpretation) nor have I implied radial to radial conduction.

Please review the correspondence and respond directly to my comments
as written instead of creating my talking points for me. This is
Cecil's style, not yours.

73's
Richard Clark, KB7QHC

4257. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 23:36:49 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <lozTh.14481$JZ3.5022@newssvr13.news.prodigy.net>
Source record: 43023

Jim Kelley wrote:
> I'm pretty sure somebody using the name Cecil Moore posted Ptot = P1 +
> P2 +2*SQRT(P1*P2), and used the equation to show how two 100 watt
> generators generate 400 watts. Help me out. Where did I mess up here?

Jim, you asked me not to tell you what you said but instead
to furnish the quote showing what you said. Above you are
violating the rules you asked me to abide by. Produce that
quote and I will explain it.
--
73, Cecil http://www.w5dxp.com

4258. Re: Smith Chart program

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 23:43:12 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <iuzTh.3978$H_5.2946@newssvr23.news.prodigy.net>
Source record: 43024
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Roy Lewallen wrote:
> I'm looking for a Windows-based program that runs on a local machine
> rather than remotely as at a web site.

Somebody tell Roy that Robert Lay, W9DMK, has a
SMARTSMITH program that may or may not be what
he is looking for and may or may not be
EZNEC compatible.

http://www.qsl.net/w9dmk/
--
73, Cecil http://www.w5dxp.com

4259. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 23:50:58 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176421858.659967.131140@q75g2000hsh.googlegroups.com>
Source record: 43025

On Apr 12, 3:23 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> K7ITM wrote:
> > If you don't believe there's a solution to the example Keith posted,
> > you have no right to believe in the results of a measurement with a
> > vector network analyzer, and you should certainly not trust the
> > indicated output level of any signal generator.
>
> Methinks you have missed the context of the discussion.
> If the model doesn't work for an IC-706 it is not much
> use to amateur radio operators. I have already said that
> a valid model can be had for a signal generator equipped
> with a circulator load.

The only problem with this statement is the assumption that
the result can only be achieved with a circulator. It only
takes a 10 cent resistor. You really should put down your
optics books for a few hours and crack open a basic circuit
theory or transmission line text. Or google, "'lattice
diagrams' reflection". For matching at the source,
only 10 cent resistors are used.

...Keith

4260. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-12 23:52:53 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176421973.219496.116340@n76g2000hsh.googlegroups.com>
Source record: 43026

On Apr 12, 3:37 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > So your only beef with my examples is that they do not
> > accurately model a "typical ham transmitter"?
>
> Yes, I have said so about a half-dozen times now.
>
> > When you say that source impedance is a "variable", do you
> > mean this for a "typical ham transmitter", ...
>
> Yes, the discussion is about typical ham
> transmitters - nothing else matters to typical
> hams.

So when a poster presents a problem in a context other "typical ham transmitters", why do you dispute the answers. If you can't discuss the problem in the context presented by the poster, why not have the courtesy to stay out. Others may be interested in learning about how things relate in contexts other than "typical ham transmitters". Why sabotage the discussions by arguing and arguing and then saying "Oh, I only meant my comments in the context of "typical ham transmitters" WHICH WAS NOT THE CONTEXT OF THE PROBLEM STATEMENT. And kindly stop using the Texas A&M example of TVSG and 1000 feet of line. It is clearly out of your context of "typical ham transmitters".

Perhaps, in your dissertations on optics, it would be valuable to state that they apply only in the context of "typical ham transmitters". This might make it clear to the reader that your suggestions are not generally applicable and could reduce the wasted bits.

> > Which results have been disproved on the bench?
>
> Please research the grand argument between Warren
> Bruene, w5oly, and Walter Maxwell, w2du.
>
> > Are the experiments documented in Reflections chapter 19 and
> > 19a representative examples?
>
> As far as I know, the Bruene/Maxwell argument first saw
> light in a QST article in the early '90s and has been
> raging ever since.
>
> > My read of these chapters is that they offer compelling

> > argument and evidence (at least for the tube style
> > transmitters examined) that ham transmitters are linear*,
> > at least over their normal region of operation.
>
> Linear is not the requirement for your source impedance.
> Constant, fixed, and linear is the requirement for your
> source impedance. Nothing you have presented had the
> source impedance as a linear variable.

No indeed, the source impedance was a constant and resistive
in all my examples. That meets the needs for linear analysis.
Remember f(a+b) = f(a) + f(b)?

You are claiming that for "typical ham transmitters" the
source impedance is undefinable. This is quite at odds with
the exposition in Reflections chapters 19 and 19a. Or maybe not,
after all, Reflections is quite precise and claims only for a
specific class of ham transmitters, which, I suppose, may not
be typical. Though they look so to me.

So I take it that you no longer agree with the analysis presented
in Reflections 19 and 19a. I am pretty sure that you have stated
agreement in the past.

It would be valuable if you were to expand on the reasons for your
change of thought. What convinced you that "typical ham transmitters"
could not have their source impedance measured?

...Keith

4261. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 00:06:41 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <lQzTh.8041$u03.7925@newssvr21.news.prodigy.net>
Source record: 43027

Owen Duffy wrote:
> Cecil, you have conveniently clipped the context (as you do), the
> relevant context being the line-load interface and source-line interface.

Following published usenet rules, I trim the part to which
I am not replying.

> Statements in some explanations (by others) like "This clearly proves
> that reflected power and forward power in a transmission line are both
> real power, and that no fictitious power, or reactive volt-amperes,
> exists in either one." seem incompatible with the basic AC circuit theory
> explanation of a reactive load which must exchange reactive energy with
> the transmission line over a complete cycle (and the same effect at the
> source end).

Those statements are generally about lossless lines where the
Z0 is purely resistive. In the lossless wave reflection model,
there is no reactive energy in the transmission line. The forward
voltage is in phase with the forward current and the reflected
voltage is 180 degrees out of phase with the reflected current.
Both V*I*cos(theta) terms are in watts with zero vars. Of course,
real world transmission lines have (hopefully negligible) vars.

> BTW, I am not surprised at your dissertation apparently dismissing the
> distributed impedance model of a line, because after all it is the
> solution of that model that gives us the classic transmission line
> equations that you seem to not want to use.

It is NOT the distributed impedance model to which I object. It is
the lumped circuit model which assumes the speed of light is infinite
and 75m loading coils don't occupy any space. Here's a quote from an
IEEE white paper at: http://www.ttr.com/TELSIKS2001-MASTER-1.pdf

"Consequently, lumped element circuit theory does not (and cannot)
accurately embody a world of second order partial differential
equations in space and time."
--
73, Cecil http://www.w5dxp.com

4262. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 00:20:49 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <B1ATh.8042$u03.4780@newssvr21.news.prodigy.net>
Source record: 43028

Keith Dysart wrote:
> The only problem with this statement is the assumption that
> the result can only be achieved with a circulator.

Please stop putting words into my mouth. I said it could
be achieved with a circulator. I did *NOT* say it could
only be achieved with a circulator.

> It only takes a 10 cent resistor.

That is naive in the extreme and makes you sound about
ten years old. If a 10 cent resistor would accomplish
that in the real world, nobody would ever buy a
circulator.
--
73, Cecil http://www.w5dxp.com

4263. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 00:31:11 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176424271.702526.138380@w1g2000hsg.googlegroups.com>
Source record: 43029

On Apr 12, 8:06 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Owen Duffy wrote:
> > Cecil, you have conveniently clipped the context (as you do), the
> > relevant context being the line-load interface and source-line interface.
>
> Following published usenet rules, I trim the part to which
> I am not replying.
>
> > Statements in some explanations (by others) like "This clearly proves
> > that reflected power and forward power in a transmission line are both
> > real power, and that no fictitious power, or reactive volt-amperes,
> > exists in either one." seem incompatible with the basic AC circuit theory
> > explanation of a reactive load which must exchange reactive energy with
> > the transmission line over a complete cycle (and the same effect at the
> > source end).
>
> Those statements are generally about lossless lines where the
> Z0 is purely resistive. In the lossless wave reflection model,
> there is no reactive energy in the transmission line. The forward
> voltage is in phase with the forward current and the reflected
> voltage is 180 degrees out of phase with the reflected current.
> Both V*I*cos(theta) terms are in watts with zero vars. Of course,
> real world transmission lines have (hopefully negligible) vars.

There are two models that can accurately describe the same
phenomenon: the power folk like VAs, Watts and VARs; the RF folk
like forward and reverse travelling waves. But the phenomenon
is the same. One can indeed describe what happens on a transmission
line in terms of VAs, Watts, and VARs and any line that has a
reverse wave will be found to have VARs. The different terms apply
to different models, not to different situations.

Just another reason why you have to be careful when you think
that the forward and reverse waves necessarily represent real
power. Trust the power folk on this one; they know what represents
real power, they are billing for it. And its Watts. Net. They
only power that counts is the power you can bill for.

...Keith

4264. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 00:37:28 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <chATh.8045$u03.6543@newssvr21.news.prodigy.net>
Source record: 43030

Keith Dysart wrote:
> So when a poster presents a problem in a context other "typical
> ham transmitters", why do you dispute the answers.

Uhhhhhh Keith, because you presented the problem to me,
not someone else. You asked me what was wrong with your
examples. I obliged you. If you don't want me to answer,
don't ask me to respond.

> Perhaps, in your dissertations on optics, it would be valuable
> to state that they apply only in the context of "typical ham
> transmitters". This might make it clear to the reader that
> your suggestions are not generally applicable and could reduce
> the wasted bits.

Perhaps, you should learn to recognize the common misleading
logical diversions, including your reductio ad absurdum assertion
above, and avoid them in the future.

> No indeed, the source impedance was a constant and resistive
> in all my examples.

Did you bench test it or just dream it up and wave your hands?
Maybe your ten cent resistor can resolve the war in Iraq - in
your mind.

> So I take it that you no longer agree with the analysis presented
> in Reflections 19 and 19a. I am pretty sure that you have stated
> agreement in the past.

Please stop putting words in my mouth. I have never stated
agreement or disagreement. It is just one possibility out
of many that have been presented over the years. The fact
that there are so many theories is proof that it has not
been settled. Why don't you whip out an article that settles
everything and see what QEX thinks about it?

> It would be valuable if you were to expand on the reasons for your
> change of thought.

Since I haven't changed my thought, that would be difficult.
--
73, Cecil http://www.w5dxp.com

4265. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 00:55:36 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <9yATh.90$Ir2.78@newssvr17.news.prodigy.net>
Source record: 43031

Keith Dysart wrote:
> Just another reason why you have to be careful when you think
> that the forward and reverse waves necessarily represent real
> power. Trust the power folk on this one; they know what represents
> real power, they are billing for it. And its Watts. Net. They
> only power that counts is the power you can bill for.

:-) :-) :-) Uhhhhhh Keith, the power company does NOT bill
you for "Watts. Net." They bill you for the number of joules
(KWH) that you convert from 60 Hz AC to heat. Where the heck
did you learn your physics?

Last month I converted 3,452,400,000 joules to heat here
at my QTH. That's 0.000002442 cents per joule.
--
73, Cecil http://www.w5dxp.com

4266. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 01:03:09 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176426189.282654.169330@l77g2000hsb.googlegroups.com>
Source record: 43032

On Apr 12, 8:20 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > The only problem with this statement is the assumption that
> > the result can only be achieved with a circulator.
>
> Please stop putting words into my mouth. I said it could
> be achieved with a circulator. I did *NOT* say it could
> *only* be achieved with a circulator.

Do you have a list of possible approaches?

Is there any environment in which a 10 cent resistor is the
optimal solution?

> > It only takes a 10 cent resistor.
>
> That is naive in the extreme and makes you sound about
> ten years old. If a 10 cent resistor would accomplish
> that in the real world, nobody would ever buy a
> circulator.

In my world, the solution is optimized for the problem at
hand: sometimes a circulator, sometimes a resistor,
sometimes feedback and sometimes we just don't care about
matching the source so nothing at all is needed.

...Keith

4267. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 01:39:42 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <wbBTh.34$iZ5.22@newssvr22.news.prodigy.net>
Source record: 43033

Keith Dysart wrote:
> Do you have a list of possible approaches?

I only use one - I don't allow reflected energy
to become incident upon my IC-706 and IC-756PRO.
That is, by far, the most common configuration
in amateur radio.

> Is there any environment in which a 10 cent resistor is the
> optimal solution?

To the best of my knowledge, not on the output
of any 100 watt amateur radio transmitter.
--
73, Cecil http://www.w5dxp.com

4268. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 01:41:30 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns991176EB2AF31nonenowhere@61.9.191.5>
Source record: 43034

"Keith Dysart" <kd1@sympatico.ca> wrote in
news:1176424271.702526.138380@w1g2000hsg.googlegroups.com:

...
> Just another reason why you have to be careful when you think
> that the forward and reverse waves necessarily represent real
> power. Trust the power folk on this one; they know what represents

Keith, that was indeed my point, that talking of the forward and reflected waves as power waves (or whatever non-phasor term is being used today) and the assertion that those "power" waves are entirely real power (for whatever reasons), and the talk of superposition of these waves (where the examples seem to deal with power algebraicly with sometimes a fudge for phase correction) cannot explain the role of a transmission line as an energy store at any instant, nor the exchange of reactive energy at source and load over time.

If that seems a jumble, it is because this stuff is bandied around without much discipline.

In the same vein, I saw an assertion without sufficient qualification that in a transmission line, 50% of the energy is stored / contained in the electric field and 50% in the magnetic field. Again, general statements from specific cases.

It isn't the special case of a lossless line the causes this, it is the conclusions that are incorrectly drawn from the lossless line or incorrectly applied that are the problem.

Owen

4269. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 01:59:03 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <HtBTh.16386$Um6.6379@newssvr12.news.prodigy.net>
Source record: 43035

Owen Duffy wrote:
> Keith, that was indeed my point, that talking of the forward and
> reflected waves as power waves ...

If you are trying to quote me, Owen, you are misquoting me.
Exactly what is it about the following excerpts from my
2005 energy article with which you disagree?

From: "An Energy Analysis at an Impedance Discontinuity in
an RF Transmission Line", by W5DXP, WorldRadio, Oct. 2005

"Single-source RF energy in a transmission line and laser
light are both coherent electromagnetic energy waves that
obey the laws of superposition, interference, conservation
of energy, and conservation of momentum."

"The term "power flow" has been avoided in favor of 'energy
flow'. Power is a measure of that energy flow per unit time
through a plane. Likewise, the EM fields in the waves do the
interfering. Powers, treated as scalars, are incapable of
interference."
--
73, Cecil http://www.w5dxp.com

4270. Re: NVIS Dipoles Directional?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 04:22:47 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <AqqdnfrOUdDxaoPbnZ2dnUVZ_vShnZ2d@bright.net>
Source record: 43036

Dear Wim:

Thank you for the additional information. The information fills in the rest of the story.

Before I shut down the dedicated computer used for the calculations, I looked at the last entry again. The 20.8 m high dipole in a 50 ohm system seemed to have significantly smaller BW than what you reported. I changed the impedance to 85.7 ohms and then found (using the same data) that the SWR=2 BW is about 250 kHz. With a 1.3:1 turns ratio transformer, this is also the expected BW that would be seen in a 50 ohm system.

In short, my reported BW numbers may need qualification. It is interesting to see how two different simulation techniques reach similar conclusions. I too expect that increasing the wire to 10 mm has little effect.

Vacations can be very creative times. Thank you for your work. 73,
Mac N8TT

--
J. Mc Laughlin; Michigan U.S.A.
Home: JCM@Power-Net.Net
"Wimpie" <wimtel@tetech.nl> wrote in message
news:1176404347.111447.123310@d57g2000hsg.googlegroups.com...
> On 11 abr, 06:14, "J. Mc Laughlin" <j...@power-net.net> wrote:
> > Dear Wim PA3DJS:
> >
> > How I wish that I could read Dutch. However, in looking over all of
> > your work, it continually occurred to me that much of the base of
English
> > comes from Northern Nederland.
> >
> > I looked at the first table on page 20 of your work. The
information so
> > intrigued me that I ran almost the same information through NEC4, which
does
> > well with antennas close to the ground. I assumed: a center frequency
of
> > 3.6 MHz, a horizontal half wave dipole slightly adjusted to be resonant
at
> > 3.6 MHz at each height, the use of Cu wire 2 mm in diameter, and earth
with
> > a sigma of 0.01 and a relative dielectric constant of 15. This is what
I
> > found without too obsessive an amount of tweaking:

> >
> > The data is in this order:
> > height of the dipole in meters
> > the real part of the dipole's impedance in ohms
> > (the phase angle of the impedance was kept under 2 degrees)
> > the approximate SWR=2 BW in a 50 ohm system in kHz
> > the total apparent loss of the system in dB
> > (this is found by integrating gain in all directions)
> > the peak antenna gain in dBi
> >
> > 4.2 38.1 125 6.25 2.0
> > 5.8 37.7 120 4.31 4.1
> > 8.3 42.1 130 2.59 5.8
> > 10.4 49.0 140 1.81 6.5
> > 15 66.5 145 1.04 6.9
> > 20.8 85.7 125 0.7 6.5
> >
> > Most of my results are close to your results. It is interesting to know
if
> > I used the same assumptions. Please let me know.
> >
> > I encourage you to consider translating your work, or at least parts of
it,
> > into English.
> >
> > 73, Mac N8TT
> > --
> > J. Mc Laughlin; Michigan U.S.A.
> > Home: J...@Power-Net.Net
> >[rest removed]
>
> Dear Mac,
>
> Thank you for sharing your results with me. You are fully right, the
> results are almost the same. The difference with my assumptions is
> wire diameter only. I used 10mm. I expected more difference in useful
> bandwidth, because of the factor 5 in wire diameter.
>
> The simulations were carried out on IE3D with a lossy dielectric as
> ground. The first table on page 17, shows the results for a perfect
> ground.
>
> I wasn't satisfied with the bandwidth, so the actual antenna consists
> of 2 wires (1m separation). This gave me sufficient bandwidth to use
> the antenna without a tuner.
>
> The results between the brackets are with 3 floating reflector wires
> under the antenna (about 1 m above ground). This gives an evident
> increase in gain. The gain increases somewhat by raising the 3 wires
> to about 1.5..2m above ground.

>
> At this moment there are no plans to translate the document into
> English language. As you have seen, the text in the images is in
> English language, so you never know what happens during a vacation.....
> The birdth of the Dutch version was in Spain.
>
> Best Regards,
>
> Wim
> PA3DJS.
>

4271. Re: Smith Chart program

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 04:39:06 UTC
From: "David L. Foreman" <davelf11@cox.net>
Message-ID: <g62u13ti7uhvpg37162jd7fmb032t9aslh@4ax.com>
Source record: 43037

On Thu, 12 Apr 2007 11:25:45 -0700, Roy Lewallen <w7el@eznec.com> wrote:

>I'd appreciate any recommendations for an inexpensive Smith chart based
>program which can be used for the design of basic matching networks and
>the like. I'm looking for something along the line of MicroSmith or
>WinSMITH, neither of which is any longer available.
>
>Thanks,
>Roy Lewallen, W7EL

Roy
Here is the URL for WinSMITH from Sci Tech Publishing at $125 their price.
Dave Foreman

http://www.scitechpub.com/WinSmith.htm

winSMITH 2.0 automates the graphical solution of transmission line and lumped element matching networks. It is also an excellent training aid for RF and microwave circuit design.

The power of the Smith chart is the ability to present complex data visually, making possible informed judgments regarding transmission line systems, measured data, antennas, matching and other networks.

winSMITH simplifies the process by replacing the paper chart, a pencil, compass (and eraser!) with computerized screen graphics. It offers the speed, accuracy, and repeatability provided by the personal computer and instantaneous data readout in multiple formats. This program is for Windows 98 and XP.

4272. Re: Smith Chart program

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 05:07:27 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131u40p2tvf45ea@corp.supernews.com>
Source record: 43038

Thanks, everyone, for the info. I'm surprised and glad to see that WinSMITH is available again. It was offered first by its publisher, Noble, then later by the ARRL. I'm quite sure there was a period after the ARRL dropped it when it wasn't available. There are some things about it I and others don't like, particularly the 15 step limit to imported impedance data. But EZNEC currently writes files compatible with the "current" (1998) version of WinSMITH. It's apparent, though, that it won't be updated, so it's a good idea to locate a substitute anyway. I've downloaded the Swiss program and will look over the others you've been kind enough to recommend. Thanks again.

Roy Lewallen, W7EL

4273. Re: Off Topic

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 05:09:00 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <NfETh.198393$6P2.173676@newsfe16.phx>
Source record: 43039

"Bryan" <bryan.swadenerNOSPAM@comcast.net> wrote in message
news:RNKdnbqJdZ6KXIDbnZ2dnUVZ_tunnZ2d@giganews.com...
> Sal M. Onella wrote:
> > Heard the Swain's Island DXpedition on 14.195 USB tonight around 0430
GMT.
> > He was working a split, so I couldn't work him with just my one TS-120.
> > Pity. Would've been a real catch.
> >
> I found the VFO-120 to cure the problem of "split-itis". ;^)
> They turn up for sale more often than you might think.
> 73,
> Bryan WA7PRC
>
> PS: Mine's *not* for sale!
>

I had a guy at the office tell me the same thing. That's what I need.

I listened for them tonight and heard nothing. That doesn't mean too much
because they might have been doing another mode or beaming away. WWVH was
booming into SoCal tonight like a landline, so I had my hopes up.
>

4274. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 06:21:09 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176445269.203060.123500@l77g2000hsb.googlegroups.com>
Source record: 43040

On Apr 12, 4:50 pm, "Keith Dysart" <k...@sympatico.ca> wrote:
> On Apr 12, 3:23 pm, Cecil Moore <nos...@w5dxp.com> wrote:
>
> > K7ITM wrote:
> > > If you don't believe there's a solution to the example Keith posted,
> > > you have no right to believe in the results of a measurement with a
> > > vector network analyzer, and you should certainly not trust the
> > > indicated output level of any signal generator.
>
> > Methinks you have missed the context of the discussion.
> > If the model doesn't work for an IC-706 it is not much
> > use to amateur radio operators. I have already said that
> > a valid model can be had for a signal generator equipped
> > with a circulator load.
>
> The only problem with this statement is the assumption that
> the result can only be achieved with a circulator. It only
> takes a 10 cent resistor. You really should put down your
> optics books for a few hours and crack open a basic circuit
> theory or transmission line text. Or google, "'lattice
> diagrams' reflection". For matching at the source,
> only 10 cent resistors are used.
>
> ...Keith

Well, I'm not sure that's the ONLY problem with it, Keith! ;-)

Whether the model works for me with an IC-706 will have to wait till someone sends me an operating IC-706 to test. (They should not expect its return...) But I can assure you that whether it does or not, it's a VERY useful model to me, and I am an amateur radio operator. I certainly do NOT accept that the context of this thread is amateur transmitters--there's been so much basenote drift by this time that practically anything relating to vector addition of signals seems fair game.

Cheers,
Tom

PS--know any circulators that work over a range from 10kHz to 6GHz??
Know any that work at 10kHz even?

4275. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 06:43:26 UTC
From: richardharrison@webtv.net
Message-ID: <11430-461F268E-106@storefull-3253.bay.webtv.net>
Source record: 43041

Owen Duffy wrote:
"In the same vein, I saw an assertion without sufficient qualification that in a transmission line, 50% of the energy is stored/contained in the electric field and 50% in the magnetic field. Again, general statements from specified cases."

Now we accept that energy travels a guided path as an EM wave. The electric and magnetic fields of a wave alternately contain the energy of the wave. When the electric-field is at its maximum, the magnetic-field is at its minimum, and vice versa.

The change in one field induces the other field and vice versa. Thus it is the same energy which is being passed back and forth between both fields. Therefore, over a prolonged period, 50% resides in each field.

Best regards, Richard Harrison, KB5WZI

4276. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 07:20:40 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9911B06BC6393nonenowhere@61.9.191.5>
Source record: 43042

richardharrison@webtv.net (Richard Harrison) wrote in news:11430-461F268E-106@storefull-3253.bay.webtv.net:

...
> The change in one field induces the other field and vice versa. Thus it
> is the same energy which is being passed back and forth between both
> fields. Therefore, over a prolonged period, 50% resides in each field.

Richard, "over a prolonged period" is a qualification, and still it doesn't sufficiently qualify the statement for it to be true.

Owen

4277. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 09:31:25 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <N5ITh.14556$JZ3.1506@newssvr13.news.prodigy.net>
Source record: 43043

K7ITM wrote:
> I certainly do NOT accept that the context of this
> thread is amateur transmitters--

Granted, the thread drifted away from the subject line
which has little to do with transmitters, but amateur
transmitters are what the entire Maxwell-Bruene
brouhaha is all about.

We already have a special case where a signal generator
plus circulator yields everything we need to know. One
more special case doesn't add much even if it works
which is questionable.

We do not have a valid generalized case that covers
amateur radio transmitters. IMO, that's what the
brouhaha is all about.
--
73, Cecil http://www.w5dxp.com

4278. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 09:52:01 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <5pITh.14557$JZ3.13797@newssvr13.news.prodigy.net>
Source record: 43044

Richard Harrison wrote:
> Owen Duffy wrote:
> "In the same vein, I saw an assertion without sufficient qualification
> that in a transmission line, 50% of the energy is stored/contained in
> the electric field and 50% in the magnetic field. Again, general
> statements from specified cases."
>
> Now we accept that energy travels a guided path as an EM wave. The
> electric and magnetic fields of a wave alternately contain the energy of
> the wave. When the electric-field is at its maximum, the magnetic-field
> is at its minimum, and vice versa.

In addition:
Assuming ideal TEM waves, the B-field (magnetic) is always
orthogonal to the E-field (electric) and both are orthogonal
to the direction of travel. The power associated with the
ideal TEM wave is ExB in watts (no vars). A TEM wave travels
at the c' = c(VF) speed of light and cannot travel at any other
speed. If it slows down or stops, it is not longer a TEM wave
and has necessarily been converted to some other form of energy.
Energy "sloshing" back and forth between reactances is NOT TEM
energy.

The principle of superposition gives us permission to treat
the forward traveling wave and reverse traveling wave separately
and superpose the results. Superposing the results does NOT
change the nature of the TEM waves. The fact that the net total
fields are no longer orthogonal gives the illusion that there
exist vars in the circuit but they are only virtual vars based
on virtual voltages and virtual currents. There are no vars in
ideal TEM waves in ideal lossless purely resistive Z0 transmission
lines. The forward traveling wave TEM fields have no effect on
the reverse traveling wave TEM fields as long as a physical
impedance discontinuity is not encountered.
--
73, Cecil http://www.w5dxp.com

4279. Re: Off Topic

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 11:52:57 UTC
From: Denny <k8do@mailblocks.com>
Message-ID: <1176465177.900038.294120@n59g2000hsh.googlegroups.com>
Source record: 43045

>
> - Show quoted text -

Hey Sal, just out of curiosity about your sig, are you virulent?

denny

4280. Re: Why S - Parameter at High frequencies?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 13:45:15 UTC
From: Wes <n7ws@yahoo.com>
Message-ID: <1176471915.944706.22670@b75g2000hsg.googlegroups.com>
Source record: 43046

On Apr 12, 2:04 pm, Roy Lewallen <w...@eznec.com> wrote:
> This topic has been discussed in this newsgroup several times in the
> past. In my posting of June 17, 2005 in the thread "Re: Calculating VSWR
> from rho and rho from VSWR" you'll find a summary of what I found in use
> by authors of 16 different textbooks. As you'll see, if you look it up
> athttp://groups.google.com, there's no single standard usage.
>
> Personally, my preference is the same as Wes' and Owen's - Gamma for
> complex reflection coefficient, rho for its magnitude. But usage is so
> varied that it's necessary to explicitly show what the symbols mean
> unless it's obvious from the context.
>

In my response in the thread "Question about reflection/transmission
coefficients", April 28, 2003 I had only 10 different references.

>

4281. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 14:12:34 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <im3v13lrfmtrksu5no45185grhtqjg688u@4ax.com>
Source record: 43047

On Sun, 08 Apr 2007 20:26:41 GMT, Owen Duffy <none@no.where> wrote:
Owen, the following is a copy of your post of 4-8-07, and my response 0n 4-12-07 to which you haven't
responded. Perhaps you haven't seen my response, or perhaps you chose not to respond, which is ok either way.

>Walter Maxwell <walt@w2du.com> wrote in
>news:bj5i13tj06fi39mpqq71g1vr5aol4oossa@4ax.com:
>
>Walt, I can see that you have taken my comment as personal criticism. That
>was not intended, and to the extent that I may have caused that, I
>apologise. In that context, it is better that I refrain from further
>comment.
>
>Regards
>Owen

Hi Owen,

Please excuse the long delay in responding to your post of 4-8-07, 4:26 pm EDT. I have been away from the
computer since then, attending to personal chores that took priority over rraa.

I'm sure your comments weren't meant as a personal attack, and I accept your apology.

However, your consideration of statements appearing in Reflections as flawed on the assumption that the
concepts presented there concerning impedance matching apply only to lossless and distortionless lines, IMHO
is unfair, because it is not true.

For readers of your post who now may be questioning the reliability of statements appearing in Reflections,
I'm working on a more detailed discussion of the issue for clarification that I will enter on the rraa as a
new thread.

Walt

4282. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 14:23:39 UTC
From: richardharrison@webtv.net
Message-ID: <8451-461F926B-404@storefull-3254.bay.webtv.net>
Source record: 43049

Owen Duffy wrote:
"Richard "over a prolonged period" is a qualification, and still doesn`t sufficiently qualify the statement to be true."

Maybe not the best words, but they are true in the practical case. In an EM-wave, energy is being passed back and forth netween the electric and magnetic fields on a periodic basis. At any given instant most of the wave`s energy may reside mostly in one field or the other at a given point. Half a cycle nas no practical significance among a million or more.

Best regards, Richard Harrison, KB5WZI

4283. Re: Smith Chart program

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 14:25:03 UTC
From: Christopher Cole <cole@scoob.coledd.com>
Message-ID: <461f92bf$0$8939$4c368faf@roadrunner.com>
Source record: 43048

In rec.radio.amateur.antenna Roy Lewallen <w7el@eznec.com> wrote:
> I'd appreciate any recommendations for an inexpensive Smith chart based
> program which can be used for the design of basic matching networks and
> the like.

Try QUCS:

http://qucs.sourceforge.net/

I have used it to help in the design of RF matching circuits. It accepts
S-parameter model input, and depicts sim results on a Smith chart.

Take care,
-Chris

--
| Christopher Cole, Cole Design and Development cole@coledd.com |
| Embedded Electronics and Software Design http://coledd.com |

4284. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 15:07:17 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <F0NTh.9626$YL5.7039@newssvr29.news.prodigy.net>
Source record: 43050

Walter Maxwell wrote:
> On Sun, 08 Apr 2007 20:26:41 GMT, Owen Duffy <none@no.where> wrote:
> Owen, the following is a copy of your post of 4-8-07, and my response 0n 4-12-07 to which you haven't
> responded. Perhaps you haven't seen my response, or perhaps you chose not to respond, which is ok either way.

Perhaps instead of asking Owen to point out what is wrong with
your writings, he would be more comfortable discussing his
theory, given the Vr and Ir terms that he uses, of how the
energy associated with that Vr and Ir wave gets its direction
and momentum changed at a Z0-match when Vr and Ir are
canceled/re-reflected/redistributed.
--
73, Cecil, w5dxp.com

4285. Satellite vertical vs. horizontal

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 15:48:39 UTC
From: Jim Leder <k8cxm@fuse.net>
Message-ID: <736bc$461fa657$d0660f9a$19110@FUSE.NET>
Source record: 43051

This is a question I posted a little while back on
rec.radio.amateur.satellite, but never received any response, maybe because
there is not a good answer. But here it is again:

I like to try to make occasional satellite contacts, usually on VO-52, and
have a place for only one antenna. In the past I have used a dual band
Diamond X-50 vertical, but now I am wondering if something like KU4AB's dual
band
E-factor horizontal loop might be a better choice. Any opinions?

Thanks.

--
Jim Bob Buckeye
AKA
**** Jim Leder****
K8CXM since 1961
IBM retiree since 1999
http://home.fuse.net/k8cxm/

4286. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 15:54:01 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <tINTh.8131$u03.1460@newssvr21.news.prodigy.net>
Source record: 43052

Owen Duffy wrote:
> If the distributed network model you favour is the S paramater model,
> properly applied, it is in fact entirely consistent with the distributed
> impedance line model because the parameters are derived from the solution
> to the distributed impedance line model.

Given that the S-Parameter analysis is valid as explained in
HP's Ap Note 95-1 available from:

http://www.tm.agilent.com/data/static/downloads/eng/Notes/interactive/an-95-1/an-95-1.pdf

--------Z01--------+--------Z02--------
a1--> b2-->
<--b1 <--a2

where a1, a2, b1, and b2 are normalized voltages.

The equation for b1 is b1 = s11(a1) + s12(a2)

Given that a1 and a2 are in phase and that b1 = 0
then s11(a1) and s12(a2) would have to be of equal
magnitude and opposite phase thus making the reflected
power |b1|^2 equal to zero. s11(a1) and s12(a2) cancel
each other out. (What happens to the energy in the
canceled waves?)

What do you get when you square both sides of the equation:?

b1 = s11(a1) + s12(a2) = 0 reflected voltage

Since the square of any of those terms yields watts,
If we simplify by replacing complicated terms with symbols:

|s11*a1|^2 = P1 and |s12*a2|^2 = P2 we get:

|b1|^2 = 0 = P1 + P2 - 2*SQRT(P1*P2) = 0 reflected power

These squared (power) terms are all explained in Ap Note 95-1.
The intensity-irradiance-Poynting vector equation can be
derived from the S-Parameter equations. Good thing the S-Parameter
analysis is consistent with Hecht and Born & Wolf, huh?
--
73, Cecil, w5dxp.com

4287. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 16:02:08 UTC
From: Thomas Horne <hornetd@mindspring.com>
Message-ID: <4QNTh.397$j63.395@newsread2.news.pas.earthlink.net>
Source record: 43053

Jimmie D wrote:
> "Thomas Horne" <hornetd@mindspring.com> wrote in message
> news:cgZSh.20289$PL.14373@newsread4.news.pas.earthlink.net...
>> Jimmie D wrote:
>>> "Bud--" <remove.BudNews@isp.com> wrote in message
>>> news:35818$461bb6bc$4213ea1f$14297@DIALUPUSA.NET...
>>>> Jimmie D wrote:
>>>>
>>>>>>> Hopefully you are not really using the water pipe for a ground for
>>>>>>> your electrical service. Hopefully your plumbing is just bonded to
>>>>>>> the electrical ground. Dont even think about using this for lightning
>>>>>>> protection. Nothing like having lightning run in on your plumbing
>>>>>>> while taking a bath or have it run in on yor ground and eat about $7K
>>>>>>> worth of test equipment(my bad).
>>>>>>>
>>>>>>> Jimmie
>>>>>> Jimmie
>>>>>>
>>>>>> DE KB3OPR
>>>>>>
>>>>>> I am an electrician by craft. The US National Electric Code Requires
>>>>>> that underground metal water piping on the premise be used as a
>>>>>> grounding electrode for the electrical system. There is no way around
>>>>>> it. No matter how fast people talk you cannot avoid using an
>>>>>> underground metal piping system as a grounding electrode unless the
>>>>>> electrical inspector is incompetent.
>>>>>> --
>>>>>> Tom Horne
>>>>> Tom you are confusing grounding with bonding, the plumbing should be
>>>>> bonded to ground but not used for ground, at least this is getting to
>>>>> be the rule in most places. I know that using the plumbing for ground
>>>>> is still acceptaable in places and in a lot of places it is still
>>>>> acceptable if if the local code permitted it at the time it was
>>>>> installed(grandfathering)..
>>>> An electrician confusing grounding and bonding - that is pretty funny.
>>>>
>>>> From the US National Electrical Code
>>>> ?250.50 Grounding Electrode System
>>>> All grounding electrodes as described in 250.52(A)(1) through (A)(6)
>>>> that are present at each building or structure served shall be bonded
>>>> together to form the grounding electrode system.?
>>>>
>>>> ?250.52(A)(1) Metal Underground Water Pipe?
>>>> (10 feet or more metal in earth)

>>>>
>>>> Using underground metal water pipe as a grounding electrode is REQUIRED.
>>>> And this has been a requirement for a very long time. Local codes may be
>>>> different from the NEC, but it is unlikely they are different on this.
>>>>
>>>> And if you just "bond" metal water pipe it will work as a grounding
>>>> electrode anyway.
>>>>
>>>> --
>>>> bud--
>>>>
>>> True enough but there is a difference, grounding is connecting to earth
>>> bonding is tying conductive structures together so they are at equal
>>> potential. Ground is a single point that everything else is bonded.
>>> Ground should be a stucture that the qualified electrician should be
>>> familar with not plumbing that may or may not be intact. If you dont
>>> believe me just try to get an electrical inspection on a new home without
>>> a ground rod installed.
>>>
>>> BTW the NEC is a minimum standard not a guide on how to wire your
>>> house.or perform grounding and bonding.
>>>
>>> You wouldnt believe what electricians dont know, like checking phase
>>> rotation before turning on a new 200KW UPS. or megging out lines before
>>> turning on new parking lot lights or making sure a generator is not
>>> backfeeding a line before working on it. All things I have seen
>>> electricans screw up in the past year.
>>>
>>> Jimmie
>> Jimmie
>> I can assure you I don't do that sort of careless nonsense. I can also
>> assure you that whenever I'm involved before the foundation is poured or
>> at least prior to it being back filled there will be no driven rods on
>> that job. They are the single least effective electrode you can install.
>> When I have to install driven rods, such as for a heavy up, I will stack
>> them using rod couplers until I'm under twenty five ohms and perform a
>> witnessed test for the inspector. I consider eight foot driven rods a
>> complete waste of time. Mind you I'll install them when I'm forced to but
>> you will usually find mine driven through the bottom of a three foot deep
>> trench on at least twenty feet of bare copper number two AWG grounding
>> electrode conductor.
>>
>> As for the US NEC being a minimum standard that is not always true. In at
>> least ten states it is both the minimum and the maximum standard that a
>> public electrical inspector may apply. So called "min max" states do not
>> allow the local governments to amend the US NEC. Were the US NEC is the
>> minimum standard you have to use underground metal water piping as a
>> grounding electrode whether or not it jibes with your religious beliefs
>> about what constitutes an electrode or not. If you were bonding the
>> plumbing you could do that with a conductor sized for the largest branch

>> circuit supplying an appliance that is attached to the plumbing. When you
>> are using the piping as an electrode you must size the conductor to the
>> size of the service entry conductors. People like W Tom cannot bring
>> themselves to admit that underground metal water piping is an effective
>> grounding electrode and worse still that it more effective then most of
>> the other electrodes listed in the US NEC at least in homes. I always
>> check the impedance of my grounding electrodes and that's what the
>> measurements say to me.
>> --
>> Tom Horne
>
> The point I am trying to make is that the ground system must be sufficent on
> its own and not need to connect to the buildings plumbing to improve the
> ground. You should never depend on the plumbing especially on residential
> work because you can not maintain control of modifications to that plumbing
> system. Good example is my in-laws home, for years the house connected to
> the well via 1 inch metal pipe and this was also the ground for the house as
> it was built in 1974. When the new well was drilled plastic pipe was
> installed to the new well with no groundwire going back to the well casing.
> A couple of years later a new HVAC system was installed and when there was
> an accidental short circuit the well pump was fried. This would not have
> happened if a proper grounding system had been installed at the house
> instead of relying on the plumbing. Professionals have a responsibility to
> idiot -proof there work as much as possible but you know how it is, sooner
> or later someone makes a better idiot.
>
> The fact that the water pipes may be effective or even better than the
> installed ground really have nothing to do with anything. Ground sytems are
> for grounding, Plumbing is for water. Electrians dont do plumbing and
> plumbers dont rewire homes.
>
> Jimmie

And my point is that your opinion does not jibe with the National
Electric Code.
--
Tom Horne

4288. Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 16:37:02 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <qcbv13hck5o5cbedsl5usqemsmb3uhav3l@4ax.com>
Source record: 43054

In the thread 'Constructive Interference and Radiowave Propagation', Owen, on 4-8-07 asserted that my writings
in Reflections concerning the analysis of stub matching procedures using reflection coefficients are
applicable only in cases where the transmission line is either lossless, or distortionless. I disagree, and in
what follows I hope to persuade those who agree with Owen's position to reconsider.

To assist in understanding why my use of reflection coefficients in analyzing impedance-matching circuitry, I
find it useful to include the concept of virtual open- and short-circuit conditions. I realize that some of
the posters on this NB deny the existence of virtual open-and short-circuits. Therefore, I hope that my
presentation here will also persuade those posters to reconsider their position.

While working in an antenna lab for more than 50 years I have analyzed, constructed, and measured hundreds of
impedance-matching circuits comprising transmission-line circuitry using reflection coefficients as
parameters. For example, in 1958 my assignment was to develop the antenna system for the World's first weather
satellite, TIROS 1. The system required an antenna that would radiate efficiently on four different
frequencies in two bands that were more than an octave related. It required a coupling circuit that would
allow four transmitters to operate simultaneously on all four frequencies without mutual interference. After
developing the antenna that also required radiating circular polarization, I then developed the coupling
system, which, pardon my English, utilized several virtual open- and short-circuit conditions to accomplish
the required isolation between the individual transmitters. The entire coupling system was fabricated in
printed-circuit stripline transmission line (not microstrip), with no connectors except for transmitter input
ports and output ports feeding the antenna. Remember, this was in 1958.

Initially I had only a slotted line for impedance measurements during the development stage, but soon after
the PRD-219 Reflectometer became available, invented by my bench mate, Woody Woodward. The PRD-219 measured
SWR and the angle of the voltage reflection coefficient. The magnitude rho of the reflection coefficient was
obtained from the SWR measurement using the equation rho = (SWR - 1)/(SWR + 1), thus the

PRD actually measured
the complete complex reflection coefficient. Consequently, all measurements from then on were in terms of
reflection coefficient.

Keep in mind that I was working with real transmission lines--not lossless lines. There were several
stub-matching circuits, several occurrences of virtual open- and short-circuits, and the total loss through
the coupler at both the 108 and 235 MHz bands was no greater than 0.2 dB. The input SWR at all four input
ports for a run of 12 manufactured units never exceeded 1.05:1 relative to 50 ohms.

Please let me now explain my understanding of virtual open- and short-circuits. These circuits are developed
by interference between two sets of voltage and current waves having reflection coefficients of equal
magnitude and phase differences of 180ï¿½, respectively. Consider these two examples of a virtual short circuit:

1: The input impedance of a lossless half-wave (180ï¿½) transmission line terminated in a physical short circuit
is zero ohms, a short circuit, but a VIRTUAL short circuit because it was achieved only by the interference
between the source voltage wave incident on the input (0ï¿½) and the reflected voltage wave (180ï¿½) returning to
the input after 360ï¿½ of two-way travel on the line and the 180ï¿½ phase reversal at the physical short
terminating the line. The reflected current wave on return to the input encountered no phase change during its
travel, thus the current reflection coefficient is in phase with that of the source current, allowing the
short circuit to occur.

2: The input impedance of a lossless quarter-wave (90ï¿½) transmission line terminated in a physical open
circuit is zero ohms, a short circuit, but a VIRTUAL short circuit because it was achieved only by the
interference between the voltage wave incident on the input (0ï¿½) and the reflected voltage wave (180ï¿½)
returning to the input after 180ï¿½ of two-way travel on the line and the 0ï¿½ phase reversal at the physical open
circuit terminating the line. The current reflection coefficient occurs in the same manner as with the
half-wave line above.

These two examples can be confirmed by referring to any reputable text concerning transmission line theory.

The voltage reflection coefficient at the input of these two transmission lines is 1.0 at 180ï¿½, and the
current reflection coefficient at this point is 1.0 at 0ï¿½. These are the reflection coefficients that would be

found when measuring at any short circuit, no matter whether it is physical or virtual. Consequently, both
physical and virtual short or open circuits placed on a transmission line can cause reflections. Proof is in
measurements performed at various points in the antenna coupler developed for the TIROS spacecraft in 1958.

Now let's examine a specific example of impedance matching with a stub using reflection coefficients, with
more details than I used in the previously-mentioned thread. As I said earlier, I have measured hundreds of
stub-matching circuitry, but for this discussion, yesterday I set up an experimental stub-matching circuit for
the purpose of being able to report directly on the results of current measurements taken on the circuit. The
source is an HP-8640A signal generator, an HP-5328A counter to determine the operating frequency, and the
combination of an HP-8405 Vector Voltmeter and an HP-778D dual directional coupler to form a precision RF
network analyzer.

Because using a 3:1 mismatch the resulting numbers are convenient, I paralleled three precision 50-ohm
resistors to form a resistance of 16.667 ohms, resulting in a 3:1 mismatch on the line to be stubbed. On a
line with a 3:1 mismatch the correct positioning of a parallel matching stub is 30ï¿½ toward the source from a
position of minimum SWR, where the normalized admittance y = 1.0 + 1.1547. Thus, I selected a short piece of
RG-53 coax that measured exactly 30ï¿½ in length at 16.0 MHz, meaning the stub will be placed 30ï¿½ rearward of
the load.

All measurements obtained during the experiment were less than 2 percent in error compared to a perfect
text-book setup. Consequently, rather than bore you with the exact measured values, I'm going to use the
text-book values for easier understanding.

At the 16.667 + j0 load the measured voltage reflection coefficient = 0.5 at 180ï¿½, current 0.5 at 0ï¿½.
At the stub point voltage reflection coefficient of the line impedance = 0.5 at +120ï¿½, current 0.5 at -60ï¿½.
Open-circuited stub 49ï¿½ in length measured separately in parallel with 50 ohms yields voltage reflection
coefficient 0.5 at -120ï¿½, current 0.5 at +60ï¿½. (Keep in mind that in operation the stub is in parallel with
the 50-ohm line resistance at the stub point.)
With stub connected in parallel with the line the voltage reflection coefficient at the stub point is 0.04 at
0ï¿½, current 0.04 at 180ï¿½. (Equivalent SWR = 1.083, and impedance = 54.16 + j0 ohms.)

Summarizing reflection coefficient values at stub point with stub in place:
Line coefficients: voltage 0.5 at +120ï¿½, current -60ï¿½
Stub coefficients: voltage 0.5 at -120ï¿½, current +60ï¿½
Resultant coefficients: voltage 0.5 at 180ï¿½, current 0.5 at 0ï¿½

These two resultant reflection coefficients resulting from the interference between the load-reflected wave at
the stub point and the reflected wave produced by the stub define a virtual short circuit established at the
stub point.

Let's now consider what occurs when a wave encounters a short circuit. We know that the voltage wave
encounters a phase change of 180ï¿½, while the current wave encounters zero change in phase. Note that the
resultant voltage is at 180ï¿½, so the voltage phase changes to 0ï¿½ on reflection at the short circuit, and is
now in phase with the source voltage wave. In addition, the resultant current is already at 0ï¿½, and because
the current phase does not change on reflection at the short circuit, it remains at 0ï¿½ and in phase with
source current wave. Consequently, the reflected waves add in phase with the source waves, thus increasing the
forward power in the line section between the stub and the load.

So how do we know that the virtual short circuit resulting from the interference is really performing as a
short circuit?

First, an insignificant portion of the reflected wave appears on the source side of the stub point, thus, from
a practical viewpoint, indicating total re-reflection of the reflected waves at the stub point.

Second, the voltage in the line section between the stub and load that has a 3:1 SWR has increased relative to
that on the source line by the factor 1.1547, the amount expected on a line having a 3:1 SWR after total
re-reflection at an open or short circuit. This increase factor is determined from the equation for the
increase in forward power on a line with a specific value of SWR, where rho is the corresponding value of
reflection coefficient. The power increase factor equation is power increase = 1/(1 - rho^2). Thus the voltage
increase factor is the square root of the power increase factor. With rho = 0.5, as in the case of the above
experiment, the power increase factor is 1.3333..., the square root of which is 1.1547.

We have thus proved that the virtual short circuit established at the stub point is actually performing as a
real short circuit.

I believe it is remarkable that the maximum deviation of the measured values obtained during the experiment is
less than 2 percent of the text-book values that would appear with lossless elements, and ignoring measurement
errors and tolerances of the measuring equipment. The recognized sources of error are:
1. Tolerance in readings from the Vector Voltmeter
2. Ripple in the coupling factor in the directional coupler
3. Attenuation in the coax
4. The fact that the nomional Zo of the RG-53 coax is 53.5 ohms, not 50, as used as the reference in the
measurements.

My final comment is that I hope I have assisted in appreciating the practical use of virtual open and short
circuits, and that matching procedures can be analyzed using reflection coefficients that are not restricted
to lossless or distortionless transmission lines.

Walt, W2DU

4289. Re: Satellite vertical vs. horizontal

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 17:08:19 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <7OOTh.409$j63.337@newsread2.news.pas.earthlink.net>
Source record: 43055

"Jim Leder" <k8cxm@fuse.net> wrote in message
news:736bc$461fa657$d0660f9a$19110@FUSE.NET...
> This is a question I posted a little while back on
> rec.radio.amateur.satellite, but never received any response, maybe
> because there is not a good answer. But here it is again:
>
> I like to try to make occasional satellite contacts, usually on VO-52, and
> have a place for only one antenna. In the past I have used a dual band
> Diamond X-50 vertical, but now I am wondering if something like KU4AB's
> dual band
> E-factor horizontal loop might be a better choice. Any opinions?
>
> Thanks.
>

There is not really a good answer for simple sat antennas. You may want to look at the eggbeater types. Also someone was putting together something called a potato masher. It is a variation on the eggbeater. Crossed dipoles about 3/8 wavelength over a ground plane or reflector works ok , but may need to be switched from right to left polorization.

4290. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 17:48:20 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <evofrfgvp1@news.service.uci.edu>
Source record: 43056

Cecil Moore wrote:

> Perhaps instead of asking Owen to point out what is wrong with
> your writings, he would be more comfortable discussing his
> theory, given the Vr and Ir terms that he uses, of how the
> energy associated with that Vr and Ir wave gets its direction
> and momentum changed at a Z0-match when Vr and Ir are
> canceled/re-reflected/redistributed.
> --
> 73, Cecil, w5dxp.com

You seem to be implying that there's something different about how these electromagnetic waves change direction compared to other electromagnetic waves. Why is that?

73, ac6xg

4291. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 18:33:31 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <evoig7jbj1@news.service.uci.edu>
Source record: 43057

Cecil Moore wrote:

> "Powers, treated as scalars, are incapable of
> interference."

And when powers <sic> are not treated as scalers, then sometimes it's ok to use power in interference equations, but other times it's not - pretty much just depending on whether or not you get the answer you want. And sometimes you have to either add or subtract the amount of power that isn't somewhere else, or else average with zero in order to get the right answer.

All this and more, this week on r.r.a.a.

:-)

AC6XG

4292. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 18:40:27 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <dphv1316276fubkcbr5jsstct45vt90de0@4ax.com>
Source record: 43058

On Fri, 13 Apr 2007 16:37:02 GMT, Walter Maxwell <walt@w2du.com>
wrote:

Hi Walt,

>1: The input impedance of a lossless half-wave (180ï¿½) transmission line
There are two parts to the following statement:
>terminated in a physical short circuit is zero ohms, a short circuit,
which is the causal relationship;
>but a VIRTUAL short circuit because it was achieved only by the interference
>between the source voltage wave incident on the input (0ï¿½) and the reflected voltage
wave (180ï¿½) returning to
>the input after 360ï¿½ of two-way travel on the line and the 180ï¿½ phase reversal at the
physical short
>terminating the line.
this is the correlationship.

Without the cause, there is no correlation.

There is nothing to be disputed beyond that.

>The reflected current wave on return to the input encountered no phase change during its
>travel, thus the current reflection coefficient is in phase with that of the source
current, allowing the
>short circuit to occur.

Allowing, as a verb, suggests causality. The cause is established in
the short. All intermediary apparatus merely maintain the
correlation. There is nothing to be disputed beyond that.

>2: The input impedance of a lossless quarter-wave (90ï¿½) transmission line terminated in
a physical open
>circuit
which is the causal relationship;
>is zero ohms, a short circuit, >but a VIRTUAL short circuit because it was achieved only
by the
>interference between the voltage wave incident on the input (0ï¿½) and the reflected
voltage wave (180ï¿½)
>returning to the input after 180ï¿½ of two-way travel on the line and the 0ï¿½ phase
reversal at the physical open
>circuit terminating the line.
this is the correlationship.

>The current reflection coefficient occurs in the same manner as with the
>half-wave line above.

It is merely the correlation to an existing, physical open without which the VIRTUAL short circuit would disappear. All intermediary apparatus merely maintain the correlation. There is nothing to be disputed beyond that.

>These two examples can be confirmed by referring to any reputable text concerning transmission line theory.
There is nothing to be disputed beyond that.

>The voltage reflection coefficient at the input of these two transmission lines is 1.0 at 180ï¿½, and the
>current reflection coefficient at this point is 1.0 at 0ï¿½. These are the reflection coefficients that would be
>found when measuring at any short circuit, no matter whether it is physical or virtual. Consequently, both
>physical and virtual short or open circuits placed on a transmission line can cause reflections.

And here we get to the nut of the matter - causality. It is already established that either the physical short, or physical open, whose absence would render any correlation invalid, dominates the action. The proof follows the quality of the physical open or the physical short. A poor physical open or poor physical short will never be improved by ANY transmission line mechanics. On the other hand, poor transmission line mechanics will never deliver the action of the best physical short or the best physical open.

>We have thus proved that the virtual short circuit established at the stub point is actually performing as a
>real short circuit.

There is nothing to be disputed beyond that. This is not, however, a proof that the VIRTUAL short (or open) is the cause.

This may appear to be a criticism of semantics (English to some). However, engineering relies on a far stricter degree of meaning than most endeavors. Correlation is not Causality is one particular admonition that comes to mind from the field of logic. It applies here too.

Walt, it seems to me that you have a need to distinguish VIRTUAL from physical for reasons other than the transmission line mechanics of combining loads (or as I distinguished in other threads, routing energies). A VIRTUAL short or open is metaphor, and it is an useful metaphor for describing systems. What I see beyond these examples you have provided are statements (in other discussions) that tend to confer a reality to the VIRTUAL which is obviously a contradiction on the face of it. Other than that, there is absolutely nothing in your published work that is in dispute.

73's
Richard Clark, KB7QHC

4293. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 18:42:13 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <9aQTh.155$iZ5.123@newssvr22.news.prodigy.net>
Source record: 43059

Jim Kelley wrote:
> > You seem to be implying that there's something different about how these
> electromagnetic waves change direction compared to other electromagnetic
> waves. Why is that?

There is something different but not unusual. We don't often observe wave cancellation of visible light waves because of the problem of getting coherent beams of light perfectly aligned. Yet, we experience RF wave cancellation every time we adjust our antenna tuners for a Z0-match because the perfect alignment of coherent RF waves inside a piece of coax is an automatic given.

Here's a very simple example. The measured forward and reflected powers are given. The source and load impedances are irrelevant and the length of the Z01 and Z02 lines are irrelevant. Any one of these measured values could be unknown and solved for by calculations based on the conservation of energy principle.

```
------Z01------+------Z02------
Pfor1=100w--> Pfor2=200w-->
<--Pref1=0w <--Pref2=100w
```

We have 100 joules/sec incident upon the Z0-match point from the direction of the source. We have 100 joules/sec incident upon the Z0-match point from the direction of the load. Those waves combine to obtain 200 joules/sec toward the load. It is obvious that Pref2 has to change direction and momentum for that condition to exist.

The power reflection coefficient, rho^2, is obviously 0.5 so the voltage reflection coefficient, rho, is just as obviously +/- 0.707, depending upon whether [Z02 < Z01] or [Z02 > Z01}.

The direction and momentum of the Pref2 reflected wave obviously reverses at the Z0-match point '+'. Exactly how does the direction and momentum of the Pref2 wave get reversed? Where are the physics equations for that process that we hams label "re-reflection"? You and others have been strangely silent on that subject preferring to kibitz rather than provide any technical insight.

An exact duplicate of the above conditions would exist with a 100w laser beam traveling through 1/2WL of thin film with an index of refraction of 5.83.

A B
i=1.0 | i=5.83 | i=1.0
100w laser---air---|--1/2WL thin-film--|---air---...
<--Pref1=0w | <--Pref2=100w | <--Pref3=0w
Pfor1=100w | Pfor2=200w--> | Pfor3=100w-->

What happens to reverse the direction and momentum of the internal reflection in the thin film? Hint: Both Hecht and Born & Wolf give the equations for what happens at plane A. And yes, the S-Parameter equations agree 100% with them.
--
73, Cecil http://www.w5dxp.com

4294. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 18:50:52 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <giQTh.9682$YL5.796@newssvr29.news.prodigy.net>
Source record: 43060

Jim Kelley wrote:
>
> Cecil Moore wrote:
>> "Powers, treated as scalars, are incapable of
>> interference."
>
> And when powers <sic> are not treated as scalers, ...

There you go again, Jim, trying to set up a straw man.
I do NOT treat powers as anything except scalars. Any
phase angle that enters into the calculation is the
phase angle between the two voltages associated with
those powers. They are copied directly from Hecht, Born
& Wolf, and the S-Parameter analysis.

Why not, instead of your underhanded, unethical
kibitzing, present your own set of equations that govern
the process that we hams call "re-reflection"?
--
73, Cecil http://www.w5dxp.com

4295. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 19:07:08 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <evokf8$kp8$1@news.service.uci.edu>
Source record: 43062

Cecil Moore wrote:

> What happens to reverse the direction and momentum of
> the internal reflection in the thin film?

That's what I was asking you. You seem to be hinting at something,
but not actually saying it. What, other than reflection, are you
suggesting causes electromagnetic waves to reverse their direction of
propagation in the system you describe?

Thank you,

AC6XG

4296. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 19:08:10 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <5nkv131bbm38bcgejkh4q5ufqakipg31qd@4ax.com>
Source record: 43061

On Fri, 13 Apr 2007 16:37:02 GMT, Walter Maxwell <walt@w2du.com>
wrote:

>My final comment is that I hope I have assisted in appreciating the practical use of virtual open and short
>circuits, and that matching procedures can be analyzed using reflection coefficients that are not restricted
>to lossless or distortionless transmission lines.

Hi Walt,

You have tackled a job that some would shrug off as being impossible to accomplish. You have performed an admirable job of bench work demonstrating the lessons of the best text books. Few here go to those lengths, or with such precision and accuracy.

Your tight writing also reveals a mind that still sees the "big picture" and can describe it with sufficient detail for those who would otherwise dismiss the topic as being too vast and complex to comprehend.

73's
Richard Clark, KB7QHC

4297. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 19:29:35 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <zSQTh.9684$YL5.6531@newssvr29.news.prodigy.net>
Source record: 42315

Jim Kelley wrote:
>
> Cecil Moore wrote:
>> What happens to reverse the direction and momentum of
>> the internal reflection in the thin film?
>
> That's what I was asking you. You seem to be hinting at something, but
> not actually saying it. What, other than reflection, are you suggesting
> causes electromagnetic waves to reverse their direction of propagation
> in the system you describe?

I have published my take on that reflection. It is a two
step process involving:

1. A normal reflection from a physical impedance discontinuity
that doesn't account for all the reflected energy since the
physical reflection coefficient is not 1.0.

2. Wave cancellation between two reflected wave components
in the direction of the source results in a redistribution
of that energy in the direction of the load. This accounts
for the rest of the reflected wave energy.

You have objected to step 2 as invalid so the onus is upon
you to provide an alternate explanation. Please post the
governing equations. So far you have refused to do anything
except harp, nit-pick, and kibitz while wildly engaging in
hand-waving. Time to put up or shut up. Please explain the
process of 100% re-reflection of the internal reflected wave.
--
73, Cecil http://www.w5dxp.com

4298. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 19:55:46 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <evonae$n5j$1@news.service.uci.edu>
Source record: 42317

Cecil Moore wrote:

> Jim Kelley wrote:
>
>>
>> Cecil Moore wrote:
>>
>>> "Powers, treated as scalars, are incapable of
>>> interference."
>>
>>
>> And when powers <sic> are not treated as scalers, ...
>
>
> There you go again, Jim, trying to set up a straw man.
> I do NOT treat powers as anything except scalars.

It was curious that someone would qualify his statement that way to
begin with - "treated as scalars". What's that supposed to imply if
not that there are other ways to treat "powers" <sic>.

Is there, or is there NOT a cosine term in the interference equation?
How can a scalar have a PHASE ANGLE, and how can the cosine term
possibly apply to anything OTHER than the terms used IN THE EQUATION?!!

I wonder if you'd care to comment on the other mathematical techniques
you introduced to the group this week:

Subtracting power that isn't somewhere else from a number that's
apparently higher than it should be in order to get the right answer,
and averaging power with zero as a means for reducing an excessively
large number by a factor of two in order for the answer to come out
right. I'm still trying to parse how neglecting units makes it ok to
use equations as you see fit. $100 + $100 + 2*SQRT($100*$100) = $400
(The third term represents the amount of money that isn't somewhere
else and should therefore be mine.) ;-)

73, Jim AC6XG

4299. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 20:07:15 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <evonvv$nl9$1@news.service.uci.edu>
Source record: 42318

Cecil Moore wrote:

> I have published my take on that reflection. It is a two
> step process involving:
>
> 1. A normal reflection from a physical impedance discontinuity
> that doesn't account for all the reflected energy since the
> physical reflection coefficient is not 1.0.
>
> 2. Wave cancellation between two reflected wave components
> in the direction of the source results in a redistribution
> of that energy in the direction of the load. This accounts
> for the rest of the reflected wave energy.

Right. But the question still remains, what is your claim regarding the exact nature of the "redistribution" if NOT reflection from a partially reflective surface?

73, Jim AC6XG

4300. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 20:29:41 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <hcpv13lg6577eg3n331p5gsqk16m7srqf7@4ax.com>
Source record: 42319

On Fri, 13 Apr 2007 12:55:46 -0700, Jim Kelley <jwkelley@uci.edu>
wrote:

>$100 + $100 + 2*SQRT($100*$100) = $400
>(The third term represents the amount of money that isn't somewhere
>else and should therefore be mine.) ;-)

Hi Jim,

By substitution, EVERYONE knows TIME is money:
24Hrs + 24Hrs + 2*SQRT(24Hrs*24Hrs) = a work week

Hmmm, does time superpose? Can we find two coherent generators of
time? We can certainly find two generators of money like Ron Popiel's
vegamatic or George Forman's diet grill and as anyone can tell they
superpose with a veggie-burger.

73's
Richard Clark, KB7QHC

4301. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 20:35:22 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns991243038FE7nonenowhere@61.9.191.5>
Source record: 43063

richardharrison@webtv.net (Richard Harrison) wrote in news:8451-461F926B-404@storefull-3254.bay.webtv.net:

> Owen Duffy wrote:
> "Richard "over a prolonged period" is a qualification, and still doesn`t
> sufficiently qualify the statement to be true."
>
> Maybe not the best words, but they are true in the practical case. In an
> EM-wave, energy is being passed back and forth netween the electric and
> magnetic fields on a periodic basis. At any given instant most of the
> wave`s energy may reside mostly in one field or the other at a given
> point. Half a cycle nas no practical significance among a million or
> more.

Your paragraph above now talks about an EM-wave, my quote was about a transmission line, let me repeat it to save you going back through the posts:

"In the same vein, I saw an assertion without sufficient qualification that in a transmission line, 50% of the energy is stored/contained in the electric field and 50% in the magnetic field. Again, general statements from specified cases."

They are not quite the same.

I am not quite sure about the concept of energy at a point that you discuss, isn't it zero?

Owen

4302. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 21:00:27 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <LbSTh.8181$u03.6240@newssvr21.news.prodigy.net>
Source record: 43064

Jim Kelley wrote:
> It was curious that someone would qualify his statement that way to
> begin with - "treated as scalars". What's that supposed to imply if not
> that there are other ways to treat "powers" <sic>.

You falsely accused me of treating powers other than
as scalars. Now you are trying to twist my denial into
something untoward. Just how low are you willing to
stoop to discredit Hecht, Born & Wolf, and Dr. Best?

> Is there, or is there NOT a cosine term in the interference equation?

Yes, there is. Look in Born and Wolf and Hecht's "Optics".
There it is. I didn't put it there. The cosine term is
the angle between the two interfering voltages. All three
authorities, Hecht, Born, and Wolf, present the same
watts/unit-area equation with a term that they call the
interference term. Your argument is with them, not with me.
Watts/unit-area is certainly a scalar, yet all the experts
insert a cosine term into the scalar equation. That you don't
comprehend is somewhat ironic, wouldn't you say?

> I wonder if you'd care to comment on the other mathematical techniques
> you introduced to the group this week:
>
> Subtracting power that isn't somewhere else from a number that's
> apparently higher than it should be in order to get the right answer,
> and averaging power with zero as a means for reducing an excessively
> large number by a factor of two in order for the answer to come out
> right.

Please don't blame me. Hecht says in "Optics" that destructive
interference somewhere else allows the constructive interference
that we are experiencing. I didn't invent the concept. It was
invented by optical physicists before I was born. That you
are completely ignorant of the concept is downright appalling.
It just goes to show that people who believe they know everything
rarely know anything.

> I'm still trying to parse how neglecting units makes it ok to
> use equations as you see fit. $100 + $100 + 2*SQRT($100*$100) = $400
> (The third term represents the amount of money that isn't somewhere else
> and should therefore be mine.) ;-)

Here's equation (15) on page 259 of Born and Wolf's, "Principles
of Optics". Intensity is certainly a scalar value in watts/unit-area.

Why do you think Born and Wolf would put a cosine function into a scalar equation? Up until you discovered them doing such a dastardly thing, they were your heroes.

Imax = I1 + I2 + 2*SQRT(I1*I2)*cos(A) (15)

Does watts/unit-area have a phase angle? No. But there is a phase angle associated with the corresponding two E-fields.

As far as I know, a money equation doesn't possess an interference term but intensity equations, irradiance equations, and Poynting vector equations do indeed possess an inteference term. Here's what Hecht says in "Optics". " Briefly then, optical interference corresponds to the interaction of two or more lightwaves yielding a resultant irradiance that DEVIATES FROM THE SUM OF THE COMPONENT IRRADIANCES." You are objecting to the deviation from the sum of the component power densities. Please take that up with Hecht.

Maybe the head of your department could explain the interference term in the irradiance-intensity-Poynting vector equation to you. But if I were you, I wouldn't expose your gross ignorance to him.

All anyone reading this posting has to do to see just how confused Jim really is, is to read a copy of "Optics" by Hecht, or a copy of "Principles of Optics", by Born and Wolf.
--
73, Cecil http://www.w5dxp.com

4303. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 21:08:23 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <t6sv13pn4kfkub2thmejrbadph41o5tedl@4ax.com>
Source record: 43065

On Fri, 13 Apr 2007 12:08:10 -0700, Richard Clark <kb7qhc@comcast.net> wrote:

>On Fri, 13 Apr 2007 16:37:02 GMT, Walter Maxwell <walt@w2du.com>
>wrote:
>
>>My final comment is that I hope I have assisted in appreciating the practical use of virtual open and short
>>circuits, and that matching procedures can be analyzed using reflection coefficients that are not restricted
>>to lossless or distortionless transmission lines.
>
>Hi Walt,
>
>You have tackled a job that some would shrug off as being impossible
>to accomplish. You have performed an admirable job of bench work
>demonstrating the lessons of the best text books. Few here go to
>those lengths, or with such precision and accuracy.
>
>Your tight writing also reveals a mind that still sees the "big
>picture" and can describe it with sufficient detail for those who
>would otherwise dismiss the topic as being too vast and complex to
>comprehend.
>
>73's
>Richard Clark, KB7QHC

Richard, thank you for your comments and kind words. Coming from you it's hard to express my true appreciation
for what you've said.

Sincerely, Walt

4304. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 21:09:42 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <qkSTh.8184$u03.7719@newssvr21.news.prodigy.net>
Source record: 43066

Jim Kelley wrote:
> Right. But the question still remains, what is your claim regarding the
> exact nature of the "redistribution" if NOT reflection from a partially
> reflective surface?

It is impossible for a "partially reflective surface"
to reflect 100% of the intensity. My two step process
explains 100% reflection. Walt's virtual short explains
100% reflection. How do *you* explain 100% reflection
from a partially reflective surface? Time to cease the
mealy-mouthing and hand-waving and give us some facts.

A B
i=1.0 | i=5.83 | i=1.0
100w laser---air---|--1/2WL thin-film--|---air---...
<--Pref1=0w | <--Pref2=100w | <--Pref3=0w
Pfor1=100w | Pfor2=200w--> | Pfor3=100w-->

The intensity reflection coefficient seen by the internal
reflected wave is 0.5 yet the net reflection is 100%. I
have explained how that is possible through wave cancellation.
You have not explained how that is possible without wave
cancellation. Time to put up or shut up.
--
73, Cecil http://www.w5dxp.com

4305. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 21:13:56 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <evort1$qs1$1@news.service.uci.edu>
Source record: 43067

Cecil Moore wrote:

> It just goes to show that people who believe they know everything
> rarely know anything.

That's probably a bit of an overstatement. But they certainly can be
annoying.

ac6xg

4306. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 21:24:53 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <evoshj$re7$1@news.service.uci.edu>
Source record: 42320

Richard Clark wrote:

> Hi Jim,
>
> By substitution, EVERYONE knows TIME is money:
> 24Hrs + 24Hrs + 2*SQRT(24Hrs*24Hrs) = a work week

Heaven help us if the unions ever find out about it.

> Hmmm, does time superpose?

Interesting point, Richard. Evidently that doesn't actually matter as
long the answer comes out as desired.

73, ac6xg

4307. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 21:32:22 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <GFSTh.41698$VU4.27515@bgtnsc05-news.ops.worldnet.att.net>
Source record: 42321

Cecil Moore wrote:
> Jim Kelley wrote:
>> > You seem to be implying that there's something different about how
>> these electromagnetic waves change direction compared to other
>> electromagnetic waves. Why is that?
>
> There is something different but not unusual. We don't
> often observe wave cancellation of visible light waves
> because of the problem of getting coherent beams of light
> perfectly aligned. Yet, we experience RF wave cancellation
> every time we adjust our antenna tuners for a Z0-match
> because the perfect alignment of coherent RF waves inside
> a piece of coax is an automatic given.

[Example snipped]

Cecil,

This is a rather curious notion. Where did you get the idea that waves must be perfectly aligned to "cancel"?

Suppose I set up an experiment in which two coherent laser beams are misaligned by, say, one picoradian. The phases are adjusted so that the waves "cancel" in the region of overlap. This is much the same as the Java picture you like to reference from the FSU Magnet Lab. Any measurement that might be made in the overlap region would show the destructive interference, or "cancellation" if you wish. However, the beams are not perfectly aligned, so eventually the overlap ceases, and the individual beams proceed on toward infinity. I believe most people would agree that those exiting beams would not be altered by any interaction or interference that might have occurred in the lengthy overlap region. (That is a very easy experiment that can be conducted in any elementary optics lab.)

OK, so now we fine tune the illuminating mechanism so that the two beams are perfectly aligned. Are you saying that there is now some fundamental physical difference, and that the beams indeed cancel?

What is the equation that provides such a dramatic change resulting from an adjustment of one picoradian? What reference is there for this dramatic change mechanism?

73,
Gene
W4SZ

4308. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 21:37:04 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <4KSTh.8186$u03.2880@newssvr21.news.prodigy.net>
Source record: 42322

Jim Kelley wrote:
> Cecil Moore wrote:
>
>> It just goes to show that people who believe they know everything
>> rarely know anything.
>
> That's probably a bit of an overstatement. But they certainly can be
> annoying.

Again, I post the Hecht and Born & Wolf equation for intensity-irradiance, which is certainly an equation involving scalar values. Please answer the question: Why do Hecht and Born & Wolf insert a cosine term into their scalar intensity-irradiance equations? If it is OK for them to do it, why is it not OK for me to do it?

Itot = I1 + I2 + 2*SQRT(I1*I2)*cos(A)

You seem to think the act of inserting a cosine term into a scalar equation is an abomination. Please explain that criticism of Hecht, Born & Wolf, and me. It's past time to put up or shut up.
--
73, Cecil http://www.w5dxp.com

4309. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 21:39:22 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99124DDD82DEDnonenowhere@61.9.191.5>
Source record: 42323

Walter Maxwell <walt@w2du.com> wrote in
news:qcbv13hck5o5cbedsl5usqemsmb3uhav3l@4ax.com:

> In the thread 'Constructive Interference and Radiowave Propagation',
> Owen, on 4-8-07 asserted that my writings in Reflections concerning
> the analysis of stub matching procedures using reflection coefficients
> are applicable only in cases where the transmission line is either
> lossless, or distortionless. I disagree, and in what follows I hope to
> persuade those who agree with Owen's position to reconsider.

Hi Walt,

I did not say that, or in my view, imply that, it is your own interpretation of what I did say. I did make comment limited to Chapter 3 of Reflections II, and I stand by that comment.

Chapter 3 does not discuss stub matching at all, though you may apply principles that you develop in Chapter 3 to your discussion / analysis in later chapters, including to stub matching.

Owen

4310. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 21:48:07 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <rUSTh.8188$u03.2924@newssvr21.news.prodigy.net>
Source record: 42324

Gene Fuller wrote:
> Cecil Moore wrote:
>> Jim Kelley wrote:
>>> > You seem to be implying that there's something different about how
>>> these electromagnetic waves change direction compared to other
>>> electromagnetic waves. Why is that?
>>
>> There is something different but not unusual. We don't
>> often observe wave cancellation of visible light waves
>> because of the problem of getting coherent beams of light
>> perfectly aligned. Yet, we experience RF wave cancellation
>> every time we adjust our antenna tuners for a Z0-match
>> because the perfect alignment of coherent RF waves inside
>> a piece of coax is an automatic given.
>
> This is a rather curious notion. Where did you get the idea that waves
> must be perfectly aligned to "cancel"?

Apologies - what I meant to say was that waves must be perfectly
aligned to totally cancel. When I say "wave cancellation", I
am usually talking about total wave cancellation, as occurs at
a perfect Z0-match. I will try not to make that same mistake
in the future.

Waves need not be perfectly aligned to partially cancel.
Waves must be perfectly aligned to totally cancel. Hope
that clears up the confusion about what I meant to say.

And of course, partial wave cancellation can extend from
almost none to almost total. However, total wave cancellation
obviously requires perfect alignment.
--
73, Cecil http://www.w5dxp.com

4311. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 22:01:19 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131vvdq3mb6kld5@corp.supernews.com>
Source record: 42325

I have to agree with what Richard and some others have said.

First, that you've done a tremendous job of sharing your extensive knowledge and experience, and explaining transmission line phenomena in such a clear and understandable manner. We all owe you a great debt for this.

But second, that there's something which you do state that I and some others can't accept. And that is that a "virtual" short (or open) circuit causes reflections, or that waves reflect from it. I maintain that for either to happen requires that traveling waves interact with each other. The "virtual" short or open is only the result of the sum -- superposition -- of traveling waves. Those traveling waves, and hence their sum, cannot cause a reflection of other waves, or alter those other waves in any way. Only a physical change in the (assumed linear) propagating medium can alter the fields in a traveling wave and cause a reflection. A real short circuit is in this category; a virtual short circuit is not. It doesn't matter if the waves are coherent or not, or even what their waveshapes are or whether or not they're periodic -- as long as the medium is linear, the waves cannot interact.

You have clearly shown, and there is no doubt, that waves behave *just as though* a virtual short or open circuit were a real one, and this is certainly a valuable insight and very useful analysis tool, just like the "virtual ground" at the summing junction of an op amp. But I feel it's very important to separate analytical tools and concepts from physical reality. If we don't, we're led deeper and deeper into the virtual world. Sooner or later, we reach conclusions which are plainly wrong.

There are many other examples of useful alternative ways of looking at things, for example differential and common mode currents in place of the reality of two individual currents, or replacing the actual exponentially depth-decaying RF current in a conductor with an imaginary one which is uniform down to the skin depth and zero below. But we have to always keep in mind that these are merely mathematical tools and that they don't really correspond to the physical reality.

Unless I've incorrectly read what you've written, you're saying that you've proved that virtual shorts and opens reflect waves. But in every example you can present, it can be shown that all waves and reflections in the system can be explained solely by reflections from real impedance changes, and without considering or even noticing those points at which the waves superpose to become virtual short or open circuits. That, I believe, would disprove the conjecture that virtual shorts or opens cause reflections. Can you present any example which does require

virtual shorts or opens to explain the wave behavior in either a transient or steady state condition?

If I've misinterpreted what you've said, I share that misinterpretation with some of the others who have commented here. And if that's the case, I respectfully suggest that you review what you've written and see how it could be reworded to reduce the misunderstanding.

Once again, we all owe you a great deal of thanks for all you've done. And personally, I owe you thanks for many other things, including setting such an example of courtesy, civility and professionalism here in this group (as well in everything else you touch). It's one I strive for, but continually fall far short of.

Roy Lewallen, W7EL

4312. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 22:03:20 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <evoupl$sv3$1@news.service.uci.edu>
Source record: 42328

Richard Clark wrote:

> On Fri, 13 Apr 2007 16:37:02 GMT, Walter Maxwell <walt@w2du.com>
> wrote:

>>The voltage reflection coefficient at the input of these two transmission lines is 1.0 at 180ï¿½, and the
>>current reflection coefficient at this point is 1.0 at 0ï¿½. These are the reflection coefficients that would be
>>found when measuring at any short circuit, no matter whether it is physical or virtual. Consequently, both
>>physical and virtual short or open circuits placed on a transmission line can cause reflections.
>
>
> And here we get to the nut of the matter - causality. It is already
> established that either the physical short, or physical open, whose
> absence would render any correlation invalid, dominates the action.
> The proof follows the quality of the physical open or the physical
> short. A poor physical open or poor physical short will never be
> improved by ANY transmission line mechanics. On the other hand, poor
> transmission line mechanics will never deliver the action of the best
> physical short or the best physical open.

I agree that this is the problem in Walt's otherwise brilliant work. Reflections are only caused by the direct interaction between electromagnetic waves and matter. It is nevertheless valid to say that systems behave as though virtual impedances cause reflections. Virtual reflection coefficients are a clever tool and methodology for systems analysis. But it must be remembered that the propagation of electromagnetic waves is effected only by certain physical properties of matter, as described eloquently by James C. Maxwell and others. Those fundamentals of wave behavior are not different in the steady state than at other times.

> A VIRTUAL short or open is metaphor, and it is an useful
> metaphor for describing systems. What I see beyond these examples you
> have provided are statements (in other discussions) that tend to
> confer a reality to the VIRTUAL which is obviously a contradiction on
> the face of it. Other than that, there is absolutely nothing in your
> published work that is in dispute.

I completely agree. I think if we got past this one issue, the newsgroup might actually find itself devoted more to discussions of antennas.

73, Jim AC6XG

4313. Re: Why S - Parameter at High frequencies?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 22:04:27 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <131vvjl1g38nq52@corp.supernews.com>
Source record: 42326

Wes wrote:
> On Apr 12, 2:04 pm, Roy Lewallen <w...@eznec.com> wrote:
>> This topic has been discussed in this newsgroup several times in the
>> past. In my posting of June 17, 2005 in the thread "Re: Calculating VSWR
>> from rho and rho from VSWR" you'll find a summary of what I found in use
>> by authors of 16 different textbooks. As you'll see, if you look it up
>> athttp://groups.google.com, there's no single standard usage.
>>
>> Personally, my preference is the same as Wes' and Owen's - Gamma for
>> complex reflection coefficient, rho for its magnitude. But usage is so
>> varied that it's necessary to explicitly show what the symbols mean
>> unless it's obvious from the context.
>>
>
> In my response in the thread "Question about reflection/transmission
> coefficients", April 28, 2003 I had only 10 different references.

Well, then, it's your turn again, Wes, and right on the biannual
schedule. Should it be 22 references (arithmetic increase) or 26
(exponential) this time?

Roy Lewallen, W7EL

4314. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 22:36:31 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176503791.585522.23460@y80g2000hsf.googlegroups.com>
Source record: 43068

On Apr 13, 9:37 am, Walter Maxwell <w...@w2du.com> wrote:
> In the thread 'Constructive Interference and Radiowave Propagation', Owen, on 4-8-07 asserted that my writings
> in Reflections concerning the analysis of stub matching procedures using reflection coefficients are
> applicable only in cases where the transmission line is either lossless, or distortionless. I disagree, and in
> what follows I hope to persuade those who agree with Owen's position to reconsider.
>
> To assist in understanding why my use of reflection coefficients in analyzing impedance-matching circuitry, I
> find it useful to include the concept of virtual open- and short-circuit conditions. I realize that some of
> the posters on this NB deny the existence of virtual open-and short-circuits. Therefore, I hope that my
> presentation here will also persuade those posters to reconsider their position.
>
> While working in an antenna lab for more than 50 years I have analyzed, constructed, and measured hundreds of
> impedance-matching circuits comprising transmission-line circuitry using reflection coefficients as
> parameters. For example, in 1958 my assignment was to develop the antenna system for the World's first weather
> satellite, TIROS 1. The system required an antenna that would radiate efficiently on four different
> frequencies in two bands that were more than an octave related. It required a coupling circuit that would
> allow four transmitters to operate simultaneously on all four frequencies without mutual interference. After
> developing the antenna that also required radiating circular polarization, I then developed the coupling
> system, which, pardon my English, utilized several virtual open- and short-circuit conditions to accomplish
> the required isolation between the individual transmitters. The entire coupling system was fabricated in
> printed-circuit stripline transmission line (not microstrip), with no connectors except for transmitter input
> ports and output ports feeding the antenna. Remember, this was in 1958.
>
> Initially I had only a slotted line for impedance measurements during the development stage, but soon after
> the PRD-219 Reflectometer became available, invented by my bench mate, Woody Woodward. The PRD-219 measured
> SWR and the angle of the voltage reflection coefficient. The magnitude rho of the

reflection coefficient was
> obtained from the SWR measurement using the equation rho = (SWR - 1)/(SWR + 1), thus the PRD actually measured
> the complete complex reflection coefficient. Consequently, all measurements from then on were in terms of
> reflection coefficient.
>
> Keep in mind that I was working with real transmission lines--not lossless lines. There were several
> stub-matching circuits, several occurrences of virtual open- and short-circuits, and the total loss through
> the coupler at both the 108 and 235 MHz bands was no greater than 0.2 dB. The input SWR at all four input
> ports for a run of 12 manufactured units never exceeded 1.05:1 relative to 50 ohms.
>
> Please let me now explain my understanding of virtual open- and short-circuits. These circuits are developed
> by interference between two sets of voltage and current waves having reflection coefficients of equal
> magnitude and phase differences of 180°, respectively. Consider these two examples of a virtual short circuit:
>
> 1: The input impedance of a lossless half-wave (180°) transmission line terminated in a physical short circuit
> is zero ohms, a short circuit, but a VIRTUAL short circuit because it was achieved only by the interference
> between the source voltage wave incident on the input (0°) and the reflected voltage wave (180°) returning to
> the input after 360° of two-way travel on the line and the 180° phase reversal at the physical short
> terminating the line. The reflected current wave on return to the input encountered no phase change during its
> travel, thus the current reflection coefficient is in phase with that of the source current, allowing the
> short circuit to occur.
>
> 2: The input impedance of a lossless quarter-wave (90°) transmission line terminated in a physical open
> circuit is zero ohms, a short circuit, but a VIRTUAL short circuit because it was achieved only by the
> interference between the voltage wave incident on the input (0°) and the reflected voltage wave (180°)
> returning to the input after 180° of two-way travel on the line and the 0° phase reversal at the physical open
> circuit terminating the line. The current reflection coefficient occurs in the same manner as with the
> half-wave line above.
>
> These two examples can be confirmed by referring to any reputable text concerning transmission line theory.
>

> The voltage reflection coefficient at the input of these two transmission lines is 1.0 at 180°, and the
> current reflection coefficient at this point is 1.0 at 0°. These are the reflection coefficients that would be
> found when measuring at any short circuit, no matter whether it is physical or virtual. Consequently, both
> physical and virtual short or open circuits placed on a transmission line can cause reflections. Proof is in
> measurements performed at various points in the antenna coupler developed for the TIROS spacecraft in 1958.
>
> Now let's examine a specific example of impedance matching with a stub using reflection coefficients, with
> more details than I used in the previously-mentioned thread. As I said earlier, I have measured hundreds of
> stub-matching circuitry, but for this discussion, yesterday I set up an experimental stub-matching circuit for
> the purpose of being able to report directly on the results of current measurements taken on the circuit. The
> source is an HP-8640A signal generator, an HP-5328A counter to determine the operating frequency, and the
> combination of an HP-8405 Vector Voltmeter and an HP-778D dual directional coupler to form a precision RF
> network analyzer.
>
> Because using a 3:1 mismatch the resulting numbers are convenient, I paralleled three precision 50-ohm
> resistors to form a resistance of 16.667 ohms, resulting in a 3:1 mismatch on the line to be stubbed. On a
> line with a 3:1 mismatch the correct positioning of a parallel matching stub is 30° toward the source from a
> position of minimum SWR, where the normalized admittance y = 1.0 + 1.1547. Thus, I selected a short piece of
> RG-53 coax that measured exactly 30° in length at 16.0 MHz, meaning the stub will be placed 30° rearward of
> the load.
>
> All measurements obtained during the experiment were less than 2 percent in error compared to a perfect
> text-book setup. Consequently, rather than bore you with the exact measured values, I'm going to use the
> text-book values for easier understanding.
>
> At the 16.667 + j0 load the measured voltage reflection coefficient = 0.5 at 180°, current 0.5 at 0°.
> At the stub point voltage reflection coefficient of the line impedance = 0.5 at +120°, current 0.5 at -60°.
> Open-circuited stub 49° in length measured separately in parallel with 50 ohms yields voltage reflection
> coefficient 0.5 at -120°, current 0.5 at +60°. (Keep in mind that in operation the stub

is in parallel with
> the 50-ohm line resistance at the stub point.)
> With stub connected in parallel with the line the voltage reflection coefficient at the stub point is 0.04 at
> 0°, current 0.04 at 180°. (Equivalent SWR = 1.083, and impedance = 54.16 + j0 ohms.)
>
> Summarizing reflection coefficient values at stub point with stub in place:
> Line coefficients: voltage 0.5 at +120°, current -60°
> Stub coefficients: voltage 0.5 at -120°, current +60°
> Resultant coefficients: voltage 0.5 at 180°, current 0.5 at 0°
>
> These two resultant reflection coefficients resulting from the interference between the load-reflected wave at
> the stub point and the reflected wave produced by the stub define a virtual short circuit established at the
> stub point.
>
> Let's now consider what occurs when a wave encounters a short circuit. We know that the voltage wave
> encounters a phase change of 180°, while the current wave encounters zero change in phase. Note that the
> resultant voltage is at 180°, so the voltage phase changes to 0° on reflection at the short circuit, and is
> now in phase with the source voltage wave. In addition, the resultant current is already at 0°, and because
> the current phase does not change on reflection at the short circuit, it remains at 0° and in phase with
> source current wave. Consequently, the reflected waves add in phase with the source waves, thus increasing the
> forward power in the line section between the stub and the load.
>
> So how do we know that the virtual short circuit resulting from the interference is really performing as a
> short circuit?
>
> First, an insignificant portion of the reflected wave appears on the source side of the stub point, thus, from
> a practical viewpoint, indicating total re-reflection of the reflected waves at the stub point.
>
> Second, the voltage in the line section between the stub and load that has a 3:1 SWR has increased relative to
> that on the source line by the factor 1.1547, the amount expected on a line having a 3:1 SWR after total
> re-reflection at an open or short circuit. This increase factor is determined from the equation for the
> increase in forward power on a line with a specific value of SWR, where rho is the corresponding value of
> reflection coefficient. The power increase factor equation is power increase = 1/(1 - rho^2). Thus the voltage
> increase factor is the square root of the power increase factor. With rho = 0.5, as in

the case of the above
> experiment, the power increase factor is 1.3333..., the square root of which is 1.1547.
>
> We have thus proved that the virtual short circuit established at the stub point is
actually performing as a
> real short circuit.
>
> I believe it is remarkable that the maximum deviation of the measured values obtained
during the experiment is
> less than 2 percent of the text-book values that would appear with lossless elements, and
ignoring measurement
> errors and tolerances of the measuring equipment. The recognized sources of error are:
> 1. Tolerance in readings...
>
> read more »

Grrr...thought I had posted a followup but it seems to have not shown up. I'll try to capture the essence of it here...

I think the idea of a virtual short and a virtual open is fine. I use similar things all the time in my work with op amps, with AGC controlled levels, and even with ratiometric measurements. However, in all these cases, including the transmission line virtual short and open, it's important to understand that it IS only an approximation to the real thing. There are times when the approximation is fine, as in Walt's posted example. However, there are times when the approximation fails, and it's important to somehow be aware of those times. One way to do that is to simply use the tools that are available on modern computers to keep track of line loss, and then the times when the approximation isn't good become obvious. For example...

I want to receive signals on 4.00MHz, but there's a very strong station on 4.30MHz. Knowing a little about transmission lines and stubs, I think, "I can build a resonator from a half wave of line shorted at both ends, and tune it to 4MHz. Then I can tap my 50 ohm through line from the antenna to the receiver onto that resonator, and it won't affect the 4.00MHz signal since it looks like an open circuit. If I position the tap point so that at 4.300MHz it's half a wave away from the short at the end of the line, it will see a 4.300MHz virtual short there, and it will eliminate the strong signal that's giving me trouble."

So I figure out that the line, using solid polyethylene dielectric line, needs to be about 81 feet long, and the tap point will be 75.53 feet from one end, 5.67 feet from the other. 81 feet of line could get pretty big, so I'll use RG-174 line. I build the resonator--you can look at it as two shorted stubs--and try it out. It doesn't seem to work very well, and I measure it and discover to my horror that the attenuation at 4.3MHz is only about 12dB, and the attenuation at 4.00MHz is over 8dB. I've gained less than 4dB net on my problem.

Realizing now that the problem is that the stubs I assumed were lossless really do have some loss, I try larger coax. Well, I've smartened up a bit by now and I first do some calculations and find that with RG-58 (about 0.6dB/100ft at 4MHz), I can get 18.6dB loss at 4.300MHz and only 4.8dB loss at 4.000MHz. That's better, but still not wonderful by any stretch of the imagination.

With RG-8, at only about .19dB/100 feet loss at 4MHz, it improves to 28dB loss at 4.300MHz and only about 1.9dB at 4.00MHz. That wouldn't be bad, except that it's an awfully big pile of coax on the floor. At that point I go off and design a good LC filter to do the job, and find I can get less than a dB loss at 4.00MHz and fully 45dB loss at 4.300MHz, with modest size coils (smaller even than the coil of RG174, and much smaller than the RG8), and I can use a trimmer cap to fine-tune the notch to get the most benefit. (BTW--you can also use trimmer caps to tune stubs...which can save lots of cutting.)

You can develop a feel for when approximations like the virtual short and the virtual open actually work, but I think you need to go through several scenarios that show the good, but also the bad and the ugly, before you jump into blindly using an approximation. Given how easy it is for me to just include the loss of line in calculations, I'm unlikely to drop that in favor of the approximation. It's practically as easy for me to put loss into my calculations as it is to leave it off, and putting it in makes it immediately obvious when the approximations fail.

Cheers,
Tom

4315. Re: Smith Chart program

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 22:45:21 UTC
From: Joel Kolstad <JKolstad71HatesSpam@Yahoo.Com>
Message-ID: <132023esbmumf05@corp.supernews.com>
Source record: 43069
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

"K7ITM" <k7itm@msn.com> wrote in message
news:1176418279.488131.265110@w1g2000hsg.googlegroups.com...
> Additional comment: if you write impedance files in standard network
> analyzer format, they can be used by a lot of programs.

Good idea Tom. Roy: Besides RFSim99, Agilent's free AppCAD program has a mode where it can overlay a set of data on a Smith chart, having read it from the Touchstone ("standard network analyzer format") files.

4316. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 22:56:26 UTC
From: Wes <n7ws@yahoo.com>
Message-ID: <1176504986.205765.198350@d57g2000hsg.googlegroups.com>
Source record: 43070

On Apr 13, 11:40 am, Richard Clark <kb7...@comcast.net> wrote:

[lotsa good stuff snipped]

>A poor physical open or poor physical short will never be
> improved by ANY transmission line mechanics.

Well, I dunno about that. Try this experiment:

Take a "poor" short, say 1 ohm, and transform it through a lossless
1/4 wavelength line of Zo=200 ohm. The result will be 40,000 ohm.
Now transform this 40K ohm load through another lossless 1/4
wavelength line of Zo=10 ohm. The result of this transformation will
be a "virtual" 0.003 ohm.

Is that an improvement? [g]

Regards,

Wes

4317. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 23:05:41 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <evp2ek$2n9$1@news.service.uci.edu>
Source record: 43071

Cecil Moore wrote:

> It is impossible for a "partially reflective surface"
> to reflect 100% of the intensity.

But that's wrong. If it was right, then a partially reflective surface couldn't be used to prevent reflections either.

Think about the transient period. You're right that after the first bounce only half the intensity, for example, is apparent. But using the physical reflection coefficient you can plot the intensity increase steadily as a function of time all the way up to steady state. That's because at every time t, the remainder of all previous reflections are superposed. Yes, interference describes macroscopically what happens - it's a short cut to steady state. But nothing about the reflective surface changes - before or after steady state. It is only your idea of 'energy in the wave' that needs to change a little.

73, ac6xg

4318. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 23:09:51 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <m83023t0qbs9hh0c5qqq9g0o981ppnokhb@4ax.com>
Source record: 43072

On 13 Apr 2007 15:56:26 -0700, "Wes" <n7ws@yahoo.com> wrote:

>On Apr 13, 11:40 am, Richard Clark <kb7...@comcast.net> wrote:
>
>
>[lotsa good stuff snipped]
>
>>A poor physical open or poor physical short will never be
>> improved by ANY transmission line mechanics.
>
>Well, I dunno about that. Try this experiment:
>
>Take a "poor" short, say 1 ohm, and transform it through a lossless
>1/4 wavelength line of Zo=200 ohm. The result will be 40,000 ohm.
>Now transform this 40K ohm load through another lossless 1/4
>wavelength line of Zo=10 ohm. The result of this transformation will
>be a "virtual" 0.003 ohm.
>
>Is that an improvement? [g]

Hi Wes,

There is always a rational example to deflate absolutisms. Thanx for
the interesting twist of transmission line.

However, I wouldn't want to be the wallet that pays for this.

73's
Richard Clark, KB7QHC

4319. Effects of TOA

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 23:41:25 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1176507685.239011.286640@n76g2000hsh.googlegroups.com>
Source record: 43073

While operating on 10M I have observed that a halfwave vertical dipole will communicate to different areas than a 1.25wl vertical monopole an example would be that during a band opening the 1/2 wl antenna may be working predominantly into New York while the 1.25 wl antenna is working best in California or was it vice versa. This has proven useful for me, instead of fighting a pile-up and can just talk somewhere else. The two verticals may soon be replaced with a tri-bander and I was wondering if I could get this same type of effect by tilting the antenna vertically(no change in polarity) with a remote controlled device. I think it would be pretty cool to hear different areas of the country pop in and out as the elevation of the antenna is changed.

Jimmie

4320. Re: Satellite vertical vs. horizontal

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-13 23:57:36 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1176508656.366308.158910@y5g2000hsa.googlegroups.com>
Source record: 43074

On Apr 13, 1:08 pm, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
> "Jim Leder" <k...@fuse.net> wrote in message
>
> news:736bc$461fa657$d0660f9a$19110@FUSE.NET...
>
> > This is a question I posted a little while back on
> > rec.radio.amateur.satellite, but never received any response, maybe
> > because there is not a good answer. But here it is again:
>
> > I like to try to make occasional satellite contacts, usually on VO-52, and
> > have a place for only one antenna. In the past I have used a dual band
> > Diamond X-50 vertical, but now I am wondering if something like KU4AB's
> > dual band
> > E-factor horizontal loop might be a better choice. Any opinions?
>
> > Thanks.
>
> There is not really a good answer for simple sat antennas. You may want to
> look at the eggbeater types. Also someone was putting together something
> called a potato masher. It is a variation on the eggbeater. Crossed
> dipoles about 3/8 wavelength over a ground plane or reflector works ok , but
> may need to be switched from right to left polorization.

I remember seeing a projet for a GPS antenna, perhaps this could be
scaled to meet your requirements.

Jimmie

4321. Re: Satellite vertical vs. horizontal

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 00:01:11 UTC
From: Jim - NN7K <NN7K@NOWAY.NET>
Message-ID: <bRUTh.14730$JZ3.12953@newssvr13.news.prodigy.net>
Source record: 43075

From my experience of years ago, must say: most
likely makes makes little , or no difference!
Reason, is 1) depends WHERE you are , relative to
the satelite , and 2) the polarity of the
satelite , relative to your location , and most
likely NOT in the plane of your antenna, at
any given time. The antenna on a satelite is
more or less locked towards earth, with a
magnet, so far-so good, but at WHAT polarity?
This is the reason MOST great stations use
Circular Polarization. Max loss is 3 dB, for
polarity consideration, tho there would be a
loss, from the ANGLE of the pattern , from the
satelite (if I understand this correctly)
With linear polarization, there will be times
of deep fades, and also periods of great signal
strength. This dates me, and from A-06 and A-07
used 1/4 whips, bent against a metal ground
plane, about 30 degs, tip of antenna faceing NORTH
and worked considerable stuff. For the Eleptical
orbit sats, you may need gain , and circular
polarization to be heard, tho better stations can
be contacted (the "Umph" is on their end)!
In sum total, then if you use linear polarization
you must accept the fadeing, tho you can make
many contacts, and hear I.S.S. qso's but not as
a solid signal. Hope this helps. Jim NN7K

Jim Leder wrote:
> This is a question I posted a little while back on
> rec.radio.amateur.satellite, but never received any response, maybe because
> there is not a good answer. But here it is again:
>
> I like to try to make occasional satellite contacts, usually on VO-52, and
> have a place for only one antenna. In the past I have used a dual band
> Diamond X-50 vertical, but now I am wondering if something like KU4AB's dual
> band
> E-factor horizontal loop might be a better choice. Any opinions?
>
> Thanks.
>

4322. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 00:05:53 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <tg5023hb049ft7u755hi8vgmuk43655a97@4ax.com>
Source record: 43076

On Fri, 13 Apr 2007 15:01:19 -0700, Roy Lewallen <w7el@eznec.com> wrote:

>I have to agree with what Richard and some others have said.
>
>First, that you've done a tremendous job of sharing your extensive
>knowledge and experience, and explaining transmission line phenomena in
>such a clear and understandable manner. We all owe you a great debt for
>this.
>
>But second, that there's something which you do state that I and some
>others can't accept. And that is that a "virtual" short (or open)
>circuit causes reflections, or that waves reflect from it. I maintain
>that for either to happen requires that traveling waves interact with
>each other. The "virtual" short or open is only the result of the sum --
>superposition -- of traveling waves. Those traveling waves, and hence
>their sum, cannot cause a reflection of other waves, or alter those
>other waves in any way. Only a physical change in the (assumed linear)
>propagating medium can alter the fields in a traveling wave and cause a
>reflection. A real short circuit is in this category; a virtual short
>circuit is not. It doesn't matter if the waves are coherent or not, or
>even what their waveshapes are or whether or not they're periodic -- as
>long as the medium is linear, the waves cannot interact.
>
>You have clearly shown, and there is no doubt, that waves behave *just
>as though* a virtual short or open circuit were a real one, and this is
>certainly a valuable insight and very useful analysis tool, just like
>it's very important to separate analytical tools and concepts from
>physical reality. If we don't, we're led deeper and deeper into the
>virtual world. Sooner or later, we reach conclusions which are plainly
>the "virtual ground" at the summing junction of an op amp. But I feel
>wrong.
>
>There are many other examples of useful alternative ways of looking at
>things, for example differential and common mode currents in place of
>the reality of two individual currents, or replacing the actual
>exponentially depth-decaying RF current in a conductor with an imaginary
>one which is uniform down to the skin depth and zero below. But we have
>to always keep in mind that these are merely mathematical tools and that
>they don't really correspond to the physical reality.
>
>Unless I've incorrectly read what you've written, you're saying that
>you've proved that virtual shorts and opens reflect waves. But in every
>example you can present, it can be shown that all waves and reflections
>in the system can be explained solely by reflections from real impedance

>changes, and without considering or even noticing those points at which
>the waves superpose to become virtual short or open circuits. That, I
>believe, would disprove the conjecture that virtual shorts or opens
>cause reflections. Can you present any example which does require
>virtual shorts or opens to explain the wave behavior in either a
>transient or steady state condition?
>
>If I've misinterpreted what you've said, I share that misinterpretation
>with some of the others who have commented here. And if that's the case,
>I respectfully suggest that you review what you've written and see how
>it could be reworded to reduce the misunderstanding.
>
>Once again, we all owe you a great deal of thanks for all you've done.
>And personally, I owe you thanks for many other things, including
>setting such an example of courtesy, civility and professionalism here
>in this group (as well in everything else you touch). It's one I strive
>for, but continually fall far short of.
>
>Roy Lewallen, W7EL

Thank you, Roy, I appreciate your comments, as always. However, I knew that you have always considered that
virtual opens and shorts cannot cause reflections, and I was hoping my discussion would have persuaded you
otherwise.

So I ask you this: What then causes the total re-reflection at the stub point if not a virtual short circuit?
The re-reflection is real, but there is no physical short circuit at the re-reflection point. The resultant of
the reflection coefficients of both the forward and reflected waves of voltage and current possess the exact
reflection coefficients, 0.5 at 180ï¿½ for voltage and 0.5 at 0ï¿½ for current, that are present when the short is
a physical short, except that the magnitude would be 1.0 instead of 0.5. The only operational difference is
that a physical short on the line prevents wave propagation in both directions, while the virtual short is
transparent in the forward direction, but opaque in the reverse direction.

So I repeat the question: If a virtual short circuit cannot cause reflections, then what causes the reflection
at the stub point?

Incidentally, there has been mention of 'virtual' reflection coefficients. I can't agree with this
terminology. Reflection coefficients are real, and for every reflection coefficient there is an equivalent
real impedance. As such, it is just as valid to use reflection coefficients in transmission-line analyses as
it is to use correspondingly-equal impedances.

How now, Roy?

Walt

Walt

4323. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 00:11:01 UTC
From: Jim - NN7K <NN7K@NOWAY.NET>
Message-ID: <p_UTh.14732$JZ3.8455@newssvr13.news.prodigy.net>
Source record: 42927

Not only that, BUT IF you use copper pipe, you
may expect electrolysis , which will actually
eat the pipe, in 4 or 5 years, in soil. If you
go to your parts house (Lowes, or Home Depot), you
will notice unions which are INSULATED for copper
plumbing . I had a water line replaced with copper
the plumber said with those unions, can get 25-30
years out of your new pipe, without, more like
5 years before holes appear! It ain't cheap
replaceing couple hundred feet of water supply
pipe! This also affects steel piping, tho not
so rapidly!
Jim NN7K

Thomas Horne wrote:
> Jimmie D wrote:
>> "Thomas Horne" <hornetd@mindspring.com> wrote in message
>> news:cgZSh.20289$PL.14373@newsread4.news.pas.earthlink.net...
>>> Jimmie D wrote:
>>>> "Bud--" <remove.BudNews@isp.com> wrote in message
>>>> news:35818$461bb6bc$4213ea1f$14297@DIALUPUSA.NET...
>>>>> Jimmie D wrote:
>>>>>
>>>>>>>>>> Hopefully you are not really using the water pipe for a ground
>>>>>>>>>> for your electrical service. Hopefully your plumbing is just
>>>>>>>>>> bonded to the electrical ground. Dont even think about using
>>>>>>>>>> this for lightning protection. Nothing like having lightning run
>>>>>>>>>> in on your plumbing while taking a bath or have it run in on yor
>>>>>>>>>> ground and eat about $7K worth of test equipment(my bad).
>>>>>>>>>
>>>>>>>>>> Jimmie
>>>>>>>> Jimmie
>>>>>>>

4324. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 00:21:30 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <5v6023dfaoec9b4u5tcmoa47unf6vn4d5i@4ax.com>
Source record: 42928

On Fri, 13 Apr 2007 21:39:22 GMT, Owen Duffy <none@no.where> wrote:

>Walter Maxwell <walt@w2du.com> wrote in
>news:qcbv13hck5o5cbedsl5usqemsmb3uhav3l@4ax.com:
>
>> In the thread 'Constructive Interference and Radiowave Propagation',
>> Owen, on 4-8-07 asserted that my writings in Reflections concerning
>> the analysis of stub matching procedures using reflection coefficients
>> are applicable only in cases where the transmission line is either
>> lossless, or distortionless. I disagree, and in what follows I hope to
>> persuade those who agree with Owen's position to reconsider.
>
>Hi Walt,
>
>I did not say that, or in my view, imply that, it is your own
>interpretation of what I did say. I did make comment limited to Chapter 3
>of Reflections II, and I stand by that comment.
>
>Chapter 3 does not discuss stub matching at all, though you may apply
>principles that you develop in Chapter 3 to your discussion / analysis in
>later chapters, including to stub matching.
>
>Owen

Hi Owen,

I'm afraid we both got off the the wrong foot along the way. I'm sorry if I misinterpreted what you said in
the post where we got off track.

Quite possibly the misinterpretation arose in your referencing Chapter 3. When I saw that I assumed you had
made a typo, either for 4 or 23, both of which contain the stub discussions. And I thought I had earlier
referenced Chapter 4. I didn't realize you had actually reviewed Chapter 3 instead of 4.

Perhaps also you missed my two responses to your post of 4-7-07 in the earlier thread, in which I accepted
your apology (not needed). Anyway, the issue where I felt you were wrong is my interpretation that you
believed my statements concerning use of reflection coefficients was wrong because they are applicable for use
in analysis only when the transmission lines are either lossless distortionless.

I hope we can resume on a new footing.

Sincerely,

Walt

4325. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 01:03:33 UTC
From: richardharrison@webtv.net
Message-ID: <11430-46202865-352@storefull-3253.bay.webtv.net>
Source record: 42932

Walter, W2DU wrote:
"The magnitude rho of the reflection coefficient was obtained from SWR measurement using the equation rho = (SWR-1)/(SWR+1), thus the PRD actually measured the compleete complex reflection coefficient."

Walter is on solid ground. Slotted or trough lines have been around for a long time. The formula Walter used to calculate a reflection coefficient rho is given by Terman as eqn. 4-22b on page 97 of his 1955 opus.

Best regards, Richard Harrison, KB5WZI

4326. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 01:09:41 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9912718605130nonenowhere@61.9.191.5>
Source record: 42929

Walter Maxwell <walt@w2du.com> wrote in
news:5v6023dfaoec9b4u5tcmoa47unf6vn4d5i@4ax.com:

> On Fri, 13 Apr 2007 21:39:22 GMT, Owen Duffy <none@no.where> wrote:
>
>>Walter Maxwell <walt@w2du.com> wrote in
>>news:qcbv13hck5o5cbedsl5usqemsmb3uhav3l@4ax.com:
>>
>>> In the thread 'Constructive Interference and Radiowave Propagation',
>>> Owen, on 4-8-07 asserted that my writings in Reflections concerning
>>> the analysis of stub matching procedures using reflection
>>> coefficients are applicable only in cases where the transmission
>>> line is either lossless, or distortionless. I disagree, and in what
>>> follows I hope to persuade those who agree with Owen's position to
>>> reconsider.
>>
>>Hi Walt,
>>
>>I did not say that, or in my view, imply that, it is your own
>>interpretation of what I did say. I did make comment limited to
>>Chapter 3 of Reflections II, and I stand by that comment.
>>
>>Chapter 3 does not discuss stub matching at all, though you may apply
>>principles that you develop in Chapter 3 to your discussion / analysis
>>in later chapters, including to stub matching.
>>
>>Owen
>
> Hi Owen,
>
> I'm afraid we both got off the the wrong foot along the way. I'm sorry
> if I misinterpreted what you said in the post where we got off track.
>
> Quite possibly the misinterpretation arose in your referencing Chapter
> 3. When I saw that I assumed you had made a typo, either for 4 or 23,
> both of which contain the stub discussions. And I thought I had
> earlier referenced Chapter 4. I didn't realize you had actually
> reviewed Chapter 3 instead of 4.
>
> Perhaps also you missed my two responses to your post of 4-7-07 in the
> earlier thread, in which I accepted your apology (not needed). Anyway,
> the issue where I felt you were wrong is my interpretation that you
> believed my statements concerning use of reflection coefficients was
> wrong because they are applicable for use in analysis only when the

> transmission lines are either lossless distortionless.
>
> I hope we can resume on a new footing.

Walt, the last thing I want to do is to upset you.

You have a considerable investment in your publications, and they are a great service to the amateur community, and a credit to you.

Much of the discussion isn't so much about what happens in the transmission line, it is about simplified explanations, explanations that are appealling to learners, and the extension of those simplified explanations to the more general case. If you look back over the threads, you and I have both intiated threads where "explanation" was a key word in the subject line.

My own view is that whilst analysing a simple case that can be seen as special cases is a good way of introducing the issue that is to be dealt with (eg showing the inconsistency of the Vf/If=Zo constraint in the initial wave that travels along a transmission line, and the V/I ratio a s/c or o/c load), one needs to move on to dealing with the more general load case, even if in a simplified context (eg lossless line). The "rules" that are derived have to be clearly qualified with the applicable limits.

To overemphasis the simple / easy cases and downplay the error of approximation is at risk of consigning all problem solving to simplification to a trivial case and applying the solution of that trivial case to the real problem without appreciation of the leap that might entail.

Whilst it is no doubt appealing to some to see a virtual s/c or virtual o/c as an explanation for the single stub tuner example, and it might be a suitable model for that purpose, it gives the learner a new analysis tool (without limitations), the virtual s/c or o/c. How perfect does a virtual s/c need to be to be approximately effective? If I have an approximately lossless feedline with a VSWR of 100:1, will the virtual s/c at a current maximum prevent energy propagating in the same way as the virtual s/c in the stub explanation, or could each virtual circuit choke of x% of the energy flow? Can you solve a two stub tuner using only virtual s/c or o/c?

It is a challenge to devise simplified explanations that don't contain errors that need to be un-learned to develop further. I hate to say to a learner "throw away what you already know about this, because the explanation you have learned, understood, and trusted is wrong in part, and we need to discard it before we move on to a better understanding... trust me...".

Owen

4327. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 01:13:08 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <EUVTh.3407$2v1.3075@newssvr14.news.prodigy.net>
Source record: 42931

Jim Kelley wrote:
>
> Cecil Moore wrote:
>> It is impossible for a "partially reflective surface"
>> to reflect 100% of the intensity.
>
> But that's wrong. If it was right, then a partially reflective surface
> couldn't be used to prevent reflections either.

That's faulty logic born out of ignorance.
Assume s11 = 0.707 in the S-Parameter reflected
voltage equation. a1 is the normalized forward
voltage from the source. Let's assume a1 = 10.

b1 = s11(a1) + s12(a2)

the initial transient state reflection is

b1 = s11(a1) = 0.707(10) = 7.07 normalized volts

and *that term remains constant* throughout the transient
state and throughout steady-state. The impedance discontinuity
with s11=0.707 reflects 70.7% of the incident voltage, period,
no more and no less. The magnitude of a1 reflected by that
impedance discontinuity *DOES NOT CHANGE* from the very
first incidence of a1. So your statement above is obviously
false. Physical impedance discontinuities do not change their
reflection coefficients based on your whim.

So how does b1 wind up at zero? Not by changing s11(a1) as
you imply. b1 is eventually canceled by the buildup to steady-
state of s12(a2) from zero to a magnitude equal to s11(a1) and
a phase opposite of s11(a1). That's *wave cancellation* in action.
What happens to the energy in the canceled waves?

So your premise is completely flawed. s11(a1) doesn't change.
s12 doesn't change. s21 doesn't change. s22 doesn't change.
What changes is the s12(a2) term which is the reflections
from the load. b1 decreases increment by increment due to
the wave cancellation between the fixed value of s11(a1)
and the ever increasing value of s12(a2) until steady-state
is reached and b1 has become zero. At steady-state, s11(a1)
is still equal to 7.07 normalized volts. It has not changed.
Contrary to your assertion, it will not change as long as
a1 is applied.

s11(a1) = 7.07 unchanging throughout the initial transient
build-up and through steady-state. Anything else would
require magic.

b1 is initially equal to 7.07 because a2 is zero.

s12(a2) will eventually build up from 0 to 7.07 at which
point the *net reflections are eliminated by wave cancellation*.

As b1 is decreasing to zero at steady-state, b2 is increasing
to its steady-state value in the other direction. b1 is
undergoing increasing destructive interference and b2 is
undergoing increasing constructive interference until the
time when b1 = 0 and therefore |b1|^2 = 0, i.e. net reflections
are eliminated.
--
73, Cecil http://www.w5dxp.com

4328. Re: screwdriver vs. tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 01:13:26 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns9911B962BBA3Fdoldridgsprintca@64.59.135.159>
Source record: 42930

Cecil Moore <nospam@w5dxp.com> wrote in
news:t7dTh.16158$Um6.9395@newssvr12.news.prodigy.net:

> Dave Oldridge wrote:
>> Yep....a GOOD screwdriver with a really high-Q coil will run rings
>> around most other short antennas. Especially if you use a capacity
>> hat. But for mobile operation while travelling, that gets a bit
>> bulky and hard to tame, physically.
>
> Not at all, Dave. $5 worth of PVC pipe works wonders.

It's those 5-inch coil diameters that give the problem!!! Takes a sturdy
mount for those.

--
Dave Oldridge+
ICQ 1800667

4329. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 01:34:56 UTC
From: richardharrison@webtv.net
Message-ID: <11430-46202FC0-355@storefull-3253.bay.webtv.net>
Source record: 42933

Richard Clark, KB7QHC wrote:
"A poor physical open or physical short will never be improved by ANY transmission line mechanics."

An open-circuit 1/4-wave stub is an open circuit at both ends, physically. As such, its input is a poor short-circuit until it receives a reflection from its far end. After the reflection reaches the stub`s input, it becomes a virtual short-circuit. This occurs at its "poor physical short" input.

This is a dramatic improvement by transmission line mechanics when this is the desired effect.

Best regards, Richard Harrison, KB5WZI

4330. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 02:05:07 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <mFWTh.99$Yo2.57@newssvr19.news.prodigy.net>
Source record: 42935

Richard Harrison wrote:
> An open-circuit 1/4-wave stub is an open circuit at both ends,
> physically.

Let's look at a 1/4WL open stub.

```
source ----------------------------------+
|
| 1/4WL
|
|
open
```

The transmission line and stub are the same Z0 and
both are lossless.

The virtual impedance at point '+' is zero but there
is no physical impedance discontinuity at point '+'.
Are there any reflections originating at point '+'?

If we straighten out the line,

```
1/4WL
source-----------------------------------+-----------open
```

Are there any reflections originating at point '+'?
--
73, Cecil http://www.w5dxp.com

4331. Re: screwdriver vs. tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 02:05:08 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1176516308.038391.175620@w1g2000hsg.googlegroups.com>
Source record: 42934

On Apr 13, 9:13 pm, Dave Oldridge <doldr...@leavethisoutshaw.ca>
wrote:
> Cecil Moore <nos...@w5dxp.com> wrote
innews:t7dTh.16158$Um6.9395@newssvr12.news.prodigy.net:
>
> > Dave Oldridge wrote:
> >> Yep....a GOOD screwdriver with a really high-Q coil will run rings
> >> around most other short antennas. Especially if you use a capacity
> >> hat. But for mobile operation while travelling, that gets a bit
> >> bulky and hard to tame, physically.
>
> > Not at all, Dave. $5 worth of PVC pipe works wonders.
> > It's those 5-inch coil diameters that give the problem!!! Takes a sturdy
> mount for those.
>
> --
> Dave Oldridge+
> ICQ 1800667

HAs anyone ever tried using a long whip with a screwdriver matching
network. For example I have a telescoping 18ft whip and I was
wondering how it might work with it. I have never used a screwdriver
antenna before and the whip collapses to a little over 6ft.

4332. Re: screwdriver vs. tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 02:07:41 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <LHWTh.101$Yo2.12@newssvr19.news.prodigy.net>
Source record: 42936

JIMMIE wrote:
> HAs anyone ever tried using a long whip with a screwdriver matching
> network. For example I have a telescoping 18ft whip and I was
> wondering how it might work with it. I have never used a screwdriver
> antenna before and the whip collapses to a little over 6ft.

It's done quite often for non-mobile antennas,
fixed and portable. Mobile antennas are limited
to about 12.5 ft above the ground.
--
73, Cecil http://www.w5dxp.com

4333. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 02:10:18 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <1320e0kd1ugkpcf@corp.supernews.com>
Source record: 42937

Walter Maxwell wrote:
>
> Thank you, Roy, I appreciate your comments, as always. However, I knew that you have always considered that
> virtual opens and shorts cannot cause reflections, and I was hoping my discussion would have persuaded you
> otherwise.
>
> So I ask you this: What then causes the total re-reflection at the stub point if not a virtual short circuit?
> The re-reflection is real, but there is no physical short circuit at the re-reflection point. The resultant of
> the reflection coefficients of both the forward and reflected waves of voltage and current possess the exact
> reflection coefficients, 0.5 at 180ï¿½ for voltage and 0.5 at 0ï¿½ for current, that are present when the short is
> a physical short, except that the magnitude would be 1.0 instead of 0.5. The only operational difference is
> that a physical short on the line prevents wave propagation in both directions, while the virtual short is
> transparent in the forward direction, but opaque in the reverse direction.

I'd think that this diode-like property of virtual shorts would be a major clue that they're not real, but a mathematical convenience. The virtual short is a point where the sum of the voltages of all waves, forward and reflected, add to zero. If this condition causes waves to reflect when struck from one direction, what possible physical explanation could there be for it to do absolutely nothing to waves traveling the other way?

> So I repeat the question: If a virtual short circuit cannot cause reflections, then what causes the reflection
> at the stub point?

My answer is this: There is no total re-reflection at the stub point. It only looks that way.

As you've observed, the waves (traveling in one direction, anyway) behave just as though there was such a re-reflection. But the waves actually are reflecting partially or totally from the end of the stub and other more distant points of impedance discontinuity, not from a "virtual short". The sum of the forward wave and those reflections add up to zero at the stub point to create the "virtual short", and to create waves which look just like they're totally reflecting from the stub point. This has some parallels to a "virtual ground" at an op amp

input. From the outside world, the point looks just like ground. But it isn't really. The current you put into that junction isn't going to ground, but back around to the op amp output. Turn off the op amp and the "virtual ground" disappears. Likewise, waves arriving at the virtual short look just like they're reflecting from it. But they aren't. They're going right on by -- from either direction --, not having any idea that there's a "virtual short" there -- that is, not having any idea what the values or sum of other waves are at that point. They go right on by, reflect from more distant discontinuities, and the sum of those reflections arrives at the virtual short with the same phase and amplitude the wave would have if it had actually reflected from the virtual short. Like with the op amp, you can "turn off" the virtual short by altering those distant reflection points such as the stub end.

Please let me emphasize again that not I or anyone else who has posted is disputing the validity of your matching methods or the utility of the "virtual short" concept. The only disagreement is in the contention that the "virtual short" actually *effects* reflections rather than being solely a consequence of them.

> Incidentally, there has been mention of 'virtual' reflection coefficients. I can't agree with this
> terminology. Reflection coefficients are real, and for every reflection coefficient there is an equivalent
> real impedance. As such, it is just as valid to use reflection coefficients in transmission-line analyses as
> it is to use correspondingly-equal impedances.

I don't use "virtual reflection coefficient" by name or in concept, although it might have some utility in the same vein as "virtual short". However, great care would have to be used, as it must with virtual shorts, to separate analytical conveniences from reality. But I'll leave that discussion to others, and don't want it to divert us from the important point at hand.

> How now, Roy?

A question: Do you think you can present an example where a "virtual short" is necessary to explain the impedances, voltages, and currents -- or any other measurable properties -- on a transmission line? Where a person who assumes that *no* reflection takes place at "virtual shorts" but only at physical discontinuities would be unable to arrive at the correct result? If reflections really do occur at "virtual shorts", I would think that this phenomenon would have a profound effect on transmission line operation, to the extent that a valid solution couldn't be obtained if it were totally ignored. I maintain that such an example can't be found, because in fact reflection takes place only at physical discontinuities and not at "virtual shorts". Waves in a linear medium simply don't reflect from or otherwise affect each other. I'm not saying that you can't apply the analytical concept of "virtual shorts" to arrive at the same, valid, result. Or that the "virtual short" approach won't be easier. But I am saying that it's not necessary in

order to fully analyze any transmission line problem, simply because it's not real. Can you come up with such an example?

Roy

4334. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 02:29:45 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <qfd02391suin984u82j0p5uc2velagrm5s@4ax.com>
Source record: 42938

On Fri, 13 Apr 2007 20:34:56 -0500, richardharrison@webtv.net (Richard Harrison) wrote:

>This is a dramatic improvement by transmission line mechanics when this >is the desired effect.

Hi Richard,

This kind of drama is found only on the stage.

A poor open is a poor short in reflection. Ever try tuning one that didn't wander the landscape? Burning money to achieve a working solution does not render it a dramatic improvement when other methods (like simply building a good shorted halfwave) are better.

Give me a reason why you suffered to build an open quarterwave, and it will embrace the issues of quality I already covered.

73's
Richard Clark, KB7QHC

4335. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 02:54:04 UTC
From: richardharrison@webtv.net
Message-ID: <11431-4620424C-81@storefull-3253.bay.webtv.net>
Source record: 42939

Owen Duffy wrote:
"I am not quite sure about the concept of energy at a point that you discuss, isn`t it zero."

Not when radio waves are passing by. These waves were likely produced by electrical energy in a wire somewhere that spread into space around the wire. Radio waves alternate around a zero value. If symmetrical about an axis, the waveforms may have zero average values. But that is not how we value the intensity of a rafio wave. We give it an rms or effective value which is 0.707 times its maximum voltage profuced during the cycle.

When speaking of power in an alternating energy value, it is not correct to say rms power. The effective a-c power value is its average.

I`m not a teacher, never have been, and never intend to be. I think I got into this discussion by declaring that 50% of the power in a wave resided in each of its two constituents.

I shall argue no more nor try to explain any more on the topic of radio waves in this thread. Fred Terman is the master of all masters in my books and I suggest beginning on page one of his 1955 version of "Electronic and Radio Engineering" to learn all about "Radio Waves".

From page 1:
"One-half of the electrical energy contained in the wave exists in the form of electrostatic energy, while the remaining half is in the form of magnetic energy."

Best regards, Richard Harrison, KB5WZI

4336. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 06:49:48 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <PETajIGMmHIGFAjf@ifwtech.co.uk>
Source record: 42940

Roy Lewallen wrote:
>
>Please let me emphasize again that not I or anyone else who has posted
>is disputing the validity of your matching methods or the utility of
>the "virtual short" concept. The only disagreement is in the contention
>that the "virtual short" actually *effects* reflections rather than
>being solely a consequence of them.
>

The key word there is "utility" - the virtual short/open concept is *useful* as a short-cut in our thinking. But concepts are only useful if they help us to think more clearly about physical reality; and short-cuts are dangerous if they don't reliably bring us back onto the main track.

We know that in reality both the forward and the reflected waves take a side-trip off the main line into the stub, and from the far end of the stub they are reflected back to rejoin the main line at the junction. Since an open- or short-circuited stub has a predictable effect at the junction where it is connected, then we could save a little time by noting that a stub is present, and simply assuming what its effect will be.

Within those limitations, I don't have any particular problem about calling the effect a "virtual short" or "virtual open". As Richard said, it is only a metaphor. We are using the word "virtual" as a label to remind ourselves that the effect at the junction is not the same as a genuine physical short or open circuit on the main line.

Where the concept goes off track is if anyone forgets about the limitations, and begins to believe that a metaphor has physical properties of its own. (It doesn't, of course - all of the physical effects on the main line are caused by the stub, and the stub is the only place where the root causes can be found.)

If there is any problem in using a short-cut, then simply forget it - step back and analyse the complete physical system including the stub.

Walt said:
>> Incidentally, there has been mention of 'virtual' reflection coefficients. I can't agree with this
>> terminology.
Roy replied:
>I don't use "virtual reflection coefficient" by name or in concept,
>although it might have some utility in the same vein as "virtual
>short".

Agreed. It all comes back to "usefulness" or "utility" again. As I said, concepts are only useful if they help us to think more clearly about physical reality - and "virtual reflection coefficient" has exactly the opposite effect.

--

73 from Ian GM3SEK

4337. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 13:09:34 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <io4Uh.5353$5e2.3264@newssvr11.news.prodigy.net>
Source record: 42941

Ian White GM3SEK wrote:
> Agreed. It all comes back to "usefulness" or "utility" again. As I said,
> concepts are only useful if they help us to think more clearly about
> physical reality - and "virtual reflection coefficient" has exactly the
> opposite effect.

Also, please note that in an S-Parameter analysis, all
reflection coefficients are physical, not virtual.
Since I may have used the term first here, let me
explain what I meant by it. a1, b1, a2, and b2 are
the S-Parameter normalized voltages. Below, a1=10,
b1=0, b2=14.14, and a2=10. s11 is the physical reflection
coefficient encountered by forward wave a1. s11 is
(291.4-50)/(291.4+50) = 0.707. In an S-Parameter,
the reflection coefficient is NOT the ratio of b1/a1.

a1--> b2-->
<--b1 <--a2
100w---50 ohm line---+---1/2WL 291.4 ohm line---50 ohm load
Vfor1=100V--> Vfor2=241.4V-->
<--Vref1=0V <--Vref2=170.7V

Given the actual voltages, someone might say the reflection
coefficient is Vref1/Vfor1 = 0. That is a virtual reflection
coefficient. The physical reflection coefficient at point '+'
remains at 0.707. Vfor1 sees a virtual impedance of 50 ohms
at point '+' during steady-state because of the wave cancellation
that results in a net Vref1=0. But the physical reflection
coefficient doesn't change from power-up through steady-state.
One has to be careful to specify whether the physical rho,
(Z02-Z01)/(Z02+Z01), is being used or whether the virtual
rho, Vref1/Vfor1, is being used. One advantage of an S-
Parameter analysis is that virtual reflection coefficients
are not used and all reflection coefficients are physical.
--
73, Cecil http://www.w5dxp.com

4338. Patch Antenna - HELP

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 14:18:12 UTC
From: Mario <marasv12@gmail.com>
Message-ID: <evqnqofgq1@ss408.t-com.hr>
Source record: 42942

Hi!

I have to write a seminar which subject is Patch Antenna. I need to find all parameters regarding Patch Antennas for my seminar. I was googling and couldn't find such thing. Everything I'd found was How to construct PA, but I don't need that at the moment. If anyone can help me with this, I'd really appreciate that.

Thank you!

4339. Re: Satellite vertical vs. horizontal

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 14:21:50 UTC
From: Jim Leder <k8cxm@fuse.net>
Message-ID: <730d7$4620e37d$d0660f9a$26189@FUSE.NET>
Source record: 42943

Thanks for the input. I suspected as much, but wanted to hear what others thought. I have a few dozen contacts on VO-52 with the vertical Diamond X-50, so it has given me decent results. I also know that my chances of using the more distant satellites are pretty nil, but I'm OK with that. I don't plan on being big into satellite communications, just looking for something maybe a little better then the X-50. Matter of fact, the X-50 may be better than the loop because it does a have a little gain associated with it. And, yes, I am aware of the rapid fading due to satellite rotation and changes in polarity. On the other hand, the loop would offer me an antenna that will work better on 144/440 SSB/CW. So, the dual band loop does offer me a use other than satellite work.

Thanks to all who gave advice!

--
Jim Bob Buckeye
AKA
**** Jim Leder****
K8CXM since 1961
IBM retiree since 1999
http://home.fuse.net/k8cxm/

"Jim - NN7K" <NN7K@NOWAY.NET> wrote in message
news:bRUTh.14730$JZ3.12953@newssvr13.news.prodigy.net...
> From my experience of years ago, must say: most
> likely makes makes little , or no difference!
> Reason, is 1) depends WHERE you are , relative to
> the satelite , and 2) the polarity of the
> satelite , relative to your location , and most
> likely NOT in the plane of your antenna, at
> any given time. The antenna on a satelite is
> more or less locked towards earth, with a
> magnet, so far-so good, but at WHAT polarity?
> This is the reason MOST great stations use
> Circular Polarization. Max loss is 3 dB, for
> polarity consideration, tho there would be a
> loss, from the ANGLE of the pattern , from the
> satelite (if I understand this correctly)
> With linear polarization, there will be times
> of deep fades, and also periods of great signal
> strength. This dates me, and from A-06 and A-07
> used 1/4 whips, bent against a metal ground
> plane, about 30 degs, tip of antenna faceing NORTH
> and worked considerable stuff. For the Eleptical
> orbit sats, you may need gain , and circular

> polarization to be heard, tho better stations can
> be contacted (the "Umph" is on their end)!
> In sum total, then if you use linear polarization
> you must accept the fadeing, tho you can make
> many contacts, and hear I.S.S. qso's but not as
> a solid signal. Hope this helps. Jim NN7K
>
> Jim Leder wrote:
>> This is a question I posted a little while back on
>> rec.radio.amateur.satellite, but never received any response, maybe
>> because there is not a good answer. But here it is again:
>>
>> I like to try to make occasional satellite contacts, usually on VO-52,
>> and
>> have a place for only one antenna. In the past I have used a dual band
>> Diamond X-50 vertical, but now I am wondering if something like KU4AB's
>> dual band
>> E-factor horizontal loop might be a better choice. Any opinions?
>>
>> Thanks.
>>

4340. Re: Patch Antenna - HELP

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 15:02:30 UTC
From: jimlux@earthlink.net
Message-ID: <1176562950.853096.138500@y80g2000hsf.googlegroups.com>
Source record: 42944

On Apr 14, 7:18 am, "Mario" <maras...@gmail.com> wrote:
> Hi!
>
> I have to write a seminar which subject is Patch Antenna. I need to find all
> parameters regarding Patch Antennas for my seminar. I was googling and
> couldn't find such thing. Everything I'd found was How to construct PA, but
> I don't need that at the moment. If anyone can help me with this, I'd really
> appreciate that.
>
> Thank you!

Assuming you're looking for theory...
Look for articles by David Pozar or search for "microstrip patch
antenna"

or, most antenna textbooks have a section describing them.

A quick and dirty model is to consider them as two small magnetic
loops.

4341. Re: Why S - Parameter at High frequencies?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 15:06:59 UTC
From: jimlux@earthlink.net
Message-ID: <1176563219.577802.106120@n59g2000hsh.googlegroups.com>
Source record: 42945

On Apr 10, 4:21 am, "ilam" <ilam.pari...@gmail.com> wrote:
> I am in a process of understanding the importance of S-Parameter at
> high frequencies, please answer my following questions:
>
> 1. Why Measuring a wave (voltage or current) is more easier than
> volage and current? (Why measuring S-Parameter is more easier than
> other parameters?)
>
> 2. How the voltage and current waves are measured?
>
> Measuring voltage and current are difficult at high frequncies, that
> is why S-Parameter is more useful at high frequncies. Is the same
> thing is true for simulation?
>
> Regards,
> Ilam

Search the agilent website for the original application note on S-parameters.. it provides a great explanation of why S-parameters are used.

You've correctly assessed the situation.. at microwave frequencies, it's much easier to measure forward and reflected signals (and calibrate for non-ideal directional couplers, etc.) than to measure voltage and/or current.

4342. Re: Patch Antenna - HELP

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 15:12:26 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1176563546.897792.126070@e65g2000hsc.googlegroups.com>
Source record: 42946

On 14 abr, 16:18, "Mario" <maras...@gmail.com> wrote:
> Hi!
>
> I have to write a seminar which subject is Patch Antenna. I need to find all
> parameters regarding Patch Antennas for my seminar. I was googling and
> couldn't find such thing. Everything I'd found was How to construct PA, but
> I don't need that at the moment. If anyone can help me with this, I'd really
> appreciate that.
>
> Thank you!

Hi Mario,

If you have limited time, hire an antenna specialist to help you
setting up the seminar an providing knowledge.

If you have more time, Artech House has some nice books on strip line
and patch antennas (www.artechhouse.com). Go to the antennas &
propagation section or us the search option.

If you are just interested In parameters (bandwidth, radiation
pattern, axial ratio, gain, etc) from existing antennas, try to find
antenna manufacturers and look into their datasheets.

Best Regards,

Wim
PA3DJS

4343. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 15:59:17 UTC
From: richardharrison@webtv.net
Message-ID: <3524-4620FA55-59@storefull-3252.bay.webtv.net>
Source record: 42947

Roy Lewallen, W7EL wrote:
"Those traveling waves, and hence their sum, cannot cause a reflection of other waves, or alter those waves in any way."

Let`s reason together on the situation in a quarter-wavelength short-circuited transmission line stub. I maintain it has a hard short on its far end and a high impedance on its near end.

A high impedance means just what it says. You can put a high voltage on it and the resulting current is small.

Reflection from a short-circuit results in a 180-degree voltage phase reversal at the short.

A round-trip on a 1/4-wave stub produces an additional 180-degree phase reversal.

This means thats volts returning to the open-circuit end of the stub are about of the same phase and magnitude as when they started out.

Nearly identical voltages appear at the same pair of terminals from opposite directions. Significant current flows in either direction? I think it does not.

Where voltage causes insignificant current flow, we have a high impedance.

That is why King, Mimno, and Wing on page 30 of Transmission Lines, Antennas and Wave Guides say:
"Since the input impedance of a short-circuited quarter-wavelength section of transmission line is a very high resistance, short-circuited stubs may be used to support the line."

Best regards, Richard Harrison, KB5WZI

4344. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 16:53:11 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1176569591.560945.303330@o5g2000hsb.googlegroups.com>
Source record: 42948

On Apr 13, 6:13 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Jim Kelley wrote:
>
> > Cecil Moore wrote:
> >> It is impossible for a "partially reflective surface"
> >> to reflect 100% of the intensity.
>
> > But that's wrong. If it was right, then a partially reflective surface
> > couldn't be used to prevent reflections either.
>
> That's faulty logic born out of ignorance.

Partially reflective surfaces can (and are) in fact used to prevent
reflections, just as they are used to 100% re-reflect partial
reflections from a load.

> The magnitude of a1 reflected by that
> impedance discontinuity *DOES NOT CHANGE* from the very
> first incidence of a1.

That was the main point of my post, Cecil. The reflective coefficient
DOES NOT CHANGE. You're the one who claims that it does.

> What happens to the energy in the canceled waves?

There is no energy "in" cancelled waves. Your ideas in that regard are
faulty. Energy only exists where fields aren't cancelled. That
should be obvious even to someone with propensities such as yours.

ac6xg

4345. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 17:02:26 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <rb1223hqeqf0on2dav6jglpm9ueum6as6p@4ax.com>
Source record: 42949

On Sat, 14 Apr 2007 10:59:17 -0500, richardharrison@webtv.net (Richard Harrison) wrote:

>That is why King, Mimno, and Wing on page 30 of Transmission Lines,
>Antennas and Wave Guides say:
>"Since the input impedance of a short-circuited quarter-wavelength
>section of transmission line is a very high resistance, short-circuited
>stubs may be used to support the line."

Hi Richard,

One example begs another, symmetrical one; and here is the example of my asking you why you would struggle through building an open line reflected as a short (the quarterwave section).

For argument's sake, let's amend KM&W to say:
"Since the input impedance of a open-circuited quarter-wavelength section of transmission line is a very low resistance, open-circuited stubs connected in series with the line elements may be used to support the line."

This statement is equivalent in the transmission line mechanic's tool kit, certainly. However, it brings with it the difficulties of maintaining a "good" open (especially when that open is in close proximity to earth, or at least to the press of humanity). Casting those problems into the line obviously presents loss issues of a poor virtual short.

This conforms to my experience with many plumbing designs on the microwave bench. The absence of open quarterwave sections was nearly universal due to the problems of their implementation. It takes little effort to realize why KM&W did not offer this alternative. If you browse Terman, he also avoids such constructions.

73's
Richard Clark, KB7QHC

4346. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 18:27:11 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ap2223lqtv87itc2r6jov14m7j3q7j5tf2@4ax.com>
Source record: 42950

On 14 Apr 2007 09:53:11 -0700, "Jim Kelley" <jwkelley@uci.edu> wrote:

>> What happens to the energy in the canceled waves?
>
>There is no energy "in" cancelled waves.

Hi Jim,

How has this inversion arrived? Cecileo offering emphatic testimony to the Cardinals "It certainly doesn't move!" and no energy "in" cancelled waves?

Both waves exist as the absence of either would easily reveal. There may be no power to extract due to their offsetting contributions, but that doesn't prove they have vanished (which, in the context of sight, interference, and light diminishing in regions necessarily demands a load to demonstrate).

The language of photon shuffling and energy re-distribution lends the logic of divine intervention to scientific theory. These verbs are active and require an actor. If we were to travel down that path, the patterns of intelligent design interference would be explained in epicycles and crystalline spheres of angels' guiding results.

73's
Richard Clark, KB7QHC

4347. Re: NVIS Dipoles Directional?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 18:48:27 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1176576507.456420.137850@d57g2000hsg.googlegroups.com>
Source record: 42951

On 12 abr, 23:40, "Yuri Blanarovich" <K...@optonline.net> wrote:
> "Wimpie" <wim...@tetech.nl> wrote in message
>
> news:1176402194.738827.135040@y5g2000hsa.googlegroups.com...
>
> > On 12 abr, 00:47, "Yuri Blanarovich" <K...@optonline.net> wrote:
> >> "Wimpie" <wim...@tetech.nl> wrote in message
>
> >>news:1176303578.800751.20210@y5g2000hsa.googlegroups.com...
>
> >> >> So if you suspended another dipole above your NVIS dipole and oriented
> >> >> 90
> >> >> degrees to each other, the difference would be insignificant?
> >> >> Then move it up into the "clouds", then move down to earth at the
> >> >> distance
> >> >> and you will see "insignificant" difference in signal levels?
>
> >> >> Seems that direction finders should not work according to this
> >> >> "verdict",
> >> >> Eh?
>
> >> >> One thing is the direction of the signals (maximum) another one is the
> >> >> polarization. Based on the orientation of antennas, one can orient the
> >> >> antenna to find the minimum signal.
>
> >> >> Yuri, K3BU.us
>
> >> > Hi Yuri,
>
> >> > As the wave pass through the ionosphere, strange things happen. You
> >> > could google on Faraday rotation, ordinary and extraordinary waves to
> >> > find out that at low frequency, the change in polarization is
> >> > significant.
>
> >> Change does not mean that polarization dissapears.
>
> >> > Based on the down coming wave, you cannot determine the orientation of
> >> > the transmitting antenna, neither the position with reasonable
> >> > accuracy (for NVIS propagation).
>
> >> > When you place the receiving antenna just above the transmitting
> >> > antenna you are right, but we were discussing NVIS propagation.
>
> >> > Best Regards,

>
> >> > Wim
> >> > PA3DJS
>
> >> So when signal is reflected, the polarization disappears?
>
> > No, mostly the down comming wave has a circular component (eliptical
> > polarization), therefore the orientation is not of significant
> > importance. Wim, PA3DJS.
>
> >> 73 Yuri, K3BU
>
> So if there is ANY polarization left how can you claim that is not of
> significant importance.
> The proof in the pudding is that on any signal one can with any antenna,
> especially directional, find the spot where signal is minimal or nulled out.
> Nulls are sharp vs. broad pattern, but one has to be aware of them and
> understand the difference between the pattern and polarization.
>
> Yuri, K3BU.us

High Yuri,

I try again.

Ratiation pattern
As NVIS radiation comes from near 90 degrees elevation, the antenna receiving the incoming wave will operate at near maximum gain, no matter the orientation (in horizontal plane) of the dipole. The gain of a dipole under 75 degrees is less then 1 dB below the maximum.

To orient your antenna to get a nul, you have to use a vertical dipole (or vertical monopole). So radiation pattern is not of importance.

Polarization,
If the ionosphere would act as a pure mirror reflector, and there was no free charge, you are right, orientation of both antennas would matter. As you do not know the amount of polarization change, you cannot predict the optimum orientation.

Prove it yourself by using a hand held antenna (for example small vertical loop, or horizontal small dipole). Listen to an NVIS station (at about 50..100 mile from you) and rotate the antenna around the Z as. You should do this fast enough to distinguish between fading. You will find certain orientations with less reception, but the orientation (with minimum reception) will vary (that can be within a minute because of the change in overall faraday rotation). You will seldom find a real nul. This is because of the existence of a more or less circular component.

If you want to be sure and also want to cover situations in which the refracted wave is almost linear polarized, you may consider two

(small) antennas (perpendicular to each other) and switch between the two.

During last year JOTA I had plenty of space to use two half wave dipoles, but it wasn't worth to do. I checked it with a simple hand held vertical tuned loop antenna by rotating the antenna round the Z-axis.

Best regards,

Wim

4348. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 19:32:54 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176579174.679079.40520@y80g2000hsf.googlegroups.com>
Source record: 42952

On Apr 13, 11:49 pm, Ian White GM3SEK <gm3...@ifwtech.co.uk> wrote:
> Roy Lewallen wrote:
>
> >Please let me emphasize again that not I or anyone else who has posted
> >is disputing the validity of your matching methods or the utility of
> >the "virtual short" concept. The only disagreement is in the contention
> >that the "virtual short" actually *effects* reflections rather than
> >being solely a consequence of them.
>
> The key word there is "utility" - the virtual short/open concept is
> *useful* as a short-cut in our thinking. But concepts are only useful if
> they help us to think more clearly about physical reality; and
> short-cuts are dangerous if they don't reliably bring us back onto the
> main track.
...

Indeed. I was thinking about this in terms of short-cuts before reading Ian's post. What if you take a short-cut and it just takes you off into the woods? I'm not sure my posting about this made it into the thread in an intelligible way. (I fear Google may have sent it off on a "short-cut.")

The gist of it was that, although there are examples where considering points an even number of half-waves from a short as being shorts themselves work fine, there are plenty of counter examples too. I fear that people new to the use of stubs will be lulled into a false sense of security using that concept, when indeed it fails miserably at times. Especially in this age of computers and readily available programs to deal with lines, INCLUDING their loss, why would I use a concept that may take me on a short-cut that turns out to be the long way around?

What IS useful to me about the concept is NOT the calculation of the performance of a particular network of stubs, but rather in coming up with the trial design to test with full calculations. My example was the use of two stubs to give me a null on one frequency and pass another frequency; I can get a null by putting a "virtual short" at that frequency, and that's a line that's a half wave long on that frequency, shorted at the other end. But on a slightly lower frequency, it looks capacitive, so I can put another stub that's inductive in parallel with it to create an open circuit at the frequency I want to let pass. THEN I pull out the calculations with line attenuation included, and discover that in some situations it works fine, and in others, the performance is terrible.

It's a useful visualization tool and design aid; it's a poor analysis tool at best. At worst, it will lull you into building something that just won't work, wasting time and resources.

Cheers,
Tom

4349. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 20:34:55 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <1322enp3il5130c@corp.supernews.com>
Source record: 42953

I'm not sure I understand the point you're trying to make. Nothing I've said disputes in any way that the input impedance of a shorted quarter wave stub is high. I'm quite able to make transmission line calculations and arrive at correct results.

You're certainly correct that there's very little net current at the open end of the stub. Yet there are waves traveling in both directions right through that point. Don't believe it? Then check the current anywhere else along the stub. How did it get there without going through the "open" at the input end?

Roy Lewallen, W7EL

Richard Harrison wrote:
> Roy Lewallen, W7EL wrote:
> "Those traveling waves, and hence their sum, cannot cause a reflection
> of other waves, or alter those waves in any way."
>
> Let`s reason together on the situation in a quarter-wavelength
> short-circuited transmission line stub. I maintain it has a hard short
> on its far end and a high impedance on its near end.
>
> A high impedance means just what it says. You can put a high voltage on
> it and the resulting current is small.
>
> Reflection from a short-circuit results in a 180-degree voltage phase
> reversal at the short.
>
> A round-trip on a 1/4-wave stub produces an additional 180-degree phase
> reversal.
>
> This means thats volts returning to the open-circuit end of the stub are
> about of the same phase and magnitude as when they started out.
>
> Nearly identical voltages appear at the same pair of terminals from
> opposite directions. Significant current flows in either direction? I
> think it does not.
>
> Where voltage causes insignificant current flow, we have a high
> impedance.
>
> That is why King, Mimno, and Wing on page 30 of Transmission Lines,
> Antennas and Wave Guides say:
> "Since the input impedance of a short-circuited quarter-wavelength
> section of transmission line is a very high resistance, short-circuited

> stubs may be used to support the line."
>
> Best regards, Richard Harrison, KB5WZI
>

4350. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 20:53:35 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9913461A0B6C0nonenowhere@61.9.191.5>
Source record: 42954

Roy Lewallen <w7el@eznec.com> wrote in
news:1322enp3il5130c@corp.supernews.com:

> anywhere else along the stub. How did it get there without going through
> the "open" at the input end?

Ah, a total re-reflector!

Owen

4351. Re: Off Topic

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 21:26:30 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <bGbUh.144328$g24.90618@newsfe12.phx>
Source record: 42955

"Denny" <k8do@mailblocks.com> wrote in message
news:1176465177.900038.294120@n59g2000hsh.googlegroups.com...
>
> >
> > - Show quoted text -
>
> Hey Sal, just out of curiosity about your sig, are you virulent?
>
> denny
>

Prurient and somnolent, yes. Virulent, no, not usually. Thanks for asking.
<g>

"Sal"
(KD6VKW)

4352. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 21:36:11 UTC
From: richardharrison@webtv.net
Message-ID: <8451-4621494B-637@storefull-3254.bay.webtv.net>
Source record: 42956

Richard Clark wrote:
"This conforms to my experience with many plumbing designs on the microwave bench."

Good. Then, Richard Clark must also be familiar with the grooved circular flange used in conjunction with a smooth flange to join waveguide segments. This groove isn`t just used to hold a neoprene gasket. It is also used as an electrical choke to keep the microwaves within the pipe. It is approximately a 1/4-wave choke and its high impedance across its open-circuit helps foil the wave escape. If virtual open-circuits didn`t work, the "choke-flange wouldn`t work either.

Best regards, Richard Harrison, KB5WZI

4353. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 21:46:22 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1176587182.125771.275040@e65g2000hsc.googlegroups.com>
Source record: 42958

On Apr 14, 11:27 am, Richard Clark <kb7...@comcast.net> wrote:
> On 14 Apr 2007 09:53:11 -0700, "Jim Kelley" <jwkel...@uci.edu> wrote:
>
> >> What happens to the energy in the canceled waves?
>
> >There is no energy "in" cancelled waves.
>
> Hi Jim,
>
> How has this inversion arrived? Cecileo offering emphatic testimony
> to the Cardinals "It certainly doesn't move!" and no energy "in"
> cancelled waves?
>
> Both waves exist as the absence of either would easily reveal. There
> may be no power to extract due to their offsetting contributions, but
> that doesn't prove they have vanished (which, in the context of sight,
> interference, and light diminishing in regions necessarily demands a
> load to demonstrate).
>
> The language of photon shuffling and energy re-distribution lends the
> logic of divine intervention to scientific theory. These verbs are
> active and require an actor. If we were to travel down that path, the
> patterns of intelligent design interference would be explained in
> epicycles and crystalline spheres of angels' guiding results.
>
> 73's
> Richard Clark, KB7QHC

Hi Richard,

I have to admit that I do have difficulty arguing with nonsense, and
you've caught me at it. I've tried explaining this to Cecil in the
context of energy transfer, but without success. So I'm happy to
leave it to you to explain to Cecil how waves cancel but without
anhiliating the energy "in" them.

73, ac6xg

4354. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 21:46:36 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <46214b8f$0$5605$4c368faf@roadrunner.com>
Source record: 42957

"Thomas Horne" <hornetd@mindspring.com> wrote in message
news:4QNTh.397$j63.395@newsread2.news.pas.earthlink.net...
> Jimmie D wrote:
>> "Thomas Horne" <hornetd@mindspring.com> wrote in message
>> news:cgZSh.20289$PL.14373@newsread4.news.pas.earthlink.net...
>>> Jimmie D wrote:
>>>> "Bud--" <remove.BudNews@isp.com> wrote in message
>>>> news:35818$461bb6bc$4213ea1f$14297@DIALUPUSA.NET...
>>>>> Jimmie D wrote:
>>>>>
>>>>>>>>>> Hopefully you are not really using the water pipe for a ground for
>>>>>>>>>> your electrical service. Hopefully your plumbing is just bonded to
>>>>>>>>>> the electrical ground. Dont even think about using this for
>>>>>>>>>> lightning protection. Nothing like having lightning run in on your
>>>>>>>>>> plumbing while taking a bath or have it run in on yor ground and
>>>>>>>>>> eat about $7K worth of test equipment(my bad).
>>>>>>>>>
>>>>>>>>>> Jimmie
>>>>>>>> Jimmie
>>>>>>>>
>>>>>>>> DE KB3OPR
>>>>>>>>
>>>>>>>> I am an electrician by craft. The US National Electric Code
>>>>>>>> Requires that underground metal water piping on the premise be used
>>>>>>>> as a grounding electrode for the electrical system. There is no way
>>>>>>>> around it. No matter how fast people talk you cannot avoid using an
>>>>>>>> underground metal piping system as a grounding electrode unless the
>>>>>>>> electrical inspector is incompetent.
>>>>>>>> --
>>>>>>>> Tom Horne
>>>>>> Tom you are confusing grounding with bonding, the plumbing should be
>>>>>> bonded to ground but not used for ground, at least this is getting to
>>>>>> be the rule in most places. I know that using the plumbing for ground
>>>>>> is still acceptaable in places and in a lot of places it is still
>>>>>> acceptable if if the local code permitted it at the time it was
>>>>>> installed(grandfathering)..
>>>>> An electrician confusing grounding and bonding - that is pretty funny.
>>>>>
>>>>> From the US National Electrical Code
>>>>> ?250.50 Grounding Electrode System
>>>>> All grounding electrodes as described in 250.52(A)(1) through (A)(6)
>>>>> that are present at each building or structure served shall be bonded
>>>>> together to form the grounding electrode system.?
>>>>>

>>>>> ?250.52(A)(1) Metal Underground Water Pipe?
>>>>> (10 feet or more metal in earth)
>>>>>
>>>>> Using underground metal water pipe as a grounding electrode is
>>>>> REQUIRED. And this has been a requirement for a very long time. Local
>>>>> codes may be different from the NEC, but it is unlikely they are
>>>>> different on this.
>>>>>
>>>>> And if you just "bond" metal water pipe it will work as a grounding
>>>>> electrode anyway.
>>>>>
>>>>> --
>>>>> bud--
>>>>>
>>>> True enough but there is a difference, grounding is connecting to earth
>>>> bonding is tying conductive structures together so they are at equal
>>>> potential. Ground is a single point that everything else is bonded.
>>>> Ground should be a stucture that the qualified electrician should be
>>>> familar with not plumbing that may or may not be intact. If you dont
>>>> believe me just try to get an electrical inspection on a new home
>>>> without a ground rod installed.
>>>>
>>>> BTW the NEC is a minimum standard not a guide on how to wire your
>>>> house.or perform grounding and bonding.
>>>>
>>>> You wouldnt believe what electricians dont know, like checking phase
>>>> rotation before turning on a new 200KW UPS. or megging out lines before
>>>> turning on new parking lot lights or making sure a generator is not
>>>> backfeeding a line before working on it. All things I have seen
>>>> electricans screw up in the past year.
>>>>
>>>> Jimmie
>>> Jimmie
>>> I can assure you I don't do that sort of careless nonsense. I can also
>>> assure you that whenever I'm involved before the foundation is poured or
>>> at least prior to it being back filled there will be no driven rods on
>>> that job. They are the single least effective electrode you can
>>> install. When I have to install driven rods, such as for a heavy up, I
>>> will stack them using rod couplers until I'm under twenty five ohms and
>>> perform a witnessed test for the inspector. I consider eight foot
>>> driven rods a complete waste of time. Mind you I'll install them when
>>> I'm forced to but you will usually find mine driven through the bottom
>>> of a three foot deep trench on at least twenty feet of bare copper
>>> number two AWG grounding electrode conductor.
>>>
>>> As for the US NEC being a minimum standard that is not always true. In
>>> at least ten states it is both the minimum and the maximum standard that
>>> a public electrical inspector may apply. So called "min max" states do
>>> not allow the local governments to amend the US NEC. Were the US NEC is
>>> the minimum standard you have to use underground metal water piping as a

>>> grounding electrode whether or not it jibes with your religious beliefs
>>> about what constitutes an electrode or not. If you were bonding the
>>> plumbing you could do that with a conductor sized for the largest branch
>>> circuit supplying an appliance that is attached to the plumbing. When
>>> you are using the piping as an electrode you must size the conductor to
>>> the size of the service entry conductors. People like W Tom cannot
>>> bring themselves to admit that underground metal water piping is an
>>> effective grounding electrode and worse still that it more effective
>>> then most of the other electrodes listed in the US NEC at least in
>>> homes. I always check the impedance of my grounding electrodes and
>>> that's what the measurements say to me.
>>> --
>>> Tom Horne
>>
>> The point I am trying to make is that the ground system must be sufficent
>> on its own and not need to connect to the buildings plumbing to improve
>> the ground. You should never depend on the plumbing especially on
>> residential work because you can not maintain control of modifications
>> to that plumbing system. Good example is my in-laws home, for years the
>> house connected to the well via 1 inch metal pipe and this was also the
>> ground for the house as it was built in 1974. When the new well was
>> drilled plastic pipe was installed to the new well with no groundwire
>> going back to the well casing. A couple of years later a new HVAC system
>> was installed and when there was an accidental short circuit the well
>> pump was fried. This would not have happened if a proper grounding system
>> had been installed at the house instead of relying on the plumbing.
>> Professionals have a responsibility to idiot -proof there work as much as
>> possible but you know how it is, sooner or later someone makes a better
>> idiot.
>>
>> The fact that the water pipes may be effective or even better than the
>> installed ground really have nothing to do with anything. Ground sytems
>> are for grounding, Plumbing is for water. Electrians dont do plumbing and
>> plumbers dont rewire homes.
>>
>> Jimmie
>
>
> And my point is that your opinion does not jibe with the National Electric
> Code.
> --
> Tom Horne

Please Tom, tell me in what way that the grounding system should be
sufficent on its own and not having to rely on the plumbing to provide
grounding for an electrical system in violation of the NEC. Also please tell
me how you intend to prevent the scenario I discribed where the ground
system was completely disconnected from the home when the well's metal
plumbing was replaced with plastic.

The Code is the min and max that an inspector can apply to an inspection This means that the inspector cant find fault with using plumbing for grounding if this is what the code says, it doesnt mean that the inspector can find fault if it is built better than code requirements, so again I say the code is written to a minimum spec. Your own definition of min max confirms this. Traditionally the NEC has the lowest minimum standard and the state and local codes usually have a higher standard., there may be some exceptions to this. I will will stipulate that using plumbing for ground may be "to code" in some places but it still is not a good way to ground your house and definately should not be used for a lightning ground.

Jimmie

4355. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 21:47:22 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <aqc223lovggv2ahd23rt1c1aki9n2hvcih@4ax.com>
Source record: 42959

On Fri, 13 Apr 2007 19:10:18 -0700, Roy Lewallen <w7el@eznec.com> wrote:

>Walter Maxwell wrote:
>>
>> Thank you, Roy, I appreciate your comments, as always. However, I knew that you have always considered that
>> virtual opens and shorts cannot cause reflections, and I was hoping my discussion would have persuaded you
>> otherwise.
snip
>
>I'd think that this diode-like property of virtual shorts would be a
>major clue that they're not real, but a mathematical convenience. The
>virtual short is a point where the sum of the voltages of all waves,
>forward and reflected, add to zero. If this condition causes waves to
>reflect when struck from one direction, what possible physical
>explanation could there be for it to do absolutely nothing to waves
>traveling the other way?
>
>> So I repeat the question: If a virtual short circuit cannot cause reflections, then what causes the reflection
>> at the stub point?
>
>My answer is this: There is no total re-reflection at the stub point. It
>only looks that way.
>
>As you've observed, the waves (traveling in one direction, anyway)
>behave just as though there was such a re-reflection. But the waves
>actually are reflecting partially or totally from the end of the stub
>and other more distant points of impedance discontinuity, not from a
>"virtual short". The sum of the forward wave and those reflections add
>up to zero at the stub point to create the "virtual short", and to
>create waves which look just like they're totally reflecting from the
>stub point. This has some parallels to a "virtual ground" at an op amp
>input. From the outside world, the point looks just like ground. But it
>isn't really. The current you put into that junction isn't going to
>ground, but back around to the op amp output. Turn off the op amp and
>the "virtual ground" disappears. Likewise, waves arriving at the virtual
>short look just like they're reflecting from it. But they aren't.
>They're going right on by -- from either direction --, not having any
>idea that there's a "virtual short" there -- that is, not having any
>idea what the values or sum of other waves are at that point. They go
>right on by, reflect from more distant discontinuities, and the sum of
>those reflections arrives at the virtual short with the same phase and

>amplitude the wave would have if it had actually reflected from the
>virtual short. Like with the op amp, you can "turn off" the virtual
>short by altering those distant reflection points such as the stub end.
>
>Please let me emphasize again that not I or anyone else who has posted
>is disputing the validity of your matching methods or the utility of the
>"virtual short" concept. The only disagreement is in the contention that
>the "virtual short" actually *effects* reflections rather than being
>solely a consequence of them.
>snip
>I maintain that such an
>example can't be found, because in fact reflection takes place only at
>physical discontinuities and not at "virtual shorts". Waves in a linear
>medium simply don't reflect from or otherwise affect each other. I'm not
>saying that you can't apply the analytical concept of "virtual shorts"
>to arrive at the same, valid, result. Or that the "virtual short"
>approach won't be easier. But I am saying that it's not necessary in
>order to fully analyze any transmission line problem, simply because
>it's not real. Can you come up with such an example?
>
>Roy
Hi R oy,

Consider my two explanations, or definitions of what I consider a virtual short--perhaps it should have a
different name, because of course 'virtual' implies non-existence. The short circuit evident at the input of
the two line examples I presented---do you agree that short circuits appear at the input of the two lines? If
so, what would you call them?

Roy, I'd like for you to take another, but perhaps closer look at the summarizing of the reflection
coefficients below. I originally typed in the wrong value for the magnitude of the resultant coefficients.
With the corrected magnitudes in place, the two paragraphs following the summarization now make more sense,
because the short circuit established at the stub point leads correctly to the wave action that occurs there.

Summarizing reflection coefficient values at stub point with stub in place:
Line coefficients: voltage 0.5 at +120ï¿½, current -60ï¿½ (y = 1 + j1.1547)
Stub coefficients: voltage 0.5 at -120ï¿½, current +60ï¿½ (y = 1 - j1.1547)
Resultant coefficients: voltage 0.5 at 180ï¿½, current 0.5 at 0ï¿½ WRONG
Resultant coefficients: voltage 1.0 at 180ï¿½, current 1.0 at 0ï¿½ CORRECT

Repeating from my original post for emphasis:
These two resultant reflection coefficients resulting from the interference between the load-reflected wave at
the stub point and the reflected wave produced by the stub define a virtual short circuit established at the

stub point.

The following paragraph shows how the phases of the reflected waves become in phase with the source waves so
that the reflected waves add directly to the source waves, establishing the forward power, which we know
exceed the source power when the reflected power is re-reflected. The same concept applies to antena tuners.

Again repeating for emphasis:
Let's now consider what occurs when a wave encounters a short circuit. We know that the voltage wave
encounters a phase change of 180ï¿½, while the current wave encounters zero change in phase. Note that the
resultant voltage is at 180ï¿½, so the voltage phase changes to 0ï¿½ on reflection at the short circuit, and is
now in phase with the source voltage wave. In addition, the resultant current is already at 0ï¿½, and because
the current phase does not change on reflection at the short circuit, it remains at 0ï¿½ and in phase with
source current wave. Consequently, the reflected waves add in phase with the source waves, thus increasing the
forward power in the line section between the stub and the load.

Keep in mind that the short at the stub point is a one-way short, diode like, as you say, because in the
forward direction the voltage reflection coefficient rho is 0.0 at 0ï¿½, while in the reverse direction, rho at
the stub point is 1.0 at 180ï¿½, which is why it's a one-way short.

You say that no total re-reflection occurs at the stub point. However, with a perfect match the power rearward
of the stub is zero, and all the source power goes to the load in the forward direction. Is that not total
reflection? Using the numbers of my bench experiment, assuming a source power of 1 watt, and with the
magnitude rho of 0.04, power going rearward of the stub is 0.0016 w, while the power absorbed by the load is
0.9984 w, the sum of which is 1 w. The SWR seen by the source is 1.083:1, and the return loss in this
experiment is 27.96 dB, while the power lost to the load is 0.0070 dB. From a ham's practical viewpoint the
reflected power is totally re-reflected.

In my example using the 49ï¿½ stub the capacitive reactance it established at its input is Xc = -57.52 ohms.
Thus its inductive susceptance B = 0.0174 mhos, which cancels the capacitive line susceptance B = -0.0174 mhos
appearing at the stub point.

My point is that the 49ï¿½ stub can be replaced with a lumped capacitance Xc = -57.52 ohms directly on the line

with the same results as with the stub--with the same reflection coefficients. In this case one cannot say
that the re-reflection results from the physical open circuit terminating the stub line.

Various posters have termed my approach as a 'short cut'. I disagree. I prefer to consider it as the wave
analysis to the stub-matching procedure, in contrast to the traditional method of simply saying that the stub
reactance cancels the line reactance at the point on the line where the line resistance R = Zo. In my mind the
wave analysis presents a more detailed view of what's actually happening to the pertinent waves while the
impedance match is being established.

Walt

4356. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 21:58:42 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <1ij223lsn4jj8tmevcbjt64iji2kgfg1ao@4ax.com>
Source record: 42960

On Sat, 14 Apr 2007 11:27:11 -0700, Richard Clark <kb7qhc@comcast.net> wrote:

>On 14 Apr 2007 09:53:11 -0700, "Jim Kelley" <jwkelley@uci.edu> wrote:
>
>>> What happens to the energy in the canceled waves?
>>
>>There is no energy "in" cancelled waves.
>
>Hi Jim,
>
>How has this inversion arrived? Cecileo offering emphatic testimony
>to the Cardinals "It certainly doesn't move!" and no energy "in"
>cancelled waves?
>
>Both waves exist as the absence of either would easily reveal. There
>may be no power to extract due to their offsetting contributions, but
>that doesn't prove they have vanished (which, in the context of sight,
>interference, and light diminishing in regions necessarily demands a
>load to demonstrate).
>
>The language of photon shuffling and energy re-distribution lends the
>logic of divine intervention to scientific theory. These verbs are
>active and require an actor. If we were to travel down that path, the
>patterns of intelligent design interference would be explained in
>epicycles and crystalline spheres of angels' guiding results.
>
>73's
>Richard Clark, KB7QHC

Richard, I love the way you talk about 'epicycles and crystalline spheres of angels'.

Walt

4357. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 22:31:37 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns991356B9344E6nonenowhere@61.9.191.5>
Source record: 42961

Walter Maxwell <walt@w2du.com> wrote in
news:aqc223lovggv2ahd23rt1c1aki9n2hvcih@4ax.com:

> Summarizing reflection coefficient values at stub point with stub in
> place: Line coefficients: voltage 0.5 at +120&#65533;, current -60&#65533; (y = 1
> + j1.1547) Stub coefficients: voltage 0.5 at -120&#65533;, current +60&#65533; (y
> = 1 - j1.1547) Resultant coefficients: voltage 0.5 at 180&#65533;, current
> 0.5 at 0&#65533; WRONG Resultant coefficients: voltage 1.0 at 180&#65533;, current
> 1.0 at 0&#65533; CORRECT

Walt,

Though admittance or impedance at a point on the mismatched line are
calculated from the underlying Zo and the reflection coefficient
corrected for line loss, they are easier to work in than the raw
reflection coefficient.

It is easier to explain why the stub is located at a position where Yn'=1
+jB than where Gamma=0.5<120 (assuming lossless line). It is relatively
obvious that where Yn'=1+jB, a shunt reactance of -jB from a s/c or o/c
stub will leave Yn=1 which is the matched condition.

Re your worked solution (above), I agree that the normalised admittance
looking into 30deg of line with load 16.667+j0 is about 1-j1.1547 (not
the different sign).

I make the normalised admittance looking into the stub about 0+j1.15 (and
the reflection coefficient about 0.5<-98, how do you get 1+j1.15?

The addition of the two normalised admittances 1-j1.15 + 0+j1.15 gives 1
+j0 which is the matched condition.

The design is correct, the stub results in a match at the stub connection
point (irrespective of what is connected on the source side of the
point), but I can't understand your maths above (allowing for the sign
error that I think you have made).

Is the reflection coefficient explanation a clearer explanation than
using admittances?

Owen

BTW, my line loss calculator solutions (http://www.vk1od.net/tl/tllc.php)
for Belden 8262 RG58 (you said RG53, but you probably meant RG58) are:

(Note some symbols arent supported by plain ascii and appear as '?'.)

Load to Stub connection:

Parameters
Transmission Line Belden 8262 (RG-58C/U)
Code B8262
Data source Belden
Frequency 16.000 MHz
Length 1.030 metres
Zload 16.67+j0.00 ?
Yload 0.059999+j0.000000 ?
Results
Zo 50.00-j0.54 ?
Velocity Factor 0.660
Length 29.97 ?, 0.083 ?
Line Loss (matched) 0.059 dB
Line Loss 0.149 dB
Efficiency 96.63%
Zin 22.12+j24.55 ?
Yin 0.020258-j0.022480 ?
Gamma, rho, theta, VSWR (source end) -2.44e-1+j4.29e-1, 0.493,
119.6?, 2.950
Gamma, rho, theta, VSWR (load end) -5.00e-1+j4.03e-3, 0.500, 179.5?,
3.000
? 6.54e-3+j5.08e-1
k1, k2 1.30e-5, 2.95e-10
Loss model source data lowest frequency 1.000 MHz
Correlation coefficient (r) 0.999884

Stub:

Parameters
Transmission Line Belden 8262 (RG-58C/U)
Code B8262
Data source Belden
Frequency 16.000 MHz
Length 1.685 metres
Zload 100000000.00+j0.00 ?
Yload 0.000000+j0.000000 ?
Results
Zo 50.00-j0.54 ?
Velocity Factor 0.660
Length 49.02 ?, 0.136 ?
Line Loss (matched) 0.096 dB
Line Loss 40.574 dB
Efficiency 0.01%
Zin 0.50-j43.44 ?
Yin 0.000265+j0.023019 ?
Gamma, rho, theta, VSWR (source end) -1.37e-1-j9.69e-1, 0.978, -
98.0?, 90.720
Gamma, rho, theta, VSWR (load end) 1.00e+0+j1.07e-8, 1.000, 0.0?, inf
? 6.54e-3+j5.08e-1
k1, k2 1.30e-5, 2.95e-10
Loss model source data lowest frequency 1.000 MHz
Correlation coefficient (r) 0.999884

4358. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 23:04:55 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <1322nh1gosvvv69@corp.supernews.com>
Source record: 42962

Walt, before digging into your recent posting, I'd really like to get one issue settled. I think it would be helpful in our discussion. The issue is:

Can you find even one example of any transmission line problem which cannot be solved, or a complete analysis done, without making the assumption that waves reflect from a "virtual short" or "virtual open"? That is, any example where such an assumption is necessary in order to find the currents, voltages, and impedances, and the magnitude and phase of forward and reverse voltage and current waves?

Roy Lewallen, W7EL

4359. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 23:47:03 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <10n223p3tptlmfl9tjsn426mverr91a8v7@4ax.com>
Source record: 42963

On Sat, 14 Apr 2007 22:31:37 GMT, Owen Duffy <none@no.where> wrote:

>Walter Maxwell <walt@w2du.com> wrote in
>news:aqc223lovggv2ahd23rt1c1aki9n2hvcih@4ax.com:
>
>> Summarizing reflection coefficient values at stub point with stub in
>> place:
>>Line coefficients: voltage 0.5 at +120ï¿½, current -60ï¿½ (y = 1 + j1.1547)
>>Stub coefficients: voltage 0.5 at -120ï¿½, current +60ï¿½ (y = 1 - j1.1547)
>>Resultant coefficients: voltage 0.5 at 180ï¿½, current 0.5 at 0ï¿½ WRONG
>>Resultant coefficients: voltage 1.0 at 180ï¿½, current 1.0 at 0ï¿½ CORRECT
>
>Walt,
>
>Though admittance or impedance at a point on the mismatched line are
>calculated from the underlying Zo and the reflection coefficient
>corrected for line loss, they are easier to work in than the raw
>reflection coefficient.

Depends on the instrumentation available for obtaining the raw data.

>It is easier to explain why the stub is located at a position where Yn'=1
>+jB than where Gamma=0.5<120 (assuming lossless line). It is relatively
>obvious that where Yn'=1+jB, a shunt reactance of -jB from a s/c or o/c
>stub will leave Yn=1 which is the matched condition.
>
>Re your worked solution (above), I agree that the normalised admittance
>looking into 30deg of line with load 16.667+j0 is about 1-j1.1547 (not
>the different sign).

Yes Owen, you're right. I added the y values at the last moment, and didn't catch the errors. Both the line
and stub signs are reversed. Sorry 'bout that.

>I make the normalised admittance looking into the stub about 0+j1.15 (and
>the reflection coefficient about 0.5<-98, how do you get 1+j1.15?

Normalized y looking into the stub directly is y = 0 + 1.1547, but looking at the stub while on the line at
the 30ï¿½ point is y = 1 + 1.1547. To view the stub separately on the line the line is terminated in 50 ohms,
because the real component of the line impedance at the match point is 50 ohms.

>The addition of the two normalised admittances 1-j1.15 + 0+j1.15 gives 1
>+j0 which is the matched condition.

Of course.

>The design is correct, the stub results in a match at the stub connection
>point (irrespective of what is connected on the source side of the
>point), but I can't understand your maths above (allowing for the sign
>error that I think you have made).

The resultant coefficients are obtained by simply adding the voltage coefficients and the current
coefficients, as in the adding of the line and stub admittances.

>Is the reflection coefficient explanation a clearer explanation than
>using admittances?

Not at all, Owen, but as I said in the original post, the instrument I acquired early in my time with the RCA
antenna lab was the PRD-219 reflectometer. At that time I considered it the best instrument for measuring
transmission line circuitry at VHF, and because it delivered readings in reflection coefficient I became
somewhat more efficient in my thinking process using that mode.

Walt

>Owen
>
>BTW, my line loss calculator solutions (http://www.vk1od.net/tl/tllc.php)
>for Belden 8262 RG58 (you said RG53, but you probably meant RG58) are:
>
>(Note some symbols arent supported by plain ascii and appear as '?'.)
>
>Load to Stub connection:
>
>Parameters
>Transmission Line Belden 8262 (RG-58C/U)
>Code B8262
>Data source Belden
>Frequency 16.000 MHz
>Length 1.030 metres
>Zload 16.67+j0.00 ?
>Yload 0.059999+j0.000000 ?
>Results
>Zo 50.00-j0.54 ?
>Velocity Factor 0.660
>Length 29.97 ?, 0.083 ?
>Line Loss (matched) 0.059 dB
>Line Loss 0.149 dB
>Efficiency 96.63%
>Zin 22.12+j24.55 ?
>Yin 0.020258-j0.022480 ?
>Gamma, rho, theta, VSWR (source end) -2.44e-1+j4.29e-1, 0.493,
>119.6?, 2.950
>Gamma, rho, theta, VSWR (load end) -5.00e-1+j4.03e-3, 0.500, 179.5?,
>3.000
>? 6.54e-3+j5.08e-1

>k1, k2 1.30e-5, 2.95e-10
>Loss model source data lowest frequency 1.000 MHz
>Correlation coefficient (r) 0.999884
>
>Stub:
>
>Parameters
>Transmission Line Belden 8262 (RG-58C/U)
>Code B8262
>Data source Belden
>Frequency 16.000 MHz
>Length 1.685 metres
>Zload 100000000.00+j0.00 ?
>Yload 0.000000+j0.000000 ?
>Results
>Zo 50.00-j0.54 ?
>Velocity Factor 0.660
>Length 49.02 ?, 0.136 ?
>Line Loss (matched) 0.096 dB
>Line Loss 40.574 dB
>Efficiency 0.01%
>Zin 0.50-j43.44 ?
>Yin 0.000265+j0.023019 ?
>Gamma, rho, theta, VSWR (source end) -1.37e-1-j9.69e-1, 0.978, -
>98.0?, 90.720
>Gamma, rho, theta, VSWR (load end) 1.00e+0+j1.07e-8, 1.000, 0.0?, inf
>? 6.54e-3+j5.08e-1
>k1, k2 1.30e-5, 2.95e-10
>Loss model source data lowest frequency 1.000 MHz
>Correlation coefficient (r) 0.999884
>

4360. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-14 23:54:34 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <r0q223tfjj2gvi6l2fj18gh6l0jvf1m5uk@4ax.com>
Source record: 42964

On Sat, 14 Apr 2007 16:04:55 -0700, Roy Lewallen <w7el@eznec.com> wrote:

>Walt, before digging into your recent posting, I'd really like to get
>one issue settled. I think it would be helpful in our discussion. The
>issue is:
>
>Can you find even one example of any transmission line problem which
>cannot be solved, or a complete analysis done, without making the
>assumption that waves reflect from a "virtual short" or "virtual open"?
>That is, any example where such an assumption is necessary in order to
>find the currents, voltages, and impedances, and the magnitude and phase
>of forward and reverse voltage and current waves?
>
>Roy Lewallen, W7EL

No Roy, of course not. I am not attempting to assert that reflection coefficients should be used in such an
analysis. I'm only asserting that it's another way of performing an analysis, one that I believe paints a more
visible picture of the how the pertinent waves behave in the circuit.

If I still haven't persuaded you that it's a viable way of analyzing the impedance matching function then I'll
back off and not pursue the issue any further.

Incidentally, you didn't answer my questions.

Walt

4361. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 00:10:29 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9913677C973D8nonenowhere@61.9.191.5>
Source record: 42965

Walter Maxwell <walt@w2du.com> wrote in
news:10n223p3tptlmfl9tjsn426mverr91a8v7@4ax.com:

...
>>Re your worked solution (above), I agree that the normalised
>>admittance looking into 30deg of line with load 16.667+j0 is about
>>1-j1.1547 (not the different sign).
>
> Yes Owen, you're right. I added the y values at the last moment, and
> didn't catch the errors. Both the line and stub signs are reversed.
> Sorry 'bout that.

Ok.

>>I make the normalised admittance looking into the stub about 0+j1.15
>>(and the reflection coefficient about 0.5<-98, how do you get 1+j1.15?
>
> Normalized y looking into the stub directly is y = 0 + 1.1547, but
> looking at the stub while on the line at the 30° point is y = 1 +
> 1.1547. To view the stub separately on the line the line is terminated
> in 50 ohms, because the real component of the line impedance at the
> match point is 50 ohms.

You have a junction where three current paths appear in parallel, we can
add the admittances of each of those paths.

We are agreed that admittance of the load+30deg line is 1-j1.15, and that
of the stub is 0+j1.15, so the only place the additional 1+j0 can come
from is the source+line branch.

If that is the case, then your explanation of the stub (which I assume to
be a steady state explanation because you are talking about frequency
domain admittances), depends on the source admittance (or impedance). If
the equivalent source impedance at the junction figures in the calcs, you
are saying that the VSWR on the line from source to junction depends on
the source impedance... I thought we got over that error.

My view is that the stub in shunt with the 30deg line+load results in an
equivalent impedance of approximately 50+j0 at the junction, irrespective
of what is on the source side of the junction.

Owen

4362. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 00:36:08 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <1322ss2m21bat4c@corp.supernews.com>
Source record: 42966

Walter Maxwell wrote:
> On Sat, 14 Apr 2007 16:04:55 -0700, Roy Lewallen <w7el@eznec.com> wrote:
>
>> Walt, before digging into your recent posting, I'd really like to get
>> one issue settled. I think it would be helpful in our discussion. The
>> issue is:
>>
>> Can you find even one example of any transmission line problem which
>> cannot be solved, or a complete analysis done, without making the
>> assumption that waves reflect from a "virtual short" or "virtual open"?
>> That is, any example where such an assumption is necessary in order to
>> find the currents, voltages, and impedances, and the magnitude and phase
>> of forward and reverse voltage and current waves?
>>
>> Roy Lewallen, W7EL
>
> No Roy, of course not. I am not attempting to assert that reflection coefficients should be used in such an
> analysis. I'm only asserting that it's another way of performing an analysis, one that I believe paints a more
> visible picture of the how the pertinent waves behave in the circuit.

We're certainly not communicating well! I have never questioned that the use of "virtual shorts" is another way of performing an analysis, nor that it helps visualize some of the things going on.

> If I still haven't persuaded you that it's a viable way of analyzing the impedance matching function then I'll
> back off and not pursue the issue any further.

Nor have I questioned that it's a viable way of analyzing the impedance matching function.

If you'll read what I've written, you'll hopefully see that my only point of contention is with your claim that waves reflect from a "virtual short". They do not. And the lack of a single example of a system whose analysis requires this to happen is evidence that they do not.

If you back off and not pursue the issue any further, you'll continue with your belief that "virtual shorts" cause reflections. And I'm afraid that will detract from the wealth of accurate and useful things you do say. So please continue. But don't waste time arguing that the concept of "virtual shorts" is a useful analytical tool. I've always agreed with that, and haven't seen any postings indicating anyone else doesn't.

> Incidentally, you didn't answer my questions.

I wanted to get an answer to mine, first. Now that I have, I'll answer yours.

Roy Lewallen, W7EL

4363. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 00:58:23 UTC
From: richardharrison@webtv.net
Message-ID: <24175-462178AF-413@storefull-3257.bay.webtv.net>
Source record: 42968

Jim, NN7K wrote:
"Not only that, BUT IF you use copper pipe, you may expect electrolysis, which will actually eat the pipe, in 4 or 5 years, in soil."

I don`t have my CRC Handbook here with its metal activity series but I was a sailor in WW-2 who replaced many zinc electrodes installed as sacrificial anodes to protect other metals on the ship. I`ve also built electrolytic cells which used copper and zinc as electrodes and sea water as the electrolyte. I guarantee it is the zinc which is eaten while the copper remains intact. Copper is poisonous to most sea organisms and thus is not likely fouled. Don`t worry about copper it does not waste away in the earth. I`ve worked in broadcast stations with radials buried in the 1930`s. They are still pristine. Zinc is the metal used to coat steel pipe when it is galvanized.

Best regards, Richard Harrison, KB5WZI

4364. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 01:01:22 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <1322ubd65futga6@corp.supernews.com>
Source record: 42967

Walter Maxwell wrote:
>
> Consider my two explanations, or definitions of what I consider a virtual short--perhaps it should have a
> different name, because of course 'virtual' implies non-existence. The short circuit evident at the input of
> the two line examples I presented---do you agree that short circuits appear at the input of the two lines? If
> so, what would you call them?

I'd call them "virtual shorts". If they were short circuits, we should be able to connect a wire across the transmission line at that point with no change in transmission line operation. But we can't. While things will look the same on the generator side, they won't be the same beyond the real short. So they aren't short circuits.

> Roy, I'd like for you to take another, but perhaps closer look at the summarizing of the reflection
> coefficients below. I originally typed in the wrong value for the magnitude of the resultant coefficients.
> With the corrected magnitudes in place, the two paragraphs following the summarization now make more sense,
> because the short circuit established at the stub point leads correctly to the wave action that occurs there.
>
> Summarizing reflection coefficient values at stub point with stub in place:
> Line coefficients: voltage 0.5 at +120ï¿½, current -60ï¿½ (y = 1 + j1.1547)
> Stub coefficients: voltage 0.5 at -120ï¿½, current +60ï¿½ (y = 1 - j1.1547)
> Resultant coefficients: voltage 0.5 at 180ï¿½, current 0.5 at 0ï¿½ WRONG
> Resultant coefficients: voltage 1.0 at 180ï¿½, current 1.0 at 0ï¿½ CORRECT
>
> Repeating from my original post for emphasis:
> These two resultant reflection coefficients resulting from the interference between the load-reflected wave at
> the stub point and the reflected wave produced by the stub define a virtual short circuit established at the
> stub point.

There's no need to repeat this. I'm well acquainted with transmission line phenomena, and understand fully what's happening. I have no disagreement with this analysis. I would draw attention to the fact that the "virtual short" is, as you say, simply the superposition (interference) of traveling waves. So there is nothing at that point except the traveling waves which pass through that point.

> The following paragraph shows how the phases of the reflected waves become in phase with the source waves so
> that the reflected waves add directly to the source waves, establishing the forward power, which we know
> exceed the source power when the reflected power is re-reflected. The same concept applies to antena tuners.

Sorry, I'm not going to divert onto the topic of propagating power, either instantaneous or average. If that concept is required in order to show that waves interact with each other, then it simply shows that the concept is invalid. Let's stick to voltages and currents. If that's not adequate, then I'll exit at this point, and turn the discussion over to Cecil. That's his domain, not mine.

> Again repeating for emphasis:
> Let's now consider what occurs when a wave encounters a short circuit.

Ok.

> We know that the voltage wave
> encounters a phase change of 180ï¿½, while the current wave encounters zero change in phase. Note that the
> resultant voltage is at 180ï¿½, so the voltage phase changes to 0ï¿½ on reflection at the short circuit, and is
> now in phase with the source voltage wave. In addition, the resultant current is already at 0ï¿½, and because
> the current phase does not change on reflection at the short circuit, it remains at 0ï¿½ and in phase with
> source current wave. Consequently, the reflected waves add in phase with the source waves,

Ok so far. . .

thus increasing the
> forward power in the line section between the stub and the load.

Again, let's leave power out of it, ok?

> Keep in mind that the short at the stub point is a one-way short, diode like, as you say, because in the
> forward direction the voltage reflection coefficient rho is 0.0 at 0ï¿½, while in the reverse direction, rho at
> the stub point is 1.0 at 180ï¿½, which is why it's a one-way short.

The voltages, currents, waves, and impedances impedances on the line are just the same as if there were a diode-short at that point. Which is why it's a useful analytical tool. But all there really is at that point are some interfering waves, traveling through that point unhindered.

> You say that no total re-reflection occurs at the stub point. However, with a perfect match the power rearward
> of the stub is zero, and all the source power goes to the load in the forward direction. Is that not total
> reflection?

Not from the "virtual short" -- it only looks like it. The re-reflection
is actually occurring from the end of the stub and from the load, not
from the "virtual short". If, for example, you suddenly increased the
source voltage, there would be no reflection as that change propagated
through that "virtual short". (That is, after a delay equal to the
round-trip time to the "virtual short", you'd see no change.) The
apparent reflection from that point wouldn't appear until the change
propagated to the end of the stub and to the load (going right through
the "virtual short" unhindered), reflected from them, and arrived back
at the "virtual short" point. This is one of the ways you can tell that
a "virtual short" isn't a real short. Under steady state conditions, it
looks just like a real one. But it isn't. Waves which seem to be
reflecting from it are really reflecting from the end of the stub and
from the load -- they're passing right through the "virtual short", in
both directions.

> Using the numbers of my bench experiment, assuming a source power of 1 watt, and with the
> magnitude rho of 0.04, power going rearward of the stub is 0.0016 w, while the power
absorbed by the load is
> 0.9984 w, the sum of which is 1 w. The SWR seen by the source is 1.083:1, and the return
loss in this
> experiment is 27.96 dB, while the power lost to the load is 0.0070 dB. From a ham's
practical viewpoint the
> reflected power is totally re-reflected.

Sorry, you're going to have to do this without propagating waves of
average power, or I'm outta here.

> In my example using the 49ï¿½ stub the capacitive reactance it established at its input
is Xc = -57.52 ohms.
> Thus its inductive susceptance B = 0.0174 mhos, which cancels the capacitive line
susceptance B = -0.0174 mhos
> appearing at the stub point.
>
> My point is that the 49ï¿½ stub can be replaced with a lumped capacitance Xc = -57.52
ohms directly on the line
> with the same results as with the stub--with the same reflection coefficients.

That's fine, I agree.

> In this case one cannot say
> that the re-reflection results from the physical open circuit terminating the stub line.

I most certainly can! And do. I don't see how your example furnishes any
proof or even evidence of wave interaction. I can come to the same
conclusion without any assumption of wave interaction, and you have
agreed (in your response to my question about finding an example that
requires interaction for analysis) that this can always be done.

> Various posters have termed my approach as a 'short cut'. I disagree. I prefer to
consider it as the wave
> analysis to the stub-matching procedure, in contrast to the traditional method of simply
saying that the stub

> reactance cancels the line reactance at the point on the line where the line resistance R = Zo. In my mind the
> wave analysis presents a more detailed view of what's actually happening to the pertinent waves while the
> impedance match is being established.

I'm sorry, I disagree. It's a less detailed view, and it conceals what's really going on.

Roy Lewallen, W7EL

4365. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 01:06:02 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <1322uk4l7qu4d62@corp.supernews.com>
Source record: 42969

K7ITM wrote:
> . . .
> It's a useful visualization tool and design aid; it's a poor analysis
> tool at best. At worst, it will lull you into building something that
> just won't work, wasting time and resources.

In my opinion, the potential harm can be much worse. If it causes you to buy into the notion that traveling waves interact in a linear medium, that opens the door to a whole universe of invalid conclusions. We've seen some of those promoted very vigorously in this newsgroup.

Roy Lewallen, W7EL

4366. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 01:22:05 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <46217e1d$0$8919$4c368faf@roadrunner.com>
Source record: 42970

"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:24175-462178AF-413@storefull-3257.bay.webtv.net...
> Jim, NN7K wrote:
> "Not only that, BUT IF you use copper pipe, you may expect electrolysis,
> which will actually eat the pipe, in 4 or 5 years, in soil."
>
> I don`t have my CRC Handbook here with its metal activity series but I
> was a sailor in WW-2 who replaced many zinc electrodes installed as
> sacrificial anodes to protect other metals on the ship. I`ve also built
> electrolytic cells which used copper and zinc as electrodes and sea
> water as the electrolyte. I guarantee it is the zinc which is eaten
> while the copper remains intact. Copper is poisonous to most sea
> organisms and thus is not likely fouled. Don`t worry about copper it
> does not waste away in the earth. I`ve worked in broadcast stations with
> radials buried in the 1930`s. They are still pristine. Zinc is the metal
> used to coat steel pipe when it is galvanized.
>
> Best regards, Richard Harrison, KB5WZI
>
Richard, Thats not how it waste away. It is disovled from the inside by
galvanic action. If you couple copper to galvanized pipe you must use a
special coupler that electrically isolates the copper from the galvanized
pipe. This is usually a brass union with a neopreme, I think, insulator.

4367. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 01:39:22 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <vpu223pkdd57pdmh3tvn463h2ouspfnr78@4ax.com>
Source record: 42971

On Sat, 14 Apr 2007 16:36:11 -0500, richardharrison@webtv.net (Richard Harrison) wrote:

>Richard Clark wrote:
>"This conforms to my experience with many plumbing designs on the
>microwave bench."
>
>Good. Then, Richard Clark must also be familiar with the grooved
>circular flange used in conjunction with a smooth flange to join
>waveguide segments. This groove isn`t just used to hold a neoprene
>gasket. It is also used as an electrical choke to keep the microwaves
>within the pipe. It is approximately a 1/4-wave choke and its high
>impedance across its open-circuit helps foil the wave escape. If virtual
>open-circuits didn`t work, the "choke-flange wouldn`t work either.

Hi Richard,

You got the dimensions wrong for the wrong reason. It is a halfwave shorted cavity (or transmission line sub-section). The cut channel is quarterwave, but the distance from the middle of the longest side of the waveguide is another quarterwave. The virtual short bridges the joined, but non-contacting faces of the two waveguide sections. There is no high Z action involved.

Further, there are two grooves, the outer one is for the neoprene gasket.

For others, when two sections of waveguide are joined, there is always the possibility that the two faces of the ends will not see a machined match (like an engine head to the engine block - which even there has problems of warp); hence the possibility of a break in continuity with an open circuit. Rather than burn money as a solution, engineers simply forced the problem by having the two faces separated and never in contact!

What they did to offset this deliberate open is they machined a circular groove around the flange of one section that was a quarterwave deep, and a quarterwave away from the voltage node for the waveguide's TE10 mode of transmission. The geometry of the groove and its distance from the node was very simple to control in comparison to guaranteeing fully flush mating faces (especially under the torsion of ship's movement, or simple heat expansion). This is a hallmark of engineering where the problem becomes the solution.

As always, a short is vastly more preferred than an open when casting back into the transmission line and the design engineers went to the

additional length to see it incorporated into the solution.

Dare I call the choke joint a virtual gasket?

73's
Richard Clark, KB7QHC

4368. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 02:39:54 UTC
From: Mike Coslo <mcoslo@youknow.comcast.net>
Message-ID: <Xns9912E69347A6Cmcoslocomcastnet@216.196.97.136>
Source record: 42972

"Jimmie D" <GFENDER@carolina.rr.com> wrote in
news:46217e1d$0$8919$4c368faf@roadrunner.com:
> Richard, Thats not how it waste away. It is disovled from the inside
> by galvanic action. If you couple copper to galvanized pipe you must
> use a special coupler that electrically isolates the copper from the
> galvanized pipe. This is usually a brass union with a neopreme, I
> think, insulator.

Hi Jimmie,

Copper is higher on the Galvanic series than either Zinc or Iron.
(Zinc is lowest in the series aside from Magnesium)

While there is a possibility - though none that I know of - that for some
reason that copper may corrode before Zinc or its iron substrate, usually
the lower member of the series goes away first. Do you know what the
effect is?

I have heard of some low quality copper pipe that tends to spring
leaks after quite a few years. Perhaps this is what we are talking anout?

- 73 de Mike KB3EIA

4369. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 03:51:42 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ijhUh.10578$Kd3.6117@newssvr27.news.prodigy.net>
Source record: 42973

Jim Kelley wrote:
> Partially reflective surfaces can (and are) in fact used to prevent
> reflections, just as they are used to 100% re-reflect partial
> reflections from a load.

Partially reflective surfaces cannot, by themselves,
reflect 100% of the incident energy. If it's partial,
it's not 100%, by definition. Any partially reflective
surface needs help from interference in order to
achieve 100% reflection. You know, that interference
that you deny exists.

> That was the main point of my post, Cecil. The reflective coefficient
> DOES NOT CHANGE. You're the one who claims that it does.

You continue to lie about what I said. I have said any
number of times that the physical reflection coefficient,
s11, is fixed and does NOT change. Why does someone who
is technically correct need to stoop to lying?

> There is no energy "in" cancelled waves.

The waves existed along with their energy components before
they were canceled. What happens to those energy components
after the waves are canceled. If one sets one phase equal
zero and the other phase equal 180 degrees, what happens to
the energy in the two waves at:

http://micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/waveinteractions/index
.html

There are two waves on the left existing with their respective
voltage and joules/sec. The result of total destructive interference
is zero voltage and zero joules/sec. What happened to the original
joule/sec components?
--
73, Cecil http://www.w5dxp.com

4370. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 03:57:56 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <8phUh.10579$Kd3.4349@newssvr27.news.prodigy.net>
Source record: 42974

Jim Kelley wrote:
> So I'm happy to
> leave it to you to explain to Cecil how waves cancel but without
> anhiliating the energy "in" them.

But that's just the point, Jim. You seem to believe the
pre-existing energy in those waves has been destroyed.
They obviously possessed energy before cancellation and
you say they possess zero energy after cancellation. If
that pre-existing energy is not destroyed, where did it go?
--
73, Cecil http://www.w5dxp.com

4371. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 04:21:31 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <cLhUh.452$iZ5.192@newssvr22.news.prodigy.net>
Source record: 42975

Roy Lewallen wrote:
> I don't see how your example furnishes any
> proof or even evidence of wave interaction.

Are you saying that wave interaction doesn't exist?
--
73, Cecil http://www.w5dxp.com

4372. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 04:31:56 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <%UhUh.454$iZ5.140@newssvr22.news.prodigy.net>
Source record: 42976

Roy Lewallen wrote:
> K7ITM wrote:
>> . . .
>> It's a useful visualization tool and design aid; it's a poor analysis
>> tool at best. At worst, it will lull you into building something that
>> just won't work, wasting time and resources.
>
> In my opinion, the potential harm can be much worse. If it causes you to
> buy into the notion that traveling waves interact in a linear medium,
> that opens the door to a whole universe of invalid conclusions.

Here is how Hecht described interference in "Optics":
"... interference corresponds to the *interaction* of two or
more lightwaves yielding a resultant irradiance that deviates
from the sum of the component irradiances."

If traveling waves cannot interact in a linear medium, why
does Hecht say they do indeed interact?

To deny the body of laws of physics regarding EM waves from
the field of optics is an example of extreme ignorance.
--
73, Cecil http://www.w5dxp.com

4373. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 04:48:00 UTC
From: Bryan <bryan.swadenerNOSPAM@comcast.net>
Message-ID: <YuGdnRcoYKIeM7zbnZ2dnUVZ_jCdnZ2d@giganews.com>
Source record: 42877

Jimmie D wrote:
>
> Thomas Horne wrote:
> > Jimmie D wrote:
> >> Thomas Horne wrote:
> >>> Jimmie D wrote:
> >>>> Bud wrote:
> >>>>> Jimmie D wrote:
> >>>>>
> >>>>>> Hopefully you are not really using the water pipe for a ground
for
> >>>>>> your electrical service. Hopefully your plumbing is just bonded
to
> >>>>>> the electrical ground. Dont even think about using this for
> >>>>>> lightning protection. Nothing like having lightning run in on
your
> >>>>>> plumbing while taking a bath or have it run in on yor ground and
> >>>>>> eat about $7K worth of test equipment(my bad).
> >>>>>>
> >>>>>> Jimmie
> >>>>> Jimmie
> >>>>>
> >>>>> DE KB3OPR
> >>>>>
> >>>>> I am an electrician by craft. The US National Electric Code
> >>>>> Requires that underground metal water piping on the premise be
used
> >>>>> as a grounding electrode for the electrical system. There is no
way
> >>>>> around it. No matter how fast people talk you cannot avoid using
an
> >>>>> underground metal piping system as a grounding electrode unless
the
> >>>>> electrical inspector is incompetent.
> >>>>> --
> >>>>> Tom Horne
> >>>> Tom you are confusing grounding with bonding, the plumbing should
be
> >>>> bonded to ground but not used for ground, at least this is getting
to
> >>>> be the rule in most places. I know that using the plumbing for
ground
> >>>> is still acceptaable in places and in a lot of places it is still
> >>>> acceptable if if the local code permitted it at the time it was

> >>>>>> installed(grandfathering)..
> >>>>> An electrician confusing grounding and bonding - that is pretty
funny.
> >>>>>
> >>>>> From the US National Electrical Code
> >>>>> ?250.50 Grounding Electrode System
> >>>>> All grounding electrodes as described in 250.52(A)(1) through (A)(6)
> >>>>> that are present at each building or structure served shall be
bonded
> >>>>> together to form the grounding electrode system.?
> >>>>>
> >>>>> ?250.52(A)(1) Metal Underground Water Pipe?
> >>>>> (10 feet or more metal in earth)
> >>>>>
> >>>>> Using underground metal water pipe as a grounding electrode is
> >>>>> REQUIRED. And this has been a requirement for a very long time.
Local
> >>>>> codes may be different from the NEC, but it is unlikely they are
> >>>>> different on this.
> >>>>>
> >>>>> And if you just "bond" metal water pipe it will work as a grounding
> >>>>> electrode anyway.
> >>>>>
> >>>>> --
> >>>>> bud--
> >>>>>
> >>>> True enough but there is a difference, grounding is connecting to
earth
> >>>> bonding is tying conductive structures together so they are at equal
> >>>> potential. Ground is a single point that everything else is bonded.
> >>>> Ground should be a stucture that the qualified electrician should be
> >>>> familar with not plumbing that may or may not be intact. If you dont
> >>>> believe me just try to get an electrical inspection on a new home
> >>>> without a ground rod installed.
> >>>>
> >>>> BTW the NEC is a minimum standard not a guide on how to wire your
> >>>> house.or perform grounding and bonding.
> >>>>
> >>>> You wouldnt believe what electricians dont know, like checking phase
> >>>> rotation before turning on a new 200KW UPS. or megging out lines
before
> >>>> turning on new parking lot lights or making sure a generator is not
> >>>> backfeeding a line before working on it. All things I have seen
> >>>> electricans screw up in the past year.
> >>>>
> >>>> Jimmie
> >>> Jimmie
> >>> I can assure you I don't do that sort of careless nonsense. I can
also
> >>> assure you that whenever I'm involved before the foundation is poured

or
> >>> at least prior to it being back filled there will be no driven rods on
> >>> that job. They are the single least effective electrode you can
> >>> install. When I have to install driven rods, such as for a heavy up, I
> >>> will stack them using rod couplers until I'm under twenty five ohms
and
> >>> perform a witnessed test for the inspector. I consider eight foot
> >>> driven rods a complete waste of time. Mind you I'll install them when
> >>> I'm forced to but you will usually find mine driven through the bottom
> >>> of a three foot deep trench on at least twenty feet of bare copper
> >>> number two AWG grounding electrode conductor.
> >>>
> >>> As for the US NEC being a minimum standard that is not always true.
In
> >>> at least ten states it is both the minimum and the maximum standard
that
> >>> a public electrical inspector may apply. So called "min max" states
do
> >>> not allow the local governments to amend the US NEC. Were the US NEC
is
> >>> the minimum standard you have to use underground metal water piping as
a
> >>> grounding electrode whether or not it jibes with your religious
beliefs
> >>> about what constitutes an electrode or not. If you were bonding the
> >>> plumbing you could do that with a conductor sized for the largest
branch
> >>> circuit supplying an appliance that is attached to the plumbing. When
> >>> you are using the piping as an electrode you must size the conductor
to
> >>> the size of the service entry conductors. People like W Tom cannot
> >>> bring themselves to admit that underground metal water piping is an
> >>> effective grounding electrode and worse still that it more effective
> >>> then most of the other electrodes listed in the US NEC at least in
> >>> homes. I always check the impedance of my grounding electrodes and
> >>> that's what the measurements say to me.
> >>> --
> >>> Tom Horne
> >>
> >> The point I am trying to make is that the ground system must be
sufficent
> >> on its own and not need to connect to the buildings plumbing to improve
> >> the ground. You should never depend on the plumbing especially on
> >> residential work because you can not maintain control of modifications
> >> to that plumbing system. Good example is my in-laws home, for years the
> >> house connected to the well via 1 inch metal pipe and this was also the
> >> ground for the house as it was built in 1974. When the new well was
> >> drilled plastic pipe was installed to the new well with no groundwire
> >> going back to the well casing. A couple of years later a new HVAC
system

> >> was installed and when there was an accidental short circuit the well
> >> pump was fried. This would not have happened if a proper grounding
system
> >> had been installed at the house instead of relying on the plumbing.
> >> Professionals have a responsibility to idiot -proof there work as much
as
> >> possible but you know how it is, sooner or later someone makes a better
> >> idiot.
> >>
> >> The fact that the water pipes may be effective or even better than the
> >> installed ground really have nothing to do with anything. Ground sytems
> >> are for grounding, Plumbing is for water. Electrians dont do plumbing
and
> >> plumbers dont rewire homes.
> >>
> >> Jimmie
> >
> >
> > And my point is that your opinion does not jibe with the National
Electric
> > Code.
> > --
> > Tom Horne
>
> Please Tom, tell me in what way that the grounding system should be
> sufficent on its own and not having to rely on the plumbing to provide
> grounding for an electrical system in violation of the NEC. Also please
tell
> me how you intend to prevent the scenario I discribed where the ground
> system was completely disconnected from the home when the well's metal
> plumbing was replaced with plastic.
>
> The Code is the min and max that an inspector can apply to an inspection
> This means that the inspector cant find fault with using plumbing for
> grounding if this is what the code says, it doesnt mean that the inspector
> can find fault if it is built better than code requirements, so again I
> say the code is written to a minimum spec. Your own definition of min max
> confirms this. Traditionally the NEC has the lowest minimum standard and
the
> state and local codes usually have a higher standard., there may be some
> exceptions to this. I will will stipulate that using plumbing for ground
may
> be "to code" in some places but it still is not a good way to ground your
> house and definately should not be used for a lightning ground.
>
> Jimmie

I've seen this thread go back & forth. Back when my voice hadn't yet
changed, my folks bought a small piece of land for weekend travel-trailer
camping. At the time, there was power available but no water. We wanted AC

power for the otherwise self-contained trailer, and followed the requirements set down by the county PUD. We installed a utility pole, with service entrance, weatherproof breaker panel, and weatherproof outlet. All we had available for grounding was an 8' rod driven into the ground next to the pole. There was NO water pipe with which to connect the ground wire.

Fast forward to recent years (my voice has long-since changed, but now what graying hair I have left is falling out). When I decided to re-pour the concrete slab for my kitchen porch next to my service entrance, I found what was left of a 4' x 3/8" ground rod embedded in the old concrete (the entire #14 wire connected to it had also been embedded in the concrete.) There's no evidence of a connection to the water system. I replaced the rod with an 8" x 1/2" unit from the home improvement box store, and connected it to the service entrance with a #4 wire.

Thankfully, when the utility pole that serves my house continued to lean away from my house (and the neutral opened), the ground rod kept L1 & L2 from swinging too wildly. There's a transformer on the pole that serves my house, with a ground rod next to the pole. I guesstimated the ground resistance at about 1 or 2 ohms. Of course, when they repaired their drop wire, the PUD had to inspect my service entrance to make sure it met the minimum requirement. The entire pole & guying has since been changed. Still, I keep an eye on the slack in the drop wire to my house!

An interesting observation about ground rods... a 4'x3/8" rod = 56.55 sq. in surface area, while a 8'x1/2" rod = 150.80 sq. in surface area. Of course, more metal in the ground could only be better. Does anyone have a nice BIG copper kettle for sale? ;^)

Bryan WA7PRC

4374. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 04:50:53 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4ob323538ab5oaboe93iuv6mkmo1a3nsfp@4ax.com>
Source record: 42878

On 14 Apr 2007 14:46:22 -0700, "Jim Kelley" <jwkelley@uci.edu> wrote:

>So I'm happy to
>leave it to you to explain to Cecil how waves cancel but without
>anhiliating the energy "in" them.

Hi Jim,

That would be flogging the asphalt through the stripped ribs of a dead
horse.

73's
Richard Clark, KB7QHC

4375. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 04:52:20 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <8ciUh.10586$Kd3.1970@newssvr27.news.prodigy.net>
Source record: 42879

Roy Lewallen wrote:
> If it causes you to
> buy into the notion that traveling waves interact in a linear medium,
> that opens the door to a whole universe of invalid conclusions.

Roy, seems you are the one with the invalid conclusions. Here
is a java-script of "traveling wave interaction in a linear medium".

http://micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/waveinteractions/index.html

"... when two waves of equal amplitude and wavelength that are
180-degrees ... out of phase with each other meet, they are not
actually annihilated, ... All of the photon energy present in
these waves must somehow be recovered or redistributed in a
new direction, according to the law of energy conservation ...
Instead, upon meeting, the photons are redistributed to regions
that permit constructive interference, so the effect should be
considered as a redistribution of light waves and photon energy
rather than the spontaneous construction or destruction of light."

Does energy being redistributed in new directions really look
like a lack of interaction to you?
--
73, Cecil http://www.w5dxp.com

4376. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 04:59:31 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <RiiUh.461$iZ5.169@newssvr22.news.prodigy.net>
Source record: 42881

Jim Kelley wrote:
> So I'm happy to
> leave it to you to explain to Cecil how waves cancel but without
> anhiliating the energy "in" them.

No need for that, Jim. Florida State University has done
an excellent job of explaining how wave cancellation
"redistributes" the pre-existing wave energy in "new
directions" such as the opposite direction in a
transmission line (the only other direction possible).

"... when two waves of equal amplitude and wavelength that
are 180-degrees ... out of phase with each other meet, they
are not actually annihilated, ... All of the photon energy
present in these waves must somehow be recovered or redistributed
in a new direction, according to the law of energy conservation ...
Instead, upon meeting, the photons are redistributed to regions
that permit constructive interference, so the effect should be
considered as a redistribution of light waves and photon energy
rather than the spontaneous construction or destruction of light."
--
73, Cecil http://www.w5dxp.com

4377. OT: DEATH TO AMERICA!!

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 05:07:32 UTC
From: Tony_Jaa <Tony_Jaa@Muay_Thai_Boxing.org>
Message-ID: <f92dnX8D5cCELbzbnZ2dnUVZ_r7inZ2d@hawaiiantel.net>
Source record: 42880

http://www.obsessionthemovie.com/12min.WMV

4378. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 05:47:31 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176616051.607692.51100@d57g2000hsg.googlegroups.com>
Source record: 42882

On Apr 14, 6:06 pm, Roy Lewallen <w...@eznec.com> wrote:
> K7ITM wrote:
> > . . .
> > It's a useful visualization tool and design aid; it's a poor analysis
> > tool at best. At worst, it will lull you into building something that
> > just won't work, wasting time and resources.
>
> In my opinion, the potential harm can be much worse. If it causes you to
> buy into the notion that traveling waves interact in a linear medium,
> that opens the door to a whole universe of invalid conclusions. We've
> seen some of those promoted very vigorously in this newsgroup.
>
> Roy Lewallen, W7EL

Yes, you're right, Roy. I guess I didn't consider that because I'm not very likely to buy into it, but from the point of view of someone just learning about linear systems, it's a danger.

The analogy may not be prefect, but I think it's a lot like the usefulness of the idea of a "virtual ground" at the inverting input of an op amp. But it's a virtual ground only under specific conditions: strong negative feedback is active, and the non-inverting input is at (AC, at least) ground potential. For it to be a useful concept without too many pitfalls, the person using it has to be aware that the conditions that make it a good approximation don't always hold. Similarly for a "virtual short" on a line.

Again, though, it IS useful to me to think along these lines, when looking to do something useful with stubs: I want to kill frequency W, so I can put a stub across my line that's half a wave long at W, shorted at the far end. At the same time I want to pass V, and the stub I just put there to kill W has reactance X at frequency V. If I put another stub with reactance -X at freq V across the line there, it will let V through with minimum effect. Now go calculate how well it will perform with particular lines.

So, to come up with a design to try, I do think about how stubs behave, in a general sense, including things like "a half-wave line shorted at the far end echos a short", but with the programs I have readily available, it's silly to rely on approximations that drop the line attenuation, when I want to know how my idea will actually work when I build it.

Cheers,
Tom

4379. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 05:55:39 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176616539.461270.102320@l77g2000hsb.googlegroups.com>
Source record: 42883

On Apr 14, 6:01 pm, Roy Lewallen <w...@eznec.com> wrote:
> Walter Maxwell wrote:
>
> > Consider my two explanations, or definitions of what I consider a virtual short--perhaps it should have a
> > different name, because of course 'virtual' implies non-existence. The short circuit evident at the input of
> > the two line examples I presented---do you agree that short circuits appear at the input of the two lines? If
> > so, what would you call them?
>
> I'd call them "virtual shorts". If they were short circuits, we should
> be able to connect a wire across the transmission line at that point
> with no change in transmission line operation. But we can't. While
> things will look the same on the generator side, they won't be the same
> beyond the real short. So they aren't short circuits.
>
I want to bring up another reason to be very careful to even call them "virtual shorts." They are virtual shorts only at certain frequencies. To me, that is a very important distinction. Keeping that frequency dependence in mind helps me be ever aware that they are not anything like a real short.

Cheers,
Tom

4380. Re: Effects of TOA

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 06:19:29 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <0ujUh.144360$g24.22665@newsfe12.phx>
Source record: 42884

"JIMMIE" <JIMMIEDEE123@YAHOO.COM> wrote in message
news:1176507685.239011.286640@n76g2000hsh.googlegroups.com...
> While operating on 10M I have observed that a halfwave vertical dipole
> will communicate to different areas than a 1.25wl vertical monopole an
> example would be that during a band opening the 1/2 wl antenna may be
> working predominantly into New York while the 1.25 wl antenna is
> working best in California or was it vice versa. This has proven
> useful for me, instead of fighting a pile-up and can just talk
> somewhere else. The two verticals may soon be replaced with a tri-
> bander and I was wondering if I could get this same type of effect by
> tilting the antenna vertically(no change in polarity) with a remote
> controlled device. I think it would be pretty cool to hear different
> areas of the country pop in and out as the elevation of the antenna is
> changed.

It would work, theoretically, for a small change but I doubt you'd ever
notice the effect.

You need a very directional (many elements) antenna to see a big difference
in the amount of signal in the elevation plane. High gain UHF TV antennas
do have tilters, but it's to match the angle of arrival of the signal, which
may be coming out of a duct or reflected off a nearby ridge. See a sample
at http://www.atechfabrication.com/products/atfv200_economy_tilter.htm

Most tribanders are three elements and have a 3dB beamwidth of about 60
degreees in the azimuth (plan view) plane -- worse in the elevation plane.

Further complication: The ground affects the shape of the elevation
pattern, maybe more than any tilt you could apply. You might better
fine-tune the angle of arrival by cranking a tower section up and down.

"Sal"

4381. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 06:34:00 UTC
From: richardharrison@webtv.net
Message-ID: <8451-4621C758-659@storefull-3254.bay.webtv.net>
Source record: 42885

Roy Lewallen, W7EL wrote:
"If you`ll read what I`ve written, you`ll hopefully see that my only point of contention is with your claim that waves reflect from a "virtual short". They do not."

Seems to me they do.

If you are lucky enough to have a copy of Terman`s 1955 opus, we can reason together.
On page 91 is found Fig. 4-3 Vector (phasor) diagrams showing manner in which incident and reflected waves combined to produce a voltage distribution on the transmission line.

At an open circuit, the voltage phasors are in-phase.

E2, the reflected phasor, rotates clockwise as it travels back toward the source.

E1, the incident phasor, rotates counter-clockwise as we look back toward the source.

Looking 1/4-wavelength back from the open-circuit, E2 and E1, each having rotated 90-degrees, but in opposite directions, are now 180-degrees out-of-phase.

On page 92, Fig. 4-4 shows the current, which summed to zero at the open circuit, has risen to its maximum value at 1/4-wavelength back from the open-circuit while the voltage dropped to its minimum, nearly zero, maybe close enough to declare a "virtual short-circuit", 1/4-wavelength back from the open-circuit.

What`s a short-circuit? Little voltage and much current.

What`s the difference between a physical short and the virtual short? Nothing except the shunting conductor.

Is there current flowing at the open-circuit end of the 1/4-wave line segment? No, the open-circuit won`t support current.

If a high-impedance generator of the same frequency were connected to the virtual short point on the line, would it also be shorted? Yes. Where? At the virtual short, not the open-circuit at the end of the line.

Best regards, Richard Harrison, KB5WZI

4382. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 06:47:29 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <1323ikbgpa8cfb6@corp.supernews.com>
Source record: 42886

K7ITM wrote:

> I want to bring up another reason to be very careful to even call them
> "virtual shorts." They are virtual shorts only at certain
> frequencies. To me, that is a very important distinction. Keeping
> that frequency dependence in mind helps me be ever aware that they are
> not anything like a real short.

And only in steady state. And only in one direction. Yes, care in needed.

Roy Lewallen, W7EL

4383. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 07:08:46 UTC
From: richardharrison@webtv.net
Message-ID: <8451-4621CF7E-660@storefull-3254.bay.webtv.net>
Source record: 42887

Jimmy D wrote:
"That is not how it wastes away."

No. It would be the steel pipe which wastes away when coupled with copper. An insulated coupling may slow the process but the copper is not electrolytically eaten away.

Best regards, Richard Harrison, KB5WZI

4384. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 07:22:25 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9913B0BBFFA6Enonenowhere@61.9.191.5>
Source record: 42888

Roy Lewallen <w7el@eznec.com> wrote in news:1323ikbgpa8cfb6
@corp.supernews.com:

> K7ITM wrote:
>
>> I want to bring up another reason to be very careful to even call them
>> "virtual shorts." They are virtual shorts only at certain
>> frequencies. To me, that is a very important distinction. Keeping
>> that frequency dependence in mind helps me be ever aware that they are
>> not anything like a real short.
>
> And only in steady state. And only in one direction. Yes, care in
needed.

It is simple inadequate models that lead to the thinking:

In the presence of mismatch, there is a reflected wave.

The anode glows red under mismatch, it obviously is caused by the power reflected from the antenna mismatch. (The observation is only made when the anode is red, so since the anode being red is always associated with a mismatch, then it is believed that mismatch always causes the anode to glow red, even though that is not a logical conclusion. The element of danger to equipment reinforces this, and elevates it to the status of a law.)

One solution is to insert an ATU near the transmitter, it works by re-reflecting the power in the reflected wave so it is all goes to antenna and totally radiated, thats what it is all about, getting all the transmitter power up the stick, how else could it work, the reflected power doesn't reach the transmitter any more. The anodes run cooler, clear proof that the explanation is sound.

ATU is really a misnomer, it doesn't tune the antenna at all (we all knew that), it is really a total-re-reflector when you have the true insight.

We have to remember that in the absence of good models of transmission line behaviour (eg quantitative models), people will try to fit models that they can understand, good or bad. If the path from mismatch to red anodes is too complicated, simplify it, leave all the intermediate explanation and conditions out, cut to the chase, what is the outcome, make it a rule.

I agree with you Roy. I think that inventing explanations that are based on things that aren't or don't happen is satisfying the learner's quest for knowledge with potentially false information that must be unlearned to move forward. Worse is that these kearners seize upon these inadequate

models and propagate them, the new experts of ham radio.

One of the risks to ham radio of the new six-hour hams is our feeding them with inappropriate and inadeqate dumbed down models. I suppose it is not new, this is probably the root of most of the myths of ham radio (eg resonant antennas always work markedly better... make it resonant and it will improve out of sight).

Owen

4385. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 07:29:43 UTC
From: richardharrison@webtv.net
Message-ID: <8451-4621D467-661@storefull-3254.bay.webtv.net>
Source record: 42889

I wrote:
"Where? At the virtual short, not the open-circuit at the end of the line."

If the virtual short were replaced with a real short, would anything change? Not a thing except the line voltage distribution diagram would lose its final 1/4-wavelength.

Best regards, Richard Harrison, KB5WZI

4386. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 07:49:21 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <REwvRxDBkdIGFABv@ifwtech.co.uk>
Source record: 42890

Cecil Moore wrote:
>Jim Kelley wrote:
>> So I'm happy to
>> leave it to you to explain to Cecil how waves cancel but without
>> anhiliating the energy "in" them.
>
>No need for that, Jim. Florida State University has done
>an excellent job of explaining how wave cancellation
>"redistributes" the pre-existing wave energy in "new
>directions" such as the opposite direction in a
>transmission line (the only other direction possible).
>
>"... when two waves of equal amplitude and wavelength that
>are 180-degrees ... out of phase with each other meet, they
>are not actually annihilated, ... All of the photon energy
>present in these waves must somehow be recovered or redistributed
>in a new direction, according to the law of energy conservation ...
>Instead, upon meeting, the photons are redistributed to regions
>that permit constructive interference, so the effect should be
>considered as a redistribution of light waves and photon energy
>rather than the spontaneous construction or destruction of light."

The killer is that word "somehow"... "all of the photon energy must somehow be redistributed".

Well of course it must! Nobody denies that conservation of energy will hold, in a system with properly defined boundaries. But the weakness of a photon model is that it cannot provide a detailed nuts-and-bolts explanation of the mechanism by which that energy becomes redistributed in time and space.

A wave model will provide all of that detail - and in transmission-line problems we can use it. If we trace what happens to forward and reflected waves of voltage (and/or current) we can predict the magnitudes and phases of those quantities at any location, at any instant. That gives us a complete time-dependent map of the voltage and current across the entire system.

From that, we can also find out where the energy is - the inputs, outputs, losses and stored energy. Sure enough, we will find that energy is conserved within the system boundaries... but that is no big deal, we always knew it would. In a wave model, conservation of energy is something you should check for, but only as an overall confirmation that you've done the sums correctly. All the useful detail came from the analysis of the voltage and/or current waves.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

4387. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 08:22:53 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <1323o77q3i6nu9c@corp.supernews.com>
Source record: 42891

Richard Harrison wrote:
> I wrote:
> "Where? At the virtual short, not the open-circuit at the end of the
> line."
>
> If the virtual short were replaced with a real short, would anything
> change? Not a thing except the line voltage distribution diagram would
> lose its final 1/4-wavelength.

Don't you consider it a significant difference that no voltage, current,
or power would reach the load?

Roy Lewallen, W7EL

4388. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 08:38:13 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <xG9HBmG1ReIGFAV3@ifwtech.co.uk>
Source record: 42893

Owen Duffy wrote:
>
>One of the risks to ham radio of the new six-hour hams is our feeding
>them with inappropriate and inadeqate dumbed down models. I suppose it
>is not new, this is probably the root of most of the myths of ham radio

Not new at all... There's a huge amount of new stuff for beginners to learn, so they need simplified ideas to get them started. But it shouldn't ever have to be about unlearning. We shouldn't be feeding them false ideas that they will need to throw away completely.

Our local radio club does a lot of teaching, and at all levels we try to say: "Learn this to check the right box in the exam, but remember something else about it: it isn't a hard fact. It's actually an onion."

At the next level, we peel away a few more of the skins. The aim is always to show them how last year's simplified information fits into a bigger and deeper picture. We don't want them to throw the old information away; at the next level we want them to keep it, understand what was right about it, and also see its limitations.

At least, that's what we are aiming for. The challenge for the teacher to live up to it.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

4389. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 09:03:36 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9913C1E37C4CAnonenowhere@61.9.191.5>
Source record: 42895

Ian White GM3SEK <gm3sek@ifwtech.co.uk> wrote in news:xG9HBmG1ReIGFAV3
@ifwtech.co.uk:

> Owen Duffy wrote:
>>
>>One of the risks to ham radio of the new six-hour hams is our feeding
>>them with inappropriate and inadeqate dumbed down models. I suppose it
>>is not new, this is probably the root of most of the myths of ham radio
>
> Not new at all... There's a huge amount of new stuff for beginners
to
> learn, so they need simplified ideas to get them started. But it
> shouldn't ever have to be about unlearning. We shouldn't be feeding
them
> false ideas that they will need to throw away completely.
>
> Our local radio club does a lot of teaching, and at all levels we try
to
> say: "Learn this to check the right box in the exam, but remember
> something else about it: it isn't a hard fact. It's actually an onion."
>
> At the next level, we peel away a few more of the skins. The aim is
> always to show them how last year's simplified information fits into a
> bigger and deeper picture. We don't want them to throw the old
> information away; at the next level we want them to keep it, understand
> what was right about it, and also see its limitations.
>
> At least, that's what we are aiming for. The challenge for the teacher
> to live up to it.

Ian,

That sounds a good approach, and it doesn't betray the trust that
learners should have in their trainers.

When ham radio is being reduced to a "communicator" hobby, it is worth
emphasising that there is great opportunity for personal development and
satisfaction in working through those layers. Some of us think that is
what ham radio is about, the ITU does, ITU-R RR Article 1 says "1.56
Amateur service: A radiocommunication service for the purpose of self-
training, intercommunication and technical investigations carried out by
amateurs, that is, by duly authorised persons interested in radio
technique solely with a personal aim and without pecuniary interest".

Owen

4390. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 09:03:42 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <1323qjp4m1r977f@corp.supernews.com>
Source record: 42894

K7ITM wrote:
> . . .
> The analogy may not be prefect, but I think it's a lot like the
> usefulness of the idea of a "virtual ground" at the inverting input of
> an op amp. But it's a virtual ground only under specific conditions:
> strong negative feedback is active, and the non-inverting input is at
> (AC, at least) ground potential. For it to be a useful concept
> without too many pitfalls, the person using it has to be aware that
> the conditions that make it a good approximation don't always hold.
> Similarly for a "virtual short" on a line.
>. . .

Let me relate a story. . .

Years ago at Tektronix, I transferred to a different group. Across the aisle was a very bright engineer, fresh from school with a Masters or PhD degree -- I don't recall which. I recall that his advanced education had specialized in nonlinear control systems, very much a mathematically complex and challenging field. His entirely academic background had been very different from mine, so I was often enthralled by his attempts to reconcile reality with the idealized world he had, until very recently, occupied.

One day I found him muttering, trying this and that, until he asked for some help with his test setup. He was driving an inverting op amp circuit with a square wave, and he was seeing sharp pulses at the "virtual ground" summing junction with his 'scope. He had tried moving his probe grounds, replacing the op amp, bypassing, and everything else he could think of, to rid his display of this obvious erroneous artifact. The voltage at the summing junction, he explained, should always be zero, since it's a virtual ground. Those spikes shouldn't be there.

I tried to explain to him how a "virtual ground" was created: An input signal initially generates a voltage at the op amp input. The op amp responds by sending an inverted signal back to the summing junction which adds to the initial voltage to produce very nearly zero at the input. I explained that it can never be zero, but at best is the op amp output voltage divided by its open loop gain. But more to the point, the op amp isn't infinitely fast, so it takes some time for it to respond to that initial voltage or any changes. And during that lag, the summing junction voltage can move a great distance from zero. So the spikes are occurring during the time it takes the op amp to respond to changes in the input stimulus.

Well, he didn't get it. He just couldn't make the transition from the idealized, infinitely fast and infinite gain op amps of his academic models to the real things he had to work with. And looking back on it, I think the basic problem was that he never really fully understood just how that virtual ground came about even in an idealized world.

After a number more frustrating and unresolved collisions with reality, he wisely quit and got a teaching job. I'm sure he did well in the academic world.

Those many models we use daily to keep calculations, concepts, and analyses manageable are just that -- models. It's imperative to constantly be aware of the range over which those models are valid, and alert to any situation which might make the model invalid. People solving routine problems can, unfortunately, often get along for a long time without realizing the limitations of their models, and can be lulled into a belief that they're not models at all but reality. But in the environment where I've spent most of my time, this carelessness leads you very quickly into places which can be very difficult to get out of.

Roy Lewallen, W7EL

4391. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 09:23:56 UTC
From: Alan Peake <adpeake@killspam.internode.on.net>
Message-ID: <4621EF2C.5090800@killspam.internode.on.net>
Source record: 42892

Walter Maxwell wrote:
.
.

> We have thus proved that the virtual short circuit established at the stub point is
actually performing as a
> real short circuit.
.
.

> Walt, W2DU

It is interesting to look at a single short pulse propagating along the
TL. At the stub point, the pulse must encounter a discontinuity in
impedance and therefore there will be a reflection. This can been seen
on a TDR. So there is a real reflection from a stub regardless of
whether or not it is a virtual short.
Alan
VK2ADB

4392. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 10:26:49 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <1323vfk8e5qbra0@corp.supernews.com>
Source record: 42896

I'm not sure how many times it's worthwhile to keep repeating this, but
I guess I'll give it another couple of tries before giving up.

Richard Harrison wrote:
> Roy Lewallen, W7EL wrote:
> "If you`ll read what I`ve written, you`ll hopefully see that my only
> point of contention is with your claim that waves reflect from a
> "virtual short". They do not."
>
> Seems to me they do.
>
> If you are lucky enough to have a copy of Terman`s 1955 opus, we can
> reason together.

Sorry, I'm not. All I have is a 1947 Third Edition of _Radio
Engineering_. I'm unfortunately stuck with having to think for myself.
But I trust you to quote him accurately, and Terman is to be trusted.

> On page 91 is found Fig. 4-3 Vector (phasor) diagrams showing manner in
> which incident and reflected waves combined to produce a voltage
> distribution on the transmission line.

I'm sure they're correct, and similar diagrams can be found in many of
my other texts.

> At an open circuit, the voltage phasors are in-phase.

Yes. And the current phasors are out of phase.

> E2, the reflected phasor, rotates clockwise as it travels back toward
> the source.
>
> E1, the incident phasor, rotates counter-clockwise as we look back
> toward the source.

Yes. These of course follows from the mathematical analysis of
transmission lines, found in many texts, and with which I'm very familiar.

> Looking 1/4-wavelength back from the open-circuit, E2 and E1, each
> having rotated 90-degrees, but in opposite directions, are now
> 180-degrees out-of-phase.
>
> On page 92, Fig. 4-4 shows the current, which summed to zero at the open
> circuit, has risen to its maximum value at 1/4-wavelength back from the
> open-circuit while the voltage dropped to its minimum, nearly zero,
> maybe close enough to declare a "virtual short-circuit", 1/4-wavelength
> back from the open-circuit.

Yes, this is universally known.

> What`s a short-circuit? Little voltage and much current.

Well, at a short circuit you'll find zero volts and any current. You'll also find this at other places which aren't short circuits, such as where multiple voltage waves add to zero and at the summing junction of a perfect op amp. These aren't short circuits, but they are points of zero voltage. Saying they are all the same is like saying that because you find water in a creek, any place you find water must be a creek. What sort of logic is that?

> What`s the difference between a physical short and the virtual short?
> Nothing except the shunting conductor.

Well, yes. For one thing, waves won't reflect from a virtual short. They will, from a real short. Another difference is that a real short will prevent any waves from proceeding beyond it; they pass right through a virtual short. Good thing, too, or you wouldn't get any power to your load. Another is behavior at other frequencies and with other waveshapes. Walt has mentioned another, that a virtual short acts like a real short only in one direction, even when all the other conditions for similarity are met.

> Is there current flowing at the open-circuit end of the 1/4-wave line
> segment? No, the open-circuit won`t support current.

Correct, of course.

> If a high-impedance generator of the same frequency were connected to
> the virtual short point on the line, would it also be shorted? Yes.
> Where? At the virtual short, not the open-circuit at the end of the
> line.

Well, yes and no. When you first hook it to the virtual short, it won't be shorted -- it'll see just the Z0 of the cable. Only when its output reaches the end of the stub, reflects back, and adds to the forward wave will it be short circuited. So it's the open end of the line which is essential to creating the apparent short at the generator.

Now let us, as you say, reason together.

You're pointing out some similarities between a virtual short and a real one, and giving that as evidence that waves reflect from a virtual short. So consider a point on a 50 ohm line at which the forward and reverse waves add to a V/I of, say, 10 ohms, purely resistive to keep it simple. If you connect a generator (of the correct frequency) at that point, it will see 10 ohms after things settle down to steady state, just like your generator saw a short circuit at the "virtual short" in steady state. So can we conclude that a traveling wave will partially reflect when it encounters the 10 ohm point? The effective or "virtual" reflection coefficient can be calculated as -2/3, from which the reflected wave can be calculated. And, in fact, if we assume that such a reflection takes place, we can calculate the magnitude and phase of the

resulting wave and, sure enough, there it will really be.

But if the wave does really reflect from this "virtual discontinuity", we might have a problem. That point is a ways away from the "virtual short" point (check your Terman diagram if you don't follow), so we have a partial reflection occurring at this point as well as the full reflection from the "virtual short". In fact, unless the line is matched, we'll have reflections from every point along the line, or at best everywhere except an infinitesimally short spot every half wavelength! What a mess! Does Terman describe this problem in his book? A diagram, perhaps, showing the infinite number of partial reflections taking place all along the line?

No? Well, then, maybe it takes a perfect "virtual short" to get a reflection, and even a tiny, tiny imperfection will prevent it. So that would mean that you'd get no reflection at all from a "virtual almost-short" on even a very slightly lossy line, right? The whole idea goes to pot when you add even a tiny amount of loss? Or is a little loss ok? Then we get a full reflection from a good or pretty good "virtual short", but nothing if it gets too far from perfection. Do me a favor and check your Terman for an equation or graph which shows just where this abrupt transition point is (that is, at what "virtual resistance" the reflection ceases), and why it exists.

Help me out here with my reasoning.

Roy Lewallen, W7EL

4393. Re: Effects of TOA

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 11:55:30 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <462212ab$0$17190$4c368faf@roadrunner.com>
Source record: 42330

"Sal M. Onella" <salmonella@food.poisoning.org> wrote in message
news:0ujUh.144360$g24.22665@newsfe12.phx...
>
> "JIMMIE" <JIMMIEDEE123@YAHOO.COM> wrote in message
> news:1176507685.239011.286640@n76g2000hsh.googlegroups.com...
>> While operating on 10M I have observed that a halfwave vertical dipole
>> will communicate to different areas than a 1.25wl vertical monopole an
>> example would be that during a band opening the 1/2 wl antenna may be
>> working predominantly into New York while the 1.25 wl antenna is
>> working best in California or was it vice versa. This has proven
>> useful for me, instead of fighting a pile-up and can just talk
>> somewhere else. The two verticals may soon be replaced with a tri-
>> bander and I was wondering if I could get this same type of effect by
>> tilting the antenna vertically(no change in polarity) with a remote
>> controlled device. I think it would be pretty cool to hear different
>> areas of the country pop in and out as the elevation of the antenna is
>> changed.
>
> It would work, theoretically, for a small change but I doubt you'd ever
> notice the effect.
>
> You need a very directional (many elements) antenna to see a big
> difference
> in the amount of signal in the elevation plane. High gain UHF TV antennas
> do have tilters, but it's to match the angle of arrival of the signal,
> which
> may be coming out of a duct or reflected off a nearby ridge. See a sample
> at http://www.atechfabrication.com/products/atfv200_economy_tilter.htm
>
> Most tribanders are three elements and have a 3dB beamwidth of about 60
> degreees in the azimuth (plan view) plane -- worse in the elevation plane.
>
> Further complication: The ground affects the shape of the elevation
> pattern, maybe more than any tilt you could apply. You might better
> fine-tune the angle of arrival by cranking a tower section up and down.
>
> "Sal"
>
>

Thats really what I thought to, I dont think it would be practical to
implament with a yagi. I have too also admit the extreme variations I
reported while using the verticals is pretty rare and I made them sound more
common than they reallly are.

Jimmie

4394. Help with AM Broadcaster

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 12:55:42 UTC
From: courir26@yahoo.com
Message-ID: <1176641742.157686.190690@o5g2000hsb.googlegroups.com>
Source record: 42332

I'm getting lots of noise from a local broadcaster and am looking for assistance in stopping the problem. Their freq is 1330 KHz, 5KW. They are putting out a wideband garbled signal several channels wide centered at 1120 KHz. There is a similar wideband hash up higher centered at around 1490 or so, and God only knows where else. When they play Dr. Laura on 1330, I can hear a garbled Dr. Laura all over the band. I am about 3 miles from the station but yesterday I was driving and could hear the trash 20 miles out on 1120. I've driven down I-10 in both directions from the station and their noise reaches out at least 20 miles. The station's response is that other stations also carry Dr. Laura. Please . . . . not on a dozen channels in a row with your station ID!

I've talked to the station manager several times and the engineer a couple of times and even though they will talk to me and are friendly folks, they have not fixed it. They got a new transmitter last fall and this is when it started. I've been listening here for about 30 years and this is a new problem.

I'm going to talk with the engineer one more time and then plan to write the FCC. If anyone has advice, please advise.

Thanks
Tom
La

4395. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 13:00:23 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <HlpUh.10617$Kd3.4336@newssvr27.news.prodigy.net>
Source record: 42333

Ian White GM3SEK wrote:
> Cecil Moore wrote:
>> "... when two waves of equal amplitude and wavelength that
>> are 180-degrees ... out of phase with each other meet, they
>> are not actually annihilated, ... All of the photon energy
>> present in these waves must somehow be recovered or redistributed
>> in a new direction, according to the law of energy conservation ...
>> Instead, upon meeting, the photons are redistributed to regions
>> that permit constructive interference, so the effect should be
>> considered as a redistribution of light waves and photon energy
>> rather than the spontaneous construction or destruction of light."
>
> The killer is that word "somehow"... "all of the photon energy must
> somehow be redistributed".

That's not a killer, Ian, that's a challenge to people
like me to figure out how. If there is indeed a "somehow",
then there has to be a "how". Please don't try to dampen
my curiosity like the church priests tried to dampen Galileo's
curiosity.

> Well of course it must! Nobody denies that conservation of energy will
> hold, in a system with properly defined boundaries. But the weakness of
> a photon model is that it cannot provide a detailed nuts-and-bolts
> explanation of the mechanism by which that energy becomes redistributed
> in time and space.

I'm sure a QED explanation exists but we might have trouble
understanding it. I would like for you and others to follow
me through an energy analysis to see if you can find anything
technically wrong with it besides your revulsion to the approach.

> A wave model will provide all of that detail - and in transmission-line
> problems we can use it. If we trace what happens to forward and
> reflected waves of voltage (and/or current) we can predict the
> magnitudes and phases of those quantities at any location, at any
> instant. That gives us a complete time-dependent map of the voltage and
> current across the entire system.
>
> From that, we can also find out where the energy is - the inputs,
> outputs, losses and stored energy. Sure enough, we will find that energy
> is conserved within the system boundaries... but that is no big deal, we
> always knew it would. In a wave model, conservation of energy is
> something you should check for, but only as an overall confirmation that
> you've done the sums correctly. All the useful detail came from the

> analysis of the voltage and/or current waves.

I agree with everything except your last sentence.
There is lots of useful information to be had from
tracking the energy through the system including
how and why the energy in the reflected wave changes
direction and momentum. If you think that information
doesn't matter or is not useful, then that's your
opinion. But please don't condemn the individuals who
find that information useful and go for an explanation.
And please don't say that explanation is wrong if you
cannot prove it to be invalid.

In the process of tracing forward and reflected waves,
we must remember that they obey the laws of physics
including their energy contents. The average forward energy
per unit time in a forward voltage of Vf RMS volts is
Vf^2/Z0 joules/sec, an assumption upon which the S-Parameter
analysis system is based. The average reflected energy per
unit time in a reflected RMS voltage is Vr^2/Z0 joules/sec.

In an S-Parameter analysis, if you square any of the
normalized voltage terms, you get joules/sec. Someone
said that at microwave frequencies, the powers are
often easier to measure than the voltages and currents.
The powers can be measured and the voltages and currents
calculated from the power measurements.

In optics, physicists don't have the luxury of dealing
with voltages and currents. They must necessarily deal
with energy and power. That field of physics is older
(and wiser) than RF engineering and they deal with power
reflection coefficients, not voltage reflection coefficients.
--
73, Cecil http://www.w5dxp.com

4396. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 13:02:36 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <MnpUh.10618$Kd3.5531@newssvr27.news.prodigy.net>
Source record: 42334

Roy Lewallen wrote:
> Richard Harrison wrote:
>> If the virtual short were replaced with a real short, would anything
>> change? Not a thing except the line voltage distribution diagram would
>> lose its final 1/4-wavelength.
>
> Don't you consider it a significant difference that no voltage, current,
> or power would reach the load?

:-) :-) That's what I asked when you said the
virtual load on a transmitter could be replaced
with a lumped circuit "without changing anything".
--
73, Cecil http://www.w5dxp.com

4397. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 13:07:45 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <BspUh.10619$Kd3.1382@newssvr27.news.prodigy.net>
Source record: 42336

Roy Lewallen wrote:
> It's imperative to
> constantly be aware of the range over which those models are valid, and
> alert to any situation which might make the model invalid.

Roy, if your model prohibits interaction of coherent
waves, it is seriously flawed.
--
73, Cecil http://www.w5dxp.com

4398. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 13:23:21 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <cHpUh.355$Ir2.85@newssvr17.news.prodigy.net>
Source record: 42337

Richard Harrison wrote:
> Roy Lewallen, W7EL wrote:
> "If you`ll read what I`ve written, you`ll hopefully see that my only
> point of contention is with your claim that waves reflect from a
> "virtual short". They do not."
>
> Seems to me they do.

I wonder if we can agree that if there is no physical
impedance discontinuity, there can be no reflections?

For instance, given a piece of 50 ohm open-ended coax
with a driving source:

source-----50 ohm coax-----+---1/4WL 50 ohm coax--open

There is a virtual short at point '+' and that virtual
short exists at a point where there is no physical
impedance discontinuity. Can we agree that the forward
wave is unaffected by that virtual short? Can we agree
that the reflected wave is unaffected by that virtual
short? After all, there is absolutely nothing there
that can physically disrupt any waves.

Or given one wavelength of coax being driven by a signal
generator equipped with a circulator load.

SGCL---1/4 WL---x---1/4WL---y---1/4WL---x---1/4WL---open

There are obviously reflections at the open. Are there
any reflections at the virtual open at 'y'? Are there
any reflections at the virtual shorts at 'x'? I would
submit that in the above example, the *only* reflections
in the entire system are happening at the open end of
of the coax and that the virtual shorts and opens are
themselves effects and not the cause of anything (except
maybe arguments) :-)
--
73, Cecil http://www.w5dxp.com

4399. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 13:42:07 UTC
From: richardharrison@webtv.net
Message-ID: <19453-46222BAF-464@storefull-3251.bay.webtv.net>
Source record: 42898

Roy Lewallen wrote:
"Don`t you consider it a significant difference that no voltage,
current, or power would reach the load?"

No, because the example`s load is a perfect open-circuit despite Richard Clark`s disdain for good insulators. From the shorting point all the way back to the generator, the voltage distribution is unchanged, real short or virtual short. (I did not say unchanging.)

Best regards, Richard Harrison, KB5WZI

4400. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 13:53:16 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <c5a423dqb9qelubq4pf4chvk3u95s5kjds@4ax.com>
Source record: 42897

On Sun, 15 Apr 2007 19:23:56 +1000, Alan Peake <adpeake@killspam.internode.on.net> wrote:

>
>
>Walter Maxwell wrote:
>.
>.
>
>
>> We have thus proved that the virtual short circuit established at the stub point is actually performing as a
>> real short circuit.
>.
>.
>
>> Walt, W2DU
>
>It is interesting to look at a single short pulse propagating along the
>TL. At the stub point, the pulse must encounter a discontinuity in
>impedance and therefore there will be a reflection. This can been seen
>on a TDR. So there is a real reflection from a stub regardless of
>whether or not it is a virtual short.
>Alan
>VK2ADB

I thank you for that, Alan, because, to continue, when the pulse is replaced with a sine wave, there is also a
reflection from the stub. And when going still further, since the stub presents a susceptance equal to the
line susceptance of the opposite sign at the stub point, some of the sine wave continues along the line and
reaches the mismatched termination, which also produces a real reflection. When the stub is placed at the
proper place on the line relative to the SWR (mismatch), the phase of the waves (voltage and current)
reflected from the load are opposite, respectively, to those of the waves reflected from the stub. The sum of
the voltage waves then yield a resultant reflection coefficient of 180ï¿½ and the sum of the current waves yield
a resultant of 0ï¿½, establishing a short circuit to both sets of reflected waves, but an open circuit to the
source waves.

For people who understand that fields (voltage and current) radiating from two vertical radiators that are of

the same magnitude and of opposite sign result in a null in their radiation pattern in a particular direction
must also understand that for the null to be established there must also be interaction, or interference, or
summing between the fields to cause the travel to cease in the null direction. These people also understand
that energy that was traveling in the null direction has been re-directed in another direction, raising the
level of the energy in that direction from the original level.

IMHO, these people can't have it both ways. If the fields interact, or interfere in space, such as in those
radiated from two radiators, then coherent fields traveling in a transmission line must also interact,
interfere, or sum. This is the concept on which I'm basing my impedance matching analogy using the summation
of reflection coefficients.

Walt

4401. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 13:56:24 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <aaqUh.356$lr2.140@newssvr17.news.prodigy.net>
Source record: 42899

Jim Kelley wrote:
> Partially reflective surfaces can (and are) in fact used to prevent
> reflections, just as they are used to 100% re-reflect partial
> reflections from a load.

Let's look at one of those reflective surfaces from
the standpoint of the forward wave in an S-Parameter
analysis.

a1---->|
|---->s21(a1)
s11(a1)<----|

a1 is the normalized forward voltage, e.g. 10
s11 is the voltage reflection coefficient, e.g. 0.707
s21 is the voltage transmission coefficient

|a1|^2 is the forward power called Pfor1 in my energy
analysis article.

|s11(a1)|^2 is the reflected power called P3 in my
energy analysis article.

|s21(a1)|^2 is the transmitted power called P1 in
my energy analysis article.

The point is that s11(a1) is a steady-state value for
normalized reflected voltage that never makes it through
the impedance discontinuity.

|s11(a1)|^2 is the steady-state reflected joules/sec
that never makes it through the impedance discontinuity.

Here is a fill in the blank question for you and anyone
else who wants to respond.

If a Z0-match exists, the above values of normalized voltage
and joules/sec do not reach the source during steady-state
because _____.
--
73, Cecil http://www.w5dxp.com

4402. Re: Effects of TOA

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 14:05:09 UTC
From: Mike Lucas <w5chr@bellsouth.net>
Message-ID: <2iqUh.11018$qB4.2231@bignews3.bellsouth.net>
Source record: 42900

"Jimmie D" wrote
> While operating on 10M I have observed that a halfwave vertical dipole
> will communicate to different areas than a 1.25wl vertical monopole an
> example would be that during a band opening the 1/2 wl antenna may be
> working predominantly into New York while the 1.25 wl antenna is
> working best in California or was it vice versa. This has proven
> useful for me, instead of fighting a pile-up and can just talk
> somewhere else. The two verticals may soon be replaced with a tri-
> bander and I was wondering if I could get this same type of effect by
> tilting the antenna vertically(no change in polarity) with a remote
> controlled device. I think it would be pretty cool to hear different
> areas of the country pop in and out as the elevation of the antenna is
> changed.
>
I don't know how you missed it, but there have been several threads
here recently about TOA, tilting antenna elements, purity of polarity,
ect...A google search on Art Unwin will provide more than you'll
ever want to know, especially about mental health and junk science.
The demo version of EZNEC should also provide you with plenty
of useful answers, and will sink enough of your time to keep you off
the streets and out of the bars!Several programs will allow you to
model effects of changing antenna heights (only one of a multitude of
variables) on the resulting signal path.
Keep us here on RRAA posted on your results, and gud luck in
the contests!

Mike W5CHR

4403. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 14:18:28 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <SuqUh.359$Ir2.251@newssvr17.news.prodigy.net>
Source record: 42901

Walter Maxwell wrote:
> ... then coherent fields traveling in a transmission line must also interact,
> interfere, or sum.

There is no doubt that Roy is absolutely wrong when he
asserts that coherent EM waves do not interact. Every
time we tune our antenna tuners to zero reflected energy,
we are causing EM waves to interact following the rules
of *linear* interference. All those waves, inductors,
and capacitors within the antenna tuner are operating
within a linear environment. If they weren't, we would
generate lots of harmonics.

Seems to me, the only valid point of argument is whether
a purely virtual impedance is a cause or an effect.
--
73, Cecil http://www.w5dxp.com

4404. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 14:25:25 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <nBqUh.360$Ir2.182@newssvr17.news.prodigy.net>
Source record: 42902

Cecil Moore wrote:
> The point is that s11(a1) is a steady-state value for
> normalized reflected voltage that never makes it through
> the impedance discontinuity.

I ended the sentence too soon. It never makes it through
the impedance discontinuity without help from somewhere.

> |s11(a1)|^2 is the steady-state reflected joules/sec
> that never makes it through the impedance discontinuity.

Same here: It never makes it through the impedance discontinuity
without help from somewhere.

> If a Z0-match exists, the above values of normalized voltage
> and joules/sec do not reach the source during steady-state
> because _____.

What is the nature of that "help from somewhere"?
--
73, Cecil http://www.w5dxp.com

4405. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 14:49:31 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <%XqUh.46875$VU4.29779@bgtnsc05-news.ops.worldnet.att.net>
Source record: 42903

Cecil Moore wrote:
> Jim Kelley wrote:
>> Partially reflective surfaces can (and are) in fact used to prevent
>> reflections, just as they are used to 100% re-reflect partial
>> reflections from a load.
>
> Partially reflective surfaces cannot, by themselves,
> reflect 100% of the incident energy. If it's partial,
> it's not 100%, by definition. Any partially reflective
> surface needs help from interference in order to
> achieve 100% reflection. You know, that interference
> that you deny exists.
>
>> That was the main point of my post, Cecil. The reflective coefficient
>> DOES NOT CHANGE. You're the one who claims that it does.
>
> You continue to lie about what I said. I have said any
> number of times that the physical reflection coefficient,
> s11, is fixed and does NOT change. Why does someone who
> is technically correct need to stoop to lying?
>
>> There is no energy "in" cancelled waves.
>
> The waves existed along with their energy components before
> they were canceled. What happens to those energy components
> after the waves are canceled. If one sets one phase equal
> zero and the other phase equal 180 degrees, what happens to
> the energy in the two waves at:
>
> http://micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/waveinteractions/index.html
>
>
> There are two waves on the left existing with their respective
> voltage and joules/sec. The result of total destructive interference
> is zero voltage and zero joules/sec. What happened to the original
> joule/sec components?

Cecil,

I pointed out a few days ago that the FSU Java applet you lean on so heavily these days is a simple tutorial device designed by a grad student and a programmer. As shown, it is physically impossible, since there is no mechanism in place to cause the waves to suddenly jump together and interfere.

It is a useful picture showing how sine waves with differing phases add together; no more and no less. It is a simple matter of mathematics. It is not a new discovery in the world of RF or optics.

73,
Gene
W4SZ

4406. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 15:26:57 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <5vrUh.46952$VU4.14896@bgtnsc05-news.ops.worldnet.att.net>
Source record: 42904

Cecil Moore wrote:
> Jim Kelley wrote:
>> So I'm happy to
>> leave it to you to explain to Cecil how waves cancel but without
>> anhiliating the energy "in" them.
>
> But that's just the point, Jim. You seem to believe the
> pre-existing energy in those waves has been destroyed.
> They obviously possessed energy before cancellation and
> you say they possess zero energy after cancellation. If
> that pre-existing energy is not destroyed, where did it go?

Cecil,

Now that you have access to a copy of Born and Wolf, you might dig inside to see if you can improve your understanding of conservation of energy. It is not quite as simple as you seem to believe.

B&W discuss the Poynting vector and its use in an overview in the first chapter. I don't have the 4th edition. I have a couple of later editions that contain identical language, so perhaps the same thing is in the 4th edition.

In any case, here is the relevant quote. My explanations are enclosed in [...]. Otherwise the paragraph is completely intact.

"It should be noted that the interpretation of S [Poynting vector] as energy flow (more precisely as the density of energy flow) is an abstraction which introduces a certain degree of arbitrariness. For the quantity which is physically significant is, according to (41), not S itself, but the integral of S [dot] n taken over a closed surface. Clearly, from the value of the integral, no unambiguous conclusion can be drawn about the detailed distribution of S, and alternative definitions of the energy flux density are therefore possible. One can always add to S the curl of an arbitrary vector, since such a term will not contribute to the surface integral as can be seen from Gauss' theorem and the identity div curl = 0. However, when the definition has been applied cautiously, in particular for averages of small but finite regions of space or time, no contradictions with experiments have been found. We shall therefore accept the above definition in terms of the Poynting vector of the density of the energy flow."

[S and n are vectors, shown in bold type in the original.]

Now for my comments.

Two important concepts are contained in the B&W quote. First, the math involved with Poynting vectors is not quite as simple as many amateur radio operators seem to believe. It does not make any sense to simply add and subtract Poynting vectors in elementary fashion and expect to get correct results. This is true even for your favorite case of a one-dimensional problem such as a transmission line.

Second, the Poynting vector by itself means little. It is only the integral over a closed surface that has physical reality. In your favorite case of reflections and re-reflections the only useful non-trivial application of the Poynting vector would be the integration of the Poynting vector over a small region that includes the line discontinuity inside. And even then, only the total energy balance can be determined. Put in direct terms, there is no available information, and no need for any information about what happens to the energy contained in the various component waves you like to consider. It simply does not matter. The only energy balance that counts is the net energy flowing through the surface of the integration volume. Anything else is merely in your imagination. B&W allow you to add anything you like, as long as it is the curl of a vector. But there is no physical reality in doing so.

It has been pointed out numerous times that modern physical theory is correct by design. Ian again pointed out that fact earlier today. If the wave equations, the field equations, force equations, or whatever are analyzed correctly the energy balance will automatically work out correctly as well. A check of energy balance is sometimes useful to highlight any errors that might have been made in the math, but no new physical information should be expected.

Finally, it is well known by all physicists, and I believe most engineers, that energy considerations by themselves can be very useful for analyzing physical problems. Much of higher level classical mechanics and essentially all of quantum mechanics techniques are energy based. The so-called Hamiltonian formulation is well-known and widely used. It is no more or less correct than techniques based on forces and other fields, but the Hamiltonian technique is often much more computationally convenient.

73,
Gene
W4SZ

4407. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 16:06:34 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <e4sUh.16860$Um6.10782@newssvr12.news.prodigy.net>
Source record: 42905

Gene Fuller wrote:
> I pointed out a few days ago that the FSU Java applet you lean on so
> heavily these days is a simple tutorial device designed by a grad
> student and a programmer. As shown, it is physically impossible, since
> there is no mechanism in place to cause the waves to suddenly jump
> together and interfere.

Good Grief, Gene! You are arguing that because you cannot
view them in the present that they never existed in the
past. Such is nonsense.The left hand side is a historical
plot of the points of the waves before they interfere.
Of course, those points only exist back in history and
no longer exist in the present because everything in the
present is happening at a point. Do you also deny the
existence of the historical yearly temperature plot points
because they don't still exist today? Please get real.
Here's a temperature chart to which you can apply your
"impossible" logic concepts.

http://en.wikipedia.org/wiki/Global_warming

Paraphrasing your idea: "As shown, it is physically
impossible, since there is no mechanism in place to
cause more than one temperature to exist at the
present time."

That java example is an example of implementing the
S-Parameter equation b1 = s11(a1) + s12(a2) which
is CERTAINLY NOT IMPOSSIBLE. By adjusting the magnitudes
and phase angles of a1 and a2, any degree of interference
can be obtained. One wave is s11(a1) and the other wave
is s12(a2). Of course, the interference happens at a point
(or plane) so fast that it is impossible to view in real
time. But by using deductive reasoning and the known
laws of physics, we are able to come up with valid java
scripts like the above. Your confusion is in assuming
all those points have to exist simultaneously in the
present, a really, really ridiculous notion.

They do not and cannot exist simultaneously in the present
just as temperatures on a temperature plot of past years
do not and cannot exist in the present anymore. Those points
on the java script existed back in time and are plotted in
a similar manner to plotting temperatures that no longer
exist in the present.
--

73, Cecil http://www.w5dxp.com

4408. Re: Help with AM Broadcaster

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 16:06:55 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <fcj42392oo8mq7l3lomssq96oc624h7tjh@4ax.com>
Source record: 42906

On 15 Apr 2007 05:55:42 -0700, courir26@yahoo.com wrote:

>If anyone has advice, please advise.

Can you duplicate this on another radio?

73's
Richard Clark, KB7QHC

4409. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 16:16:42 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <KdsUh.47057$VU4.1434@bgtnsc05-news.ops.worldnet.att.net>
Source record: 42907

Cecil Moore wrote:
> Gene Fuller wrote:
>> I pointed out a few days ago that the FSU Java applet you lean on so
>> heavily these days is a simple tutorial device designed by a grad
>> student and a programmer. As shown, it is physically impossible, since
>> there is no mechanism in place to cause the waves to suddenly jump
>> together and interfere.
>
> Good Grief, Gene! You are arguing that because you cannot
> view them in the present that they never existed in the
> past. Such is nonsense.The left hand side is a historical
> plot of the points of the waves before they interfere.
> Of course, those points only exist back in history and
> no longer exist in the present because everything in the
> present is happening at a point. Do you also deny the
> existence of the historical yearly temperature plot points
> because they don't still exist today? Please get real.
> Here's a temperature chart to which you can apply your
> "impossible" logic concepts.
>
> http://en.wikipedia.org/wiki/Global_warming
>
> Paraphrasing your idea: "As shown, it is physically
> impossible, since there is no mechanism in place to
> cause more than one temperature to exist at the
> present time."
>
> That java example is an example of implementing the
> S-Parameter equation b1 = s11(a1) + s12(a2) which
> is CERTAINLY NOT IMPOSSIBLE. By adjusting the magnitudes
> and phase angles of a1 and a2, any degree of interference
> can be obtained. One wave is s11(a1) and the other wave
> is s12(a2). Of course, the interference happens at a point
> (or plane) so fast that it is impossible to view in real
> time. But by using deductive reasoning and the known
> laws of physics, we are able to come up with valid java
> scripts like the above. Your confusion is in assuming
> all those points have to exist simultaneously in the
> present, a really, really ridiculous notion.
>
> They do not and cannot exist simultaneously in the present
> just as temperatures on a temperature plot of past years
> do not and cannot exist in the present anymore. Those points
> on the java script existed back in time and are plotted in

> a similar manner to plotting temperatures that no longer
> exist in the present.

Cecil,

Why don't you simply stop being such a nitwit. I understand perfectly what the Java applet is and is not. S-parameters are not a new branch of science. No one is confused except you.

73,
Gene
W4SZ

4410. Re: Effects of TOA

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 16:23:15 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <mhj423drbp6ie7cgn0u5oq1obthc0botbc@4ax.com>
Source record: 42908

On 13 Apr 2007 16:41:25 -0700, "JIMMIE" <JIMMIEDEE123@YAHOO.COM>
wrote:

>I have observed that a halfwave vertical dipole
>will communicate to different areas than a 1.25wl vertical monopole

Hi Jimmie,

A low halfwave operates best at 16 degrees; a quarterwave works best
in the 20s of degrees; while a 1.25 wavelength antenna works best in
the high 50s of degrees.

This presumes the last two are both ground mounted. Given that any of
these presumptions are at best a guess, then the numbers are merely
for guidance as reality may be vastly different (you really haven't
given us enough information). Actual physical size and elevation help
considerably. Also, as this is 10M, was some of the traffic from the
neighborhood (within 20 miles)?

73's
Richard Clark, KB7QHC

4411. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 16:31:54 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <_rsUh.16869$Um6.9916@newssvr12.news.prodigy.net>
Source record: 42909

Gene Fuller wrote:
quoting Born & Wolf:
> "However, when the definition has
> been applied cautiously, in particular for averages of small but finite
> regions of space or time, no contradictions with experiments have been
> found. We shall therefore accept the above definition in terms of the
> Poynting vector of the density of the energy flow."

There's the meat of the quote as far as transmission lines
are concerned. Given that transmission lines are "small but
finite regions of space or time", and since there are only
two possible directions in a transmission line, Born and
Wolf seem to give us permission to do exactly what you
are complaining about. Your concerns about light waves
in three dimensional free space just don't exist for the
primarily single dimensional "space" in a transmission line.
Ideally, the power density exists only between the inner and
outer conductors of the coax.

> It does not make any sense to simply
> add and subtract Poynting vectors in elementary fashion and expect to
> get correct results.

Born & Wolf's own words in the quote above provided by you
contradict that assertion.

> It simply does not matter.

You sure make a lot of postings about it for it not
to matter to you. :-) It certainly matters to me
and others and we will not stop the discussion
until it is resolved to everyone's satisfaction.
What are you afraid we will uncover if we keep
digging? Your ignorance?

> It has been pointed out numerous times that modern physical theory is
> correct by design. Ian again pointed out that fact earlier today. If the
> wave equations, the field equations, force equations, or whatever are
> analyzed correctly the energy balance will automatically work out
> correctly as well.

The assertions that reflected waves don't exist or if they
do exist, they contain no energy, are false assertions. Trying
to sweep them under the rug by mealy-mouthing some automatic
energy balance religion is just another copout.
--

73, Cecil http://www.w5dxp.com

4412. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 16:37:07 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <TwsUh.16871$Um6.13812@newssvr12.news.prodigy.net>
Source record: 42910

Gene Fuller wrote:
> Why don't you simply stop being such a nitwit. I understand perfectly
> what the Java applet is and is not. S-parameters are not a new branch of
> science. No one is confused except you.

Before I explained it to you, you obviously had no
clue what that java script represented since you
said it was impossible. Not only is it possible,
it happens every time someone adjusts an antenna
tuner for a match.
--
73, Cecil http://www.w5dxp.com

4413. New Propagation Group at Groups.Yahoo.com

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 17:25:25 UTC
From: Rockinghorse Winner <rockinghorse@anonymous.to>
Message-ID: <46226005$0$14094$742ec2ed@news.sonic.net>
Source record: 42911

I just would like to alert readers to a new group on Yahoo to tell others
and read what others have written about prevailing propagation. I have
found that the standard propagation sites often do not tell you how condx
are exactly at the moment in your particular QTH. The propagation site seems
like a good place to see what others are experiencing propagation-wise, or
to tell others what it's like at your QTH.

Thank you.

Lee
NY6P

4414. Re: New Propagation Group at Groups.Yahoo.com

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 17:46:42 UTC
From: Jim <denews@taborsoft.com>
Message-ID: <1324p831262j41d@corp.supernews.com>
Source record: 42912

Hi,

Thanks sounds like a good deal.

In addition you and download the QSL-ware version of GeoAlert-Extreme Wizard and have info available at-a glance.
http://www.taborsoft.com/gawiz

73,
Jim KU5S

Rockinghorse Winner wrote:
> I just would like to alert readers to a new group on Yahoo to tell others

4415. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 18:16:53 UTC
From: richardharrison@webtv.net
Message-ID: <11430-46226C15-616@storefull-3253.bay.webtv.net>
Source record: 42914

Cecil, W5DXP wrote:
"I wonder if we can agree that if there is no physical impedance discontinuity, there can be no reflection?"

Terman says on page 118 of his 1955 opus:
"When a wave traveling along a transmission line encounters an isolated discontinuity, it is partially reflected; i.e., while a portion of the wave continues to travel down the line, another portion of the wave is reflected backwards."

On page 119 Terman says:
"A traveling wave passing through such a section (a tapered transmission line to gradually and continuously change its impedance from one value to another) will have its ratio of voltage to current transformed in accordance with the ratio of the characteristic impedances involved."

Abrupt changes in impedance are discontinuities which produce reflections. These are secondary energy sources.

Total reflection produced the wave distribution diagrammed in Fig. 4-3 on page 91, from an open-circuit on the line.

I see that a virtual short-circuit results 1/4-wave back from the open circuit and the "short" is repeated 1/2-wave back from the first virtual short. Through all the virtual shorts and opens, Terman shows the incident and reflected waves progressing unimpeded.

I believe that if a generator is connected through 1/4-wave of transmission line to a real short, 360-degrees of phase rotation presents the generator with a voltage which is almost of the same phase and magnitude as the generator`s output. Almost no current flows either into the short or back into the generator. It is similar to connecting nearly identical transformer windings in parallel.

Hybrid ring isolators are also constructed of 1/4-wave transmission line sections, and whether a port accepts or rejects energy results from voltage distributions at the ports, I think.

Best regards, Richard Harrison, KB5WZI

4416. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 18:22:59 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1176661379.184589.267210@n76g2000hsh.googlegroups.com>
Source record: 42913

On Apr 14, 8:57 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Jim Kelley wrote:
> > So I'm happy to
> > leave it to you to explain to Cecil how waves cancel but without
> > anhiliating the energy "in" them.
>
> But that's just the point, Jim. You seem to believe the
> pre-existing energy in those waves has been destroyed.
> They obviously possessed energy before cancellation and
> you say they possess zero energy after cancellation. If
> that pre-existing energy is not destroyed, where did it go?
> --
> 73, Cecil http://www.w5dxp.com

As I said, Cecil, your ideas about waves 'possessing energy' need a
little work.

ac6xg

4417. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 18:38:11 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <niuUh.16896$Um6.7312@newssvr12.news.prodigy.net>
Source record: 42915

Richard Harrison wrote:
> Through all the virtual shorts and opens, Terman shows the
> incident and reflected waves progressing unimpeded.

Suggesting that a virtual short or virtual open, by itself,
doesn't cause reflections which is what I think others are
trying to say. Reflections associated with virtual shorts
and virtual opens always occur with some extra ingredients,
like physical impedance discontinuities, the very existence
of which makes one wonder if they might somehow be
associated with the reflections. Reflections always occur
at physical impedance discontinuities.
--
73, Cecil http://www.w5dxp.com

4418. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 18:55:43 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1176663343.348904.315060@o5g2000hsb.googlegroups.com>
Source record: 42916

On Apr 14, 9:31 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Roy Lewallen wrote:
> > K7ITM wrote:
> >> . . .
> >> It's a useful visualization tool and design aid; it's a poor analysis
> >> tool at best. At worst, it will lull you into building something that
> >> just won't work, wasting time and resources.
>
> > In my opinion, the potential harm can be much worse. If it causes you to
> > buy into the notion that traveling waves interact in a linear medium,
> > that opens the door to a whole universe of invalid conclusions.
>
> Here is how Hecht described interference in "Optics":
> "... interference corresponds to the *interaction* of two or
> more lightwaves yielding a resultant irradiance that deviates
> from the sum of the component irradiances."
>
> If traveling waves cannot interact in a linear medium, why
> does Hecht say they do indeed interact?

It is exactly that kind of misleading terminology that has caused his
text to fall out of favor among many physics faculty.

> To deny the body of laws of physics regarding EM waves from
> the field of optics is an example of extreme ignorance.

You really aren't qualified to speak on behalf of the field of optics,
Cecil. You aren't quaified to speak on behalf of Eugene Hecht either,
for that matter. However, I think Dr. Hecht is still around so
perhaps you can persuade him to back you up. Be sure to ask him what
he thinks about the 4th mechanism of reflection.

ac6xg

4419. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 18:58:31 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <rBuUh.16899$Um6.16277@newssvr12.news.prodigy.net>
Source record: 42917

Jim Kelley wrote:
> As I said, Cecil, your ideas about waves 'possessing energy' need a
> little work.

Complete lack of technical content or technical defense
of your assertions is noted - nothing but a bunch of
hand-waving.

One more challenge for you, Jim. If you can prove that
an EM wave can exist without the associated ExB energy, you
will no doubt win a Nobel Prize in Physics.

Here's what Hecht says: "Any electromagnetic wave exists
within some region of space, and it is therefore natural
to consider the *radiant energy per unit volume*, or
energy density. We suppose that the electric field itself
can somehow store energy. This is a major logical step
since it imparts to the field the attribute of physical
reality - if the field has energy, it is a thing-in-itself."

Maybe it's past time for you to take that logical step
that Hecht took so long ago?

"To represent the flow of electromagnetic energy associated
with a traveling wave, let 'S' symbolize the transport of
energy per unit time (the power) across a unit area. ...
it has come to be known as the *Poynting vector*."

Hecht labels the energy per unit time in an EM wave as
"power". Hecht's Poynting vector equations contain cosine
terms. Hecht shoots down virtually every one of your
assertions and objections.

I notice you carefully avoided my S-Parameter example.
--
73, Cecil http://www.w5dxp.com

4420. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 19:05:24 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <UHuUh.16905$Um6.16308@newssvr12.news.prodigy.net>
Source record: 42918

Jim Kelley wrote:
>> If traveling waves cannot interact in a linear medium, why
>> does Hecht say they do indeed interact?
>
> It is exactly that kind of misleading terminology that has caused his
> text to fall out of favor among many physics faculty.

:-) Please argue with Hecht if he is still alive or with
his ghost if he is not.

> You really aren't qualified to speak on behalf of the field of optics,
> Cecil.

Oh yes, instead of anything technical, we get an argumentum
ad verecundiam from you, the delusionary diversion gurus use
when they are sure they already know everything. Jim, it is
obvious that you don't even understand the intensity equations
in Born and Wolf. Wade through the S-Parameter analysis that
I have started and I will prove it to you.
--
73, Cecil http://www.w5dxp.com

4421. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 19:06:47 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1176664007.869516.58500@l77g2000hsb.googlegroups.com>
Source record: 42919

On Apr 15, 2:03 am, Roy Lewallen <w...@eznec.com> wrote:

> After a number more frustrating and unresolved collisions with reality,
> he wisely quit and got a teaching job. I'm sure he did well in the
> academic world.

He doesn't sound like anyone I know that does "well" in the academic
world.

ac6xg

4422. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 19:23:50 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <aZuUh.16907$Um6.1441@newssvr12.news.prodigy.net>
Source record: 42920

Jim Kelley wrote:
> On Apr 15, 2:03 am, Roy Lewallen <w...@eznec.com> wrote:
>> After a number more frustrating and unresolved collisions with reality,
>> he wisely quit and got a teaching job. I'm sure he did well in the
>> academic world.
>
> He doesn't sound like anyone I know that does "well" in the academic
> world.

:-) You must be an academic. :-)
--
73, Cecil http://www.w5dxp.com

4423. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 19:50:33 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <alv423hmja4ernb7th5a7p616dsh49q6ok@4ax.com>
Source record: 42921

On Sun, 15 Apr 2007 09:18:28 -0500, Cecil Moore <nospam@w5dxp.com> wrote:

>Walter Maxwell wrote:
>> ... then coherent fields traveling in a transmission line must also interact,
>> interfere, or sum.
>
>There is no doubt that Roy is absolutely wrong when he
>asserts that coherent EM waves do not interact. Every
>time we tune our antenna tuners to zero reflected energy,
>we are causing EM waves to interact following the rules
>of *linear* interference. All those waves, inductors,
>and capacitors within the antenna tuner are operating
>within a linear environment. If they weren't, we would
>generate lots of harmonics.
>
>Seems to me, the only valid point of argument is whether
>a purely virtual impedance is a cause or an effect.

I quote from Terman, 1947 ed. page 109:
"The distance L1 from the load, and the length 'a' of the stub, are so chosen that the reflected wave produced
by the shunting impedance of the stub is equal in magnitude and opposite in phase to the reflected wave
existing on the line at this point as a result of the reflection from the load impedance ZL. Thus, although a
reflected wave is present in the length L1 because of the reflection from ZL, there is no reflected wave on
the generator side of the stub line as a result of the cancellation of the two reflected waves."

I maintain that Terman's statements above agree precisely with my statements introducing this thread, in which
I sum the reflection coefficients of the load and stub reflections to determine the cancellation of the two
reflected waves that result in the impedance match. Call it what you like, the condition at the stub point
totally re-reflects the two sets of reflected waves, but allows total passage of the source waves through the
junction of the main line and the stub.

Seems to me that the only disagreement with my original posting is whether the condition at the stub point can
be called a 'virtual' short circuit. If I'm outvoted on that term how about selecting another term for it that
everyone can agree on. I'm sure there is no disagreement on the wave analysis of the stub

matching circuitry.

Walt, W2DU

4424. Re: Effects of TOA

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 19:51:42 UTC
From: W4WNT <w4wnt@carolina.rr.com>
Message-ID: <46228274$0$24671$4c368faf@roadrunner.com>
Source record: 42923

I don't know about verticals vs. beams, but certainly you can hear different areas when using a vertical or using a dipole. I've used both during numerous contests and found that from NC a dipole hears the Caribbean while a vertical hears Argentina, Brazil and points south. This is a G5RV at about 30 feet.

The beams hearing ability may wash out this difference, but the "incoming" polarity has nothing to do with the "transmitted" polarity. This is why I have both available.

Good luck,

Bill, W4WNT

"JIMMIE" <JIMMIEDEE123@YAHOO.COM> wrote in message
news:1176507685.239011.286640@n76g2000hsh.googlegroups.com...
> While operating on 10M I have observed that a halfwave vertical dipole
> will communicate to different areas than a 1.25wl vertical monopole an
> example would be that during a band opening the 1/2 wl antenna may be
> working predominantly into New York while the 1.25 wl antenna is
> working best in California or was it vice versa. This has proven
> useful for me, instead of fighting a pile-up and can just talk
> somewhere else. The two verticals may soon be replaced with a tri-
> bander and I was wondering if I could get this same type of effect by
> tilting the antenna vertically(no change in polarity) with a remote
> controlled device. I think it would be pretty cool to hear different
> areas of the country pop in and out as the elevation of the antenna is
> changed.
>
> Jimmie
>

4425. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 19:52:22 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1176666742.578211.67790@w1g2000hsg.googlegroups.com>
Source record: 42922

On Apr 15, 11:58 am, Cecil Moore <nos...@w5dxp.com> wrote:
> I notice you carefully avoided my S-Parameter example.

I try to comment only on technical things that you say with which I disagree, Cecil. Though as it happens, most of the objectionable comments you make are not techincal.

ac6xg

4426. Re: Help with AM Broadcaster

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 19:54:16 UTC
From: "mike-c@bulldoghome.com" <mike-c@bulldoghome.com>
Message-ID: <1176666856.409049.301260@q75g2000hsh.googlegroups.com>
Source record: 42924

On Apr 15, 5:06 pm, Richard Clark <kb7...@comcast.net> wrote:
> On 15 Apr 2007 05:55:42 -0700, couri...@yahoo.com wrote:
>
> >If anyone has advice, please advise.
>
> Can you duplicate this on another radio?
>
> 73's
> Richard Clark, KB7QHC

Richard
can we duplicate what on another radio??????????? confused

4427. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 19:56:46 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <0svUh.417$Yo2.402@newssvr19.news.prodigy.net>
Source record: 42925

Jim Kelley wrote:
> As I said, Cecil, your ideas about waves 'possessing energy' need a
> little work.

All it takes to prove you wrong is a
look at a typical S-Parameter equation involving
the superposition of two terms. In the following the
'@' sign is used for the angle sign. a1 and a2 are
normalized voltages. s21 is a transmission coefficient.
s22 is a reflection coefficient.

b2 = s21(a1) + s22(a2)

Given a1 = 10 @ 0 deg, a2 = 10 @ 180 deg,
s21 = 0.707 @ 0 deg, s22 = 0.707 @ 180 deg

s21(a1) = 0.707@0(10@0) = 7.07 @ 0 deg

s22(a2) = 0.707@180(10@180) = 7.07 @ 0 deg

superposing those two values gives:

b2 = 14.14 @ 0 deg

All is well and good. Multiply b2 by SQRT(Z0) to get
total forward voltage.

Now let's look at the powers in accordance with HP's
Ap Note 95-1. For that, we don't need to know the Z0.
The beauty of an S-Parameter analysis is that if one
squares the normalized voltages, one gets power.

|s21(a1)|^2 = 50 watts

|s22(a2)|^2 = 50 watts

|b2|^2 = 200 watts

Even in the S-Parameter analysis, superposing two 50W
waves in phase yields 200 watts. Constructive interference
not only makes it possible but demands it.

Jim, I challenge you to find anything wrong with this S-
Parameter analysis. It follows exactly Born and Wolf's
intensity equations for constructive interference when
the phase angle between a1 and a2 is 180 degrees and
their magnitudes are equal.
--
73, Cecil http://www.w5dxp.com

4428. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 20:09:36 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <4EvUh.10668$Kd3.1748@newssvr27.news.prodigy.net>
Source record: 42926

Walter Maxwell wrote:
> I quote from Terman, 1947 ed. page 109:
> "The distance L1 from the load, and the length 'a' of the stub, are so chosen that the reflected wave produced
> by the shunting impedance of the stub is equal in magnitude and opposite in phase to the reflected wave
> existing on the line at this point as a result of the reflection from the load impedance ZL. Thus, although a
> reflected wave is present in the length L1 because of the reflection from ZL, there is no reflected wave on
> the generator side of the stub line as a result of the cancellation of the two reflected waves."

Wouldn't a short-circuit at the mouth of the stub keep
current from flowing in the stub?
--
73, Cecil http://www.w5dxp.com

4429. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 20:15:54 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <_JvUh.10670$Kd3.5463@newssvr27.news.prodigy.net>
Source record: 42827

Jim Kelley wrote:
> Cecil Moore <nos...@w5dxp.com> wrote:
>> I notice you carefully avoided my S-Parameter example.
>
> I try to comment only on technical things that you say with which I
> disagree, Cecil. Though as it happens, most of the objectionable
> comments you make are not techincal.

Translation: I agree with you technically but I dislike your
personal style so I am going to keep harassing you with
false quotations and kibitzing. Please see my latest S-Parameter
posting where the S-Parameter equations agree perfectly
with Hecht and Born & Wolf, and disagree with you.
--
73, Cecil http://www.w5dxp.com

4430. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 20:29:42 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <13252q12nfmtj34@corp.supernews.com>
Source record: 42828

Jim Kelley wrote:
> On Apr 15, 2:03 am, Roy Lewallen <w...@eznec.com> wrote:
>
>> After a number more frustrating and unresolved collisions with reality,
>> he wisely quit and got a teaching job. I'm sure he did well in the
>> academic world.
>
> He doesn't sound like anyone I know that does "well" in the academic
> world.

You were lucky. He closely resembled the majority of my college professors.

Roy Lewallen, W7EL

4431. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 20:33:55 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <evu25ubbe1@nnrp.linuxfan.it>
Source record: 42829

Cecil Moore wrote:

> ...
> :-) You must be an academic. :-)

There is a saying in the world, it exists for good reason; Those who can
DO, those who can't TEACH.

Since I am only a part-time instructor, I can do a little bit.

JS

4432. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 20:46:39 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1176669999.800285.213680@d57g2000hsg.googlegroups.com>
Source record: 42830

On Apr 14, 9:52 pm, Cecil Moore <nos...@w5dxp.com> wrote:

> Does energy being redistributed in new directions really look
> like a lack of interaction to you?

Roy is absolutely right, Cecil. Interact is a very poor choice of terms in this discussion. Would you assert that photons can have an effect on each other? The fact is, waves and photons can only interact with matter. If the superposition of waves actually had an effect on the waves themselves then interference patterns wouldn't look the way they do. Think about it.

ac6xg

4433. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 20:51:44 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132543b3tvh477a@corp.supernews.com>
Source record: 42831

I've mentioned before that readers, like a group of triaged medical patients, fall into three general categories:

1. Those who have made up their minds and won't have them changed no matter what you say or what evidence you present;
2. Those who already agree with what you're saying;
3. Those who are willing to read what you say and can be convinced.

Posting for the benefit of groups 1 and 2 is a waste of time, because there's no difference in anyone's belief or knowledge from the beginning to the end of the discussion. The third group, however, is worth while. Unfortunately, the active posters often are composed of the first two groups, and I see in this discussion that's been entirely the case. So we're left to hope that the lurkers are taking something away from this. To the lurkers out there: I hope you've read the postings, looked at the evidence, and reached some conclusions. Better yet, I hope some of you have been spurred to learn more about the topic, do some investigation of your own from reputable sources, and gain a deeper understanding of the fundamentals involved.

I see that my statements that waves don't interact with or reflect from each other in a linear medium is already being morphed into claims that I've denied that superposition happens, even though I've been careful to distinguish the two. So one final request to the lurkers: Read what I wrote, not interpretations of what I wrote.

I've tried to explain my point in about every way I know how, and further postings would just become more repetitive. So I'll bow out at this point, disappointed because I've been totally ineffectual at communicating my point to the active posters, but with hope that some of the lurkers have understood. And Walt, I'm especially disappointed that I've been unable to explain to you what I mean, because I fear that the interpretive error will detract from and reduce the credibility of your otherwise exceptional and wonderful works.

Roy Lewallen, W7EL

4434. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 21:16:03 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns991449EE81336nonenowhere@61.9.191.5>
Source record: 42832

Cecil Moore <nospam@w5dxp.com> wrote in news:0svUh.417$Yo2.402
@newssvr19.news.prodigy.net:

> Now let's look at the powers in accordance with HP's
> Ap Note 95-1. For that, we don't need to know the Z0.
> The beauty of an S-Parameter analysis is that if one
> squares the normalized voltages, one gets power.

Cecil,

AN95-1 is a slide show, it is a presentation to accompany a talk, and as such is incomplete.

Another HP note is AN154 which is derived from a training seminar, but is more complete in its development. Chapter 1 is relevant to your use of S parameters.

Let me quote:

Notice that the square of the magnitude of these
new variables has the dimension of power. |a1|2
can then be thought of as the incident power on
port one; |b1|2 as power reflected from port one.
These new waves can be called traveling power
waves rather than traveling voltage waves.
Throughout this seminar, we will simply refer to
these waves as traveling waves.

It is a leap to move from "can be thought of as power" or "has the dimension of power" to your statement (which you attribute to HP AN95-1) "The beauty of an S-Parameter analysis is that if one squares the normalized voltages, one gets power." Did AN95-1 state clearly that which you suggest?

Nowhere in Chapter 1 of AN154 do they perform alegebraic operations on power, the chapter is full of expressions, but they do not use |Sxx|^2.

>
>|s21(a1)|^2 = 50 watts
>
>|s22(a2)|^2 = 50 watts
>
>|b2|^2 = 200 watts
>
> Even in the S-Parameter analysis, superposing two 50W
> waves in phase yields 200 watts. Constructive interference
> not only makes it possible but demands it.

So not you are superposing power to "yield" a resultant power. Did HP show you how to do that, or is it all your own work?

Owen

4435. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 21:20:44 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99144AB982C00nonenowhere@61.9.191.5>
Source record: 42833

A couple of typos fixed:

Cecil Moore <nospam@w5dxp.com> wrote in news:0svUh.417$Yo2.402
@newssvr19.news.prodigy.net:

> Now let's look at the powers in accordance with HP's
> Ap Note 95-1. For that, we don't need to know the Z0.
> The beauty of an S-Parameter analysis is that if one
> squares the normalized voltages, one gets power.

Cecil,

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Another HP note is AN154 which is derived from a training seminar, but is more complete in its development. Chapter 1 is relevant to your use of S parameters.

Let me quote:

Notice that the square of the magnitude of these
new variables has the dimension of power. |a1|^2
can then be thought of as the incident power on
port one; |b1|^2 as power reflected from port one.
These new waves can be called traveling power
waves rather than traveling voltage waves.
Throughout this seminar, we will simply refer to
these waves as traveling waves.

It is a leap to move from "can be thought of as power" or "has the dimension of power" to your statement (which you attribute to HP AN95-1) "The beauty of an S-Parameter analysis is that if one squares the normalized voltages, one gets power." Did AN95-1 state clearly that which you suggest?

Nowhere in Chapter 1 of AN154 do they perform alegebraic operations on power, the chapter is full of expressions, but they do not use |Sxx*ax|^2.

>
>|s21(a1)|^2 = 50 watts
>
>|s22(a2)|^2 = 50 watts
>
>|b2|^2 = 200 watts
>

> Even in the S-Parameter analysis, superposing two 50W
> waves in phase yields 200 watts. Constructive interference
> not only makes it possible but demands it.

So now you are superposing power to "yield" a resultant power. Did HP
show you how to do that, or is it all your own work?

Owen

4436. Re: Help with AM Broadcaster

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 21:24:30 UTC
From: James <jnipperxxx@nospamfdn.com>
Message-ID: <ot2dnVDd1sOaBb_bnZ2dnUVZ_uygnZ2d@comcast.com>
Source record: 42834

Richard is asking if you receive the "offending" signals on more than one radio. I suspect he wants to help you eliminate the "receiver" as the culprint rather than the "transmitter."

73 de Jim K4PYT

4437. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 21:33:40 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1176672820.686486.88450@b75g2000hsg.googlegroups.com>
Source record: 42835

On Apr 15, 6:53 am, Walter Maxwell <w...@w2du.com> wrote:
> On Sun, 15 Apr 2007 19:23:56 +1000, Alan Peake
> >It is interesting to look at a single short pulse propagating along the
> >TL. At the stub point, the pulse must encounter a discontinuity in
> >impedance and therefore there will be a reflection. This can been seen
> >on a TDR. So there is a real reflection from a stub regardless of
> >whether or not it is a virtual short.
> >Alan
> >VK2ADB
>
> I thank you for that, Alan, because, to continue, when the pulse is replaced with a sine wave, there is also a
> reflection from the stub.

Hi Walt -

Begging your pardon, but don't TDR's examine the transient response of
a system, rather the steady state response?

ac6xg

4438. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 21:39:50 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <GYwUh.8974$u03.3128@newssvr21.news.prodigy.net>
Source record: 42836

Jim Kelley wrote:
> Cecil Moore <nos...@w5dxp.com> wrote:
>> Does energy being redistributed in new directions really look
>> like a lack of interaction to you?
>
> Roy is absolutely right, Cecil. Interact is a very poor choice of
> terms in this discussion.

Roy did NOT say "interact" was a poor choice of terms. He
chose to use it as did Hecht. Hecht says waves interact.
Roy says they don't interact. I'm more likely to trust
Hecht over someone who says an S-Parameter analysis is
"gobbledigook" (sic) and doesn't even know how to
spell the word.

> Would you assert that photons can have an
> effect on each other?

Of course. Coherent photons emitted from different phased
antenna elements obviously have an effect on each other.
I suspect in addition to not understanding coherent
interference, you also don't understand coherency. When
coherent photons are traveling in the same path in the
same direction, they do not pass like ships in the night.
They affect each other. If they interfere destructively,
they redistribute some of their photonic energy in a
different direction. Every reference in the world says
that is what happens.

> The fact is, waves and photons can only
> interact with matter. If the superposition of waves actually had an
> effect on the waves themselves then interference patterns wouldn't
> look the way they do. Think about it.

I have thought long, hard, and deep about it. Wave cancellation
is prima facie evidence that coherent waves can have a permanent
effect on each other, even in free space. I don't know anything
more permanent than wave cancellation bringing both the net
E-field and the net H-field to zero.

No, not all coherent waves interfere. No, not all waves that
interfere cancel each other. Some of them do just the opposite.
But sometimes they do cancel. If you would wade through
the S-Parameter analysis with me, you would understand. An S-
parameter analysis of a Z0-match will expose the wave cancellation
toward the source for all to see. But it's rather obvious that

your mind is already made up, you think you know everything, and will stop at nothing, including character assassination, to avoid learning anything new.

How about taking the S-Parameter analysis step by step? Then you can point out the very step where I wander astray of the laws of physics.
--
73, Cecil http://www.w5dxp.com

4439. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 22:05:43 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <XkxUh.8981$u03.5858@newssvr21.news.prodigy.net>
Source record: 42837

Roy Lewallen wrote:
> I've mentioned before that readers, like a group of triaged medical
> patients, fall into three general categories:
>
> 1. Those who have made up their minds and won't have them changed no
> matter what you say or what evidence you present;
> 2. Those who already agree with what you're saying;
> 3. Those who are willing to read what you say and can be convinced.

:-) As is usual for omniscient gurus, Roy doesn't even
comprehend that there is a number 4.

4. Those who question what you say and can prove that you are
wrong.

Is it possible for Roy to be wrong? How about using standing-
wave current with its unchanging phase to try to measure the
phase shift through a loading coil? Roy actually did exactly
that and, at last assertion, defends those ignorant
measurements. He still hasn't comprehended what he did wrong.

The day a guru forgets that 4th possibility above is the
day that he becomes an obsolete historical artifact. Two
waves redistribute their energy components in different
directions. How in the world is that not interaction?

Quotes from two web pages from the field of optical engineering:

www.mellesgriot.com/products/optics/oc_2_1.htm

"Clearly, if the wavelength of the incident light and the thickness
of the film are such that a phase difference exists between reflections
of p, then reflected wavefronts interfere destructively, and overall
reflected intensity is a minimum. If the two reflections are of equal
amplitude, then this amplitude (and hence intensity) minimum will be
zero." (Referring to 1/4 wavelength ideal thin films.)

"In the absence of absorption or scatter, the principle of conservation
of energy indicates all 'lost' reflected intensity will appear as
enhanced intensity in the transmitted beam. The sum of the reflected and
transmitted beam intensities is always equal to the incident intensity.
This important fact has been confirmed experimentally."

micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/waveinteractions/index.html

"... when two waves of equal amplitude and wavelength that are
180-degrees ... out of phase with each other meet, they are not actually

annihilated, ... All of the photon energy present in these waves must somehow be recovered or *redistributed* in a new direction, according to the law of energy conservation ... Instead, upon meeting, the photons are *redistributed* to regions that permit constructive interference, so the effect should be considered as a *redistribution* of light waves and photon energy rather than the spontaneous construction or destruction of light."

Here is a question for Roy: Lurkers with inquiring minds want to know: How can a redistribution of energy in affected waves occur without interaction between the waves? Magic? Divine intervention? What?
--
73, Cecil http://www.w5dxp.com

4440. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 22:07:50 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <7d8523pv73u3aic4gfmfm88hs5bsmnar36@4ax.com>
Source record: 42838

On 15 Apr 2007 14:33:40 -0700, "Jim Kelley" <jwkelley@uci.edu> wrote:

>On Apr 15, 6:53 am, Walter Maxwell <w...@w2du.com> wrote:
>> On Sun, 15 Apr 2007 19:23:56 +1000, Alan Peake
>> >It is interesting to look at a single short pulse propagating along the
>> >TL. At the stub point, the pulse must encounter a discontinuity in
>> >impedance and therefore there will be a reflection. This can been seen
>> >on a TDR. So there is a real reflection from a stub regardless of
>> >whether or not it is a virtual short.
>> >Alan
>> >VK2ADB
>>
>> I thank you for that, Alan, because, to continue, when the pulse is replaced with a sine wave, there is also a
>> reflection from the stub.
>
>Hi Walt -
>
>Begging your pardon, but don't TDR's examine the transient response of
>a system, rather the steady state response?
>
>ac6xg
>
You're correct, of course, Jim, but I was intuitively assuming we'd not be continuing the use of the TDR with
the sine wave signal. I'm sure my intuition wasn't communiated, sorry.

Walt

4441. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 22:10:11 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1176675011.489101.147650@y5g2000hsa.googlegroups.com>
Source record: 42839

On Apr 15, 12:50 pm, Walter Maxwell <w...@w2du.com> wrote:

> Seems to me that the only disagreement with my original posting is whether the condition at the stub point can
> be called a 'virtual' short circuit.

Hi Walt,

Most everyone has directly expressed complete agreement with that idea. Here's the recurring theme:

*******Virtual impedance discontinuities do not cause reflections.********

73, Jim AC6XG

4442. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 22:14:23 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1176675263.403765.109530@n59g2000hsh.googlegroups.com>
Source record: 42840

On Apr 15, 1:29 pm, Roy Lewallen <w...@eznec.com> wrote:
> Jim Kelley wrote:
> > On Apr 15, 2:03 am, Roy Lewallen <w...@eznec.com> wrote:
>
> >> After a number more frustrating and unresolved collisions with reality,
> >> he wisely quit and got a teaching job. I'm sure he did well in the
> >> academic world.
>
> > He doesn't sound like anyone I know that does "well" in the academic
> > world.
>
> You were lucky. He closely resembled the majority of my college professors.
>
> Roy Lewallen, W7EL

Hi Roy -

I didn't say that I don't know any like that, I just wouldn't say
they're doing 'well' at it. ;-)

ac6xg

4443. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 22:15:15 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <9k8523t0b8rv2a9pvsfrolbjfmrnh4de2j@4ax.com>
Source record: 42841

On Sun, 15 Apr 2007 13:51:44 -0700, Roy Lewallen <w7el@eznec.com> wrote:

>I've mentioned before that readers, like a group of triaged medical
>patients, fall into three general categories:
>
>1. Those who have made up their minds and won't have them changed no
>matter what you say or what evidence you present;
>2. Those who already agree with what you're saying;
>3. Those who are willing to read what you say and can be convinced.
>
>Posting for the benefit of groups 1 and 2 is a waste of time, because
>there's no difference in anyone's belief or knowledge from the beginning
>to the end of the discussion. The third group, however, is worth while.
>Unfortunately, the active posters often are composed of the first two
>groups, and I see in this discussion that's been entirely the case. So
>we're left to hope that the lurkers are taking something away from this.
>To the lurkers out there: I hope you've read the postings, looked at the
>evidence, and reached some conclusions. Better yet, I hope some of you
>have been spurred to learn more about the topic, do some investigation
>of your own from reputable sources, and gain a deeper understanding of
>the fundamentals involved.
>
>I see that my statements that waves don't interact with or reflect from
>each other in a linear medium is already being morphed into claims that
>I've denied that superposition happens, even though I've been careful to
>distinguish the two. So one final request to the lurkers: Read what I
>wrote, not interpretations of what I wrote.
>
>I've tried to explain my point in about every way I know how, and
>further postings would just become more repetitive. So I'll bow out at
>this point, disappointed because I've been totally ineffectual at
>communicating my point to the active posters, but with hope that some of
>the lurkers have understood. And Walt, I'm especially disappointed that
>I've been unable to explain to you what I mean, because I fear that the
>interpretive error will detract from and reduce the credibility of your
>otherwise exceptional and wonderful works.
>
>Roy Lewallen, W7EL

Hi Roy,

I thank you for the time and effort you've put in in expressing your position, but for all the attempts I've
made to appreciate your position, I'm now more confused than before the thread began. I don't know what else

to say other than it puts me squarely in the first of the three categories, doesn't it?

Walt

4444. Re: Patch Antenna - HELP

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 22:17:00 UTC
From: richardharrison@webtv.net
Message-ID: <10074-4622A45C-674@storefull-3258.bay.webtv.net>
Source record: 42842

Mario wrote:
"I have to write a seminar which subject is Patch Antenna."

The 3rd edition of "Antennas For All Applications" by Kraus et al is available in paperback from Mc Graw-Hill.

It has dimensions, construction, action, impedance. drawings, diagrams, directivity, effective height, bandwidth (attributed to Jackson and Alexopolus), matching to microstrip, arrays of patches, bibliography of microstrip antennas, directional patterns of some arrays, and a comparison of a 4-patch CP array with the axial-mode helix (a Kraus invention) (see page 328).

Best regards, Richard Harrison, KB5WZI

4445. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 22:26:33 UTC
From: richardharrison@webtv.net
Message-ID: <10074-4622A699-675@storefull-3258.bay.webtv.net>
Source record: 42847

Walter, W2DU wrote:
"Thank you for the time and effort you`ve put in in expressing your position-----."

Yes, Thank you very much and please add me to your catagory no. 3.

Best regards, Richard Harrison, KB5WZI

4446. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 22:27:14 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <6FxUh.8986$u03.2498@newssvr21.news.prodigy.net>
Source record: 42843

Owen Duffy wrote:
> It is a leap to move from "can be thought of as power" or "has the
> dimension of power" to your statement (which you attribute to HP AN95-1)
> "The beauty of an S-Parameter analysis is that if one squares the
> normalized voltages, one gets power." Did AN95-1 state clearly that which
> you suggest?

The answer is "yes, they did." But, if you insist, I am willing to
change what HP said to "one gets the dimensions of power, i.e.
joules/second." As an engineer, I am content with getting close
enough but I am always agreeable to accommodating the purists.

> Nowhere in Chapter 1 of AN154 do they perform alegebraic operations on
> power, the chapter is full of expressions, but they do not use |Sxx|^2.

How about Chapter 2? :-)

I will have to check out that Ap Note. In the meanwhile, maybe
you should take a look at Ap Note 95-1 from which I will quote
one example (there are others) from page 17:

|s11|^2 = Power reflected from the network input divided by Power
incident on the network input. Please adjust your thinking
to agree with HP's.

> So not you are superposing power to "yield" a resultant power.

My native language is American English but I cannot parse that
statement. Care to try again, maybe in the Queen's English? :-)

Power density can be added using the scalar intensity, irradiance,
or Poynting vector equations, but POWER CANNOT BE SUPERPOSED!!!
I don't know how many times I have to repeat that statement.
--
73, Cecil http://www.w5dxp.com

4447. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 22:30:56 UTC
From: Walter Maxwell <walt@w2du.com>
Message-ID: <aa95231v2d1gvskv7ji6q8dc5slegatp8m@4ax.com>
Source record: 42845

On 15 Apr 2007 15:10:11 -0700, "Jim Kelley" <jwkelley@uci.edu> wrote:

>On Apr 15, 12:50 pm, Walter Maxwell <w...@w2du.com> wrote:
>
>> Seems to me that the only disagreement with my original posting is whether the condition at the stub point can
>> be called a 'virtual' short circuit.
>
>Hi Walt,
>
>Most everyone has directly expressed complete agreement with that
>idea.

>>Here's the recurring theme:
>
>
>*******Virtual impedance discontinuities do not cause
>reflections.********
>
>
>73, Jim AC6XG
>
OK Jim, if that's so, then I've got to figure out a new way to explain how antenna radiation patterns are
modified by changing the relative phase of the signals fed to multiple radiators, and by changing the spacing
between the radiators. Looks like I've had it all wrong for lo these many years. I thought I've been reading
the same references as all the other posters.

Walt

4448. Re: Help with AM Broadcaster

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 22:31:34 UTC
From: "mike-c@bulldoghome.com" <mike-c@bulldoghome.com>
Message-ID: <1176676294.452187.147750@n59g2000hsh.googlegroups.com>
Source record: 42846

On Apr 15, 10:24 pm, "James" <jnipper...@nospamfdn.com> wrote:
> Richard is asking if you receive the "offending" signals on more than one
> radio. I suspect he wants to help you eliminate the "receiver" as the
> culprint rather than the "transmitter."
>
> 73 de Jim K4PYT

thanks for the clarification
If a broadcast TX and some thing is interfering with it then on site
look for a attempted illegal connection this may sound mad but it has
happened in the UK people have tried to hi jack a TX im clutching at
straws but yiu never know.
Mike M0DMD

ps they used a dish receiver and a microwave link.

4449. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 22:35:02 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <qMxUh.8988$u03.1234@newssvr21.news.prodigy.net>
Source record: 42848

Owen Duffy wrote:
> So now you are superposing power to "yield" a resultant power.

I see you corrected your English. :-) The answer is NO, powers cannot be superposed. There is a specialized equation for adding powers and it is *NOT* a superposition equation. Born and Wolf call it the "total intensity" equation with an included "interference" term. Their words, not mine.

The equation also appears in Dr. Best's QEX article of Nov/Dec 2001 and in "Optics", by Hecht.
--
73, Cecil http://www.w5dxp.com

4450. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 22:38:34 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1176676714.880548.154670@n76g2000hsh.googlegroups.com>
Source record: 42849

On Apr 15, 2:39 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Jim Kelley wrote:
> > Cecil Moore <nos...@w5dxp.com> wrote:
> >> Does energy being redistributed in new directions really look
> >> like a lack of interaction to you?
>
> > Roy is absolutely right, Cecil. Interact is a very poor choice of
> > terms in this discussion.
>
> Roy did NOT say "interact" was a poor choice of terms.

That's correct. I said that interact is a poor choice of terms.

He
> chose to use it as did Hecht. Hecht says waves interact.
> Roy says they don't interact.

As I said, Roy is correct.

> > Would you assert that photons can have an
> > effect on each other?
>
> Of course. Coherent photons emitted from different phased
> antenna elements obviously have an effect on each other.

That is incorrect. Charged particles and photons interact in antennas.

> I have thought long, hard, and deep about it. Wave cancellation
> is prima facie evidence that coherent waves can have a permanent
> effect on each other, even in free space. I don't know anything
> more permanent than wave cancellation bringing both the net
> E-field and the net H-field to zero.

And the funny thing is, you say that even you know of instances in
which the net fields are zero, and yet the waves propagate beyond that
point. You've at least seen a picture of an interference pattern,
right?

> If you would wade through
> the S-Parameter analysis with me, you would understand.

I think you just like to argue.

> How about taking the S-Parameter analysis step by step? Then
> you can point out the very step where I wander astray of the
> laws of physics.

If the S parameter analysis addressed where you are going wrong, then that might be worthwhile. The problem as I said is with your idea about waves and energy. Obviously we all get the same answer at the end of the problem.

73, Jim AC6XG

4451. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 22:42:26 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <mTxUh.8989$u03.1132@newssvr21.news.prodigy.net>
Source record: 42850

Richard Harrison wrote:
> Yes, Thank you very much and please add me to your catagory no. 3.

And please add the 4th distinct possibility, that any mortal
human being can be proved to be wrong about something. :-)
--
73, Cecil http://www.w5dxp.com

4452. Re: Effects of TOA

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 22:43:12 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <4622aa87$0$8992$4c368faf@roadrunner.com>
Source record: 42851

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:mhj423drbp6ie7cgn0u5oq1obthc0botbc@4ax.com...
> On 13 Apr 2007 16:41:25 -0700, "JIMMIE" <JIMMIEDEE123@YAHOO.COM>
> wrote:
>
>>I have observed that a halfwave vertical dipole
>>will communicate to different areas than a 1.25wl vertical monopole
>
> Hi Jimmie,
>
> A low halfwave operates best at 16 degrees; a quarterwave works best
> in the 20s of degrees; while a 1.25 wavelength antenna works best in
> the high 50s of degrees.
>
> This presumes the last two are both ground mounted. Given that any of
> these presumptions are at best a guess, then the numbers are merely
> for guidance as reality may be vastly different (you really haven't
> given us enough information). Actual physical size and elevation help
> considerably. Also, as this is 10M, was some of the traffic from the
> neighborhood (within 20 miles)?
>
> 73's
> Richard Clark, KB7QHC

These are ground mounted monopoles and I am only talking about
skip reception. The antennas were mounted on the ground in an attempt to
eliminate as much local reception as possible. I am not too interested in
the local 10M chatter.not that there is very much but have noticed that the
two antennas talk into completely different areas on occasion. I first
noticed the phenmena back in the late sixties when I bult a 1.25 wl antena
for 11m believing that longer was always better. It was an interesting
antenna sometimes allowing me to work into canada from S Ga even when
others in the area werent even experiencing skip conditions. I was about 16
at the time but I do seem to remember that hering an opening on this antenna
meant that an opening would soon happen for the area. I was wondering if I
could duplcate the effect by tilting a yagi to a high angle. The more I
think about it I dont belive this would not be practical even if it was
possible. Not only would I have to have the antenna tipped at the right time
I would also have to have it pointed in the right direction. I would be
interested in knowing if others have experienced this effect using unually
long vertical antennas on the higher frequencies.

4453. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 22:46:56 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1176677216.941420.96270@e65g2000hsc.googlegroups.com>
Source record: 42852

On Apr 15, 3:07 pm, Walter Maxwell <w...@w2du.com> wrote:
> On 15 Apr 2007 14:33:40 -0700, "Jim Kelley" <jwkel...@uci.edu> wrote:
>
>
>
>
>
> >On Apr 15, 6:53 am, Walter Maxwell <w...@w2du.com> wrote:
> >> On Sun, 15 Apr 2007 19:23:56 +1000, Alan Peake
> >> >It is interesting to look at a single short pulse propagating along the
> >> >TL. At the stub point, the pulse must encounter a discontinuity in
> >> >impedance and therefore there will be a reflection. This can been seen
> >> >on a TDR. So there is a real reflection from a stub regardless of
> >> >whether or not it is a virtual short.
> >> >Alan
> >> >VK2ADB
>
> >> I thank you for that, Alan, because, to continue, when the pulse is replaced with a
sine wave, there is also a
> >> reflection from the stub.
>
> >Hi Walt -
>
> >Begging your pardon, but don't TDR's examine the transient response of
> >a system, rather the steady state response?
>
> >ac6xg
>
> You're correct, of course, Jim, but I was intuitively assuming we'd not be continuing the
use of the TDR with
> the sine wave signal. I'm sure my intuition wasn't communiated, sorry.
>
> Walt- Hide quoted text -
>
> - Show quoted text -

I guess I may have been 'intuiting' too much, myself. Since virtual
shorts and opens only appear in the steady state, I wouldn't expect
pulses to reflect off of them. I don't expect sine waves to reflect
off of them in steady state either for that matter, but that remains a
point of contention apparently.

73, Jim AC6XG

4454. Re: Effects of TOA

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 22:50:17 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <4622ac22$0$24784$4c368faf@roadrunner.com>
Source record: 42853

Thanks , sounds about like what I have been experiencing. The time I heard the guys in California the band was stone quite and when I switched antennas it was still quite except for the stations in New York Weird feeling.

Jimmie

"W4WNT" <w4wnt@carolina.rr.com> wrote in message news:46228274$0$24671$4c368faf@roadrunner.com...
>I don't know about verticals vs. beams, but certainly you can hear
>different areas when using a vertical or using a dipole. I've used both
>during numerous contests and found that from NC a dipole hears the
>Caribbean while a vertical hears Argentina, Brazil and points south. This
>is a G5RV at about 30 feet.
>
> The beams hearing ability may wash out this difference, but the "incoming"
> polarity has nothing to do with the "transmitted" polarity. This is why I
> have both available.
>
> Good luck,
>
> Bill, W4WNT
>
>
> "JIMMIE" <JIMMIEDEE123@YAHOO.COM> wrote in message
> news:1176507685.239011.286640@n76g2000hsh.googlegroups.com...
>> While operating on 10M I have observed that a halfwave vertical dipole
>> will communicate to different areas than a 1.25wl vertical monopole an
>> example would be that during a band opening the 1/2 wl antenna may be
>> working predominantly into New York while the 1.25 wl antenna is
>> working best in California or was it vice versa. This has proven
>> useful for me, instead of fighting a pile-up and can just talk
>> somewhere else. The two verticals may soon be replaced with a tri-
>> bander and I was wondering if I could get this same type of effect by
>> tilting the antenna vertically(no change in polarity) with a remote
>> controlled device. I think it would be pretty cool to hear different
>> areas of the country pop in and out as the elevation of the antenna is
>> changed.
>>
>> Jimmie
>>
>
>

4455. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 23:03:28 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <2byUh.559$iZ5.414@newssvr22.news.prodigy.net>
Source record: 42854

Jim Kelley wrote:
> Cecil Moore <nos...@w5dxp.com> wrote:

>> Jim Kelley wrote:
>>> Roy is absolutely right, Cecil. Interact is a very poor choice of
>>> terms in this discussion.

>> Roy did NOT say "interact" was a poor choice of terms.
>
> That's correct. I said that interact is a poor choice of terms.

But you implied that is what Roy said just above.

>> chose to use it as did Hecht. Hecht says waves interact.
>> Roy says they don't interact.
>
> As I said, Roy is correct.

Roy is right and Hecht is wrong??? Shirley, you jest.
Remember, Roy is the guy who stands by his use of
standing wave current to measure phase shift through
a loading coil. Phase shift in standing wave current
doesn't exist in a wire or in a coil or anywhere else.

> And the funny thing is, you say that even you know of instances in
> which the net fields are zero, and yet the waves propagate beyond that
> point.

Where do the reflected waves go that propagate beyond that
point and are measured as zero amplitude by a Bird wattmeter?
Dr. Best said those zero energy canceled waves propagate right
into the source. What effect do waves of zero energy have? Are
you making that same stupid assertion? Watch out! Here comes
another one of those zero energy waves - good grief, look
at the size of that zero energy wave - it must be infinite.
What is infinity times zero? :-)

>> If you would wade through
>> the S-Parameter analysis with me, you would understand.
>
> I think you just like to argue.

No, I honestly think we would pinpoint our differences. But,
of course, you would never agree to such.

> If the S parameter analysis addressed where you are going wrong, then
> that might be worthwhile.

Well then, let's do it and you can show me exactly where
I am going wrong. When I realize that I am wrong, I am the
first to admit it. My goal is to learn and I don't learn
anything new when I am right.
--
73, Cecil http://www.w5dxp.com

4456. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 23:30:59 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <dK2dnSjYSp0VOr_bnZ2dnUVZ_syunZ2d@bright.net>
Source record: 42844

Dear Group:
Wise words from Tom and Roy.

Roy's nincompoop was not one of my students. Last week I taught about simple op-amps and their limitations. The terms "virtual ground" and "virtual short" (as used with ideal and almost-ideal op amps) were presented only to facilitate my student's communication with others. Use of excess verbiage and names is a poor idea that should be relegated to "Social Science," some parts of which can do little other than classify. The idea that an op-amp strives to have V- be very close to V+ is clean. Following with the BW and slew rate limitations enhances the idea.

I first encountered the intransigence of labels in lieu of substance when a new faculty member. My department head went ballistic when I started a lecture on LC oscillators with the observation that they were all the same with an LCL or CLC circuit causing a necessary phase shift and that one could choose to connect to common any one of the tube's elements. Oh no, said my department head, you have to show them how a Hartley differs from a .... and he proceeded to recite the long list of named oscillators. -- I now omit the consequences of that encounter, for children may be reading and they are too young to learn the details of the blood sport known as academic politics. It took many years, but in the end I won.

Names can have great utility. Simplification is, in my experience, a necessary part of effective teaching and learning. However, I explicitly say to my students that the art of teaching engineering resides in not telling the student everything in one gulp. Current textbooks tend to present everything in one gulp.

Thus we come back to the issues at hand. Things mean just what they are defined to mean. Things are not necessarily the same as their name nor the same as things with similar names. For once, wise and good people are having a dialog. It seems to me to come down to this: "a virtual short" in a transmission line is a place where waves (current, voltage) interact to produce a small voltage and large current. A "physical short" in a transmission line is a place where a conductor (or the like) is placed such that the voltage is zero and the current is large. Most often, when "physical shorts" are found they are near the ends of transmission lines.

One characteristic of a "virtual short" is that its presence or location is dependent on frequency. Another characteristic is that signals are expected to exist on both sides of a "virtual short." One characteristic of a "physical short" is that it does not depend on frequency. Another characteristic of a "physical short" is that signals exist on only one side of the "physical short's" location.

The last seems to me to distill what is being said and what is understood. While it may not have happened to you, every time I have ventured to correct my brilliant and wise wife we have, after a while, discovered that we were in agreement all along and words were attenuating that understanding. A certain English SK would observe that an English writer of mathematics and children's books had these ideas down a long time ago.

73, Mac N8TT

--
J. Mc Laughlin; Michigan U.S.A.
Home: JCM@Power-Net.Net
"Roy Lewallen" <w7el@eznec.com> wrote in message
news:1323qjp4m1r977f@corp.supernews.com...
> K7ITM wrote:
> > . . .
> > The analogy may not be prefect, but I think it's a lot like the
> > usefulness of the idea of a "virtual ground" at the inverting input of
> > an op amp. But it's a virtual ground only under specific conditions:
> > strong negative feedback is active, and the non-inverting input is at
> > (AC, at least) ground potential. For it to be a useful concept
> > without too many pitfalls, the person using it has to be aware that
> > the conditions that make it a good approximation don't always hold.
> > Similarly for a "virtual short" on a line.
> >. . .
>
> Let me relate a story. . .
>
> Years ago at Tektronix, I transferred to a different group. Across the
> aisle was a very bright engineer, fresh from school with a Masters or
> PhD degree -- I don't recall which. I recall that his advanced education
> had specialized in nonlinear control systems, very much a mathematically
> complex and challenging field. His entirely academic background had been
> very different from mine, so I was often enthralled by his attempts to
> reconcile reality with the idealized world he had, until very recently,
> occupied.
>
> One day I found him muttering, trying this and that, until he asked for
> some help with his test setup. He was driving an inverting op amp
> circuit with a square wave, and he was seeing sharp pulses at the
> "virtual ground" summing junction with his 'scope. He had tried moving
> his probe grounds, replacing the op amp, bypassing, and everything else
> he could think of, to rid his display of this obvious erroneous
> artifact. The voltage at the summing junction, he explained, should
> always be zero, since it's a virtual ground. Those spikes shouldn't be
> there.
>
> I tried to explain to him how a "virtual ground" was created: An input
> signal initially generates a voltage at the op amp input. The op amp
> responds by sending an inverted signal back to the summing junction
> which adds to the initial voltage to produce very nearly zero at the

> input. I explained that it can never be zero, but at best is the op amp
> output voltage divided by its open loop gain. But more to the point, the
> op amp isn't infinitely fast, so it takes some time for it to respond to
> that initial voltage or any changes. And during that lag, the summing
> junction voltage can move a great distance from zero. So the spikes are
> occurring during the time it takes the op amp to respond to changes in
> the input stimulus.
>
> Well, he didn't get it. He just couldn't make the transition from the
> idealized, infinitely fast and infinite gain op amps of his academic
> models to the real things he had to work with. And looking back on it, I
> think the basic problem was that he never really fully understood just
> how that virtual ground came about even in an idealized world.
>
> After a number more frustrating and unresolved collisions with reality,
> he wisely quit and got a teaching job. I'm sure he did well in the
> academic world.
>
> Those many models we use daily to keep calculations, concepts, and
> analyses manageable are just that -- models. It's imperative to
> constantly be aware of the range over which those models are valid, and
> alert to any situation which might make the model invalid. People
> solving routine problems can, unfortunately, often get along for a long
> time without realizing the limitations of their models, and can be
> lulled into a belief that they're not models at all but reality. But in
> the environment where I've spent most of my time, this carelessness
> leads you very quickly into places which can be very difficult to get
> out of.
>
> Roy Lewallen, W7EL

4457. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 23:33:43 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <rDyUh.48014$VU4.18628@bgtnsc05-news.ops.worldnet.att.net>
Source record: 42856

Cecil Moore wrote:
> Gene Fuller wrote:
> quoting Born & Wolf:
>> "However, when the definition has been applied cautiously, in
>> particular for averages of small but finite regions of space or time,
>> no contradictions with experiments have been found. We shall therefore
>> accept the above definition in terms of the Poynting vector of the
>> density of the energy flow."
>
> There's the meat of the quote as far as transmission lines
> are concerned. Given that transmission lines are "small but
> finite regions of space or time", and since there are only
> two possible directions in a transmission line, Born and
> Wolf seem to give us permission to do exactly what you
> are complaining about. Your concerns about light waves
> in three dimensional free space just don't exist for the
> primarily single dimensional "space" in a transmission line.
> Ideally, the power density exists only between the inner and
> outer conductors of the coax.
>
>> It does not make any sense to simply add and subtract Poynting vectors
>> in elementary fashion and expect to get correct results.
>
> Born & Wolf's own words in the quote above provided by you
> contradict that assertion.
>

Cecil,

You conveniently chopped out the part of the B&W quote that matters. You continue to claim that energy associated with each of the myriad of wave components that exist at the point of interest must be reconciled. The correct application of the Poynting theorem, as noted in the full B&W quote, says that your requirement is not correct. Only the net energy flow into that small integration volume has any physical reality.

Unless there is a source or sink at the point of interest, the net energy flow will be exactly zero. Further analysis is futile. Conservation of energy, specifically the Poynting theorem, does not support you or anyone else who tries to atomize the waves in an attempt to balance energy contribution from individual wave components. You are on your own.

By the way, a very similar statement about the application of Poynting vectors appears in Classical Electrodynamics by Jackson. This is not

some strange interpretation by a single author.

73,
Gene
W4SZ

4458. Re: Help with AM Broadcaster

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 23:33:48 UTC
From: Tam/WB2TT <t-tammaru@c0mca$t.net>
Message-ID: <ucmdnSBQy96pK7_bnZ2dnUVZ_sudnZ2d@comcast.com>
Source record: 42855

<courir26@yahoo.com> wrote in message
news:1176641742.157686.190690@o5g2000hsb.googlegroups.com...
> I'm getting lots of noise from a local broadcaster and am looking for
> assistance in stopping the problem. Their freq is 1330 KHz, 5KW.
> They are putting out a wideband garbled signal several channels wide
> centered at 1120 KHz. There is a similar wideband hash up higher
> centered at around 1490 or so, and God only knows where else. When
> they play Dr. Laura on 1330, I can hear a garbled Dr. Laura all over
> the band. I am about 3 miles from the station but yesterday I was
> driving and could hear the trash 20 miles out on 1120. I've driven
> down I-10 in both directions from the station and their noise reaches
> out at least 20 miles. The station's response is that other stations
> also carry Dr. Laura. Please . . . . not on a dozen channels in a
> row with your station ID!
>
> I've talked to the station manager several times and the engineer a
> couple of times and even though they will talk to me and are friendly
> folks, they have not fixed it. They got a new transmitter last fall
> and this is when it started. I've been listening here for about 30
> years and this is a new problem.
>
> I'm going to talk with the engineer one more time and then plan to
> write the FCC. If anyone has advice, please advise.
>
> Thanks
> Tom
> La
>
Are they broadcasting digital AM?

Tam

4459. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 23:35:16 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <UEyUh.48018$VU4.24597@bgtnsc05-news.ops.worldnet.att.net>
Source record: 42857

Cecil Moore wrote:
> Gene Fuller wrote:
>> Why don't you simply stop being such a nitwit. I understand perfectly
>> what the Java applet is and is not. S-parameters are not a new branch
>> of science. No one is confused except you.
>
> Before I explained it to you, you obviously had no
> clue what that java script represented since you
> said it was impossible. Not only is it possible,
> it happens every time someone adjusts an antenna
> tuner for a match.

Cecil,

By the way, the "nitwit" comment was in reference to dragging global warming into the discussion. Just a slight bit of a diversion.

8-)

73,
Gene
W4SZ

4460. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 23:56:50 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176681410.638507.302230@n59g2000hsh.googlegroups.com>
Source record: 42858

On Apr 15, 7:03 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> When I realize that I am wrong, I am the first to admit it.

Has the former ever happened?

If you are looking for an opportunity to demonstrate the
veracity of your statement, 'realize' that matching the source
impedance to the line prevents re-reflection, and then be
'the first to admit it'.

...Keith

4461. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-15 23:57:23 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <DZyUh.10122$YL5.5662@newssvr29.news.prodigy.net>
Source record: 42859

Gene Fuller wrote:
> You conveniently chopped out the part of the B&W quote that matters.

No, I quoted the part of the B&W quote that matters.

> Further analysis is futile.

Gene, are you a Borg?
--
73, Cecil http://www.w5dxp.com

4462. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 00:05:19 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <35zUh.10126$YL5.8450@newssvr29.news.prodigy.net>
Source record: 42860

Gene Fuller wrote:
> By the way, the "nitwit" comment was in reference to dragging global
> warming into the discussion. Just a slight bit of a diversion.

Speaking of which, the global warming gurus are predicting
global chaos. The fact is that ~130K years ago, the Earth
began 10K years of global warming followed by an ice age.
The temperature 120K years ago averaged two degrees hotter
than it is today. 18K years ago, we began another 10K year
period of global warming that brought us out of the last
ice age and peaked 8K years ago two degrees hotter than it
is today. For the past 8K years, the Earth has been ever
so slowly slipping into another ice age. Al Gore knows
just about as much about global warming as you do about
destructive interference. Are you a Democrat? :-)
--
73, Cecil http://www.w5dxp.com

4463. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 00:08:25 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <Z7zUh.10128$YL5.3832@newssvr29.news.prodigy.net>
Source record: 42861

Keith Dysart wrote:
> On Apr 15, 7:03 pm, Cecil Moore <nos...@w5dxp.com> wrote:
>> When I realize that I am wrong, I am the first to admit it.
>
> Has the former ever happened?

It happens all the time. Then people accuse me of changing
sides in the middle of an argument. I can't win.

> If you are looking for an opportunity to demonstrate the
> veracity of your statement, 'realize' that matching the source
> impedance to the line prevents re-reflection, and then be
> 'the first to admit it'.

I will admit it when you prove that "matching the source
impedance to the line" prevents reflections from the
source. You have to run bench experiments to prove
that - no 10 cent resistor hand-waving allowed.
--
73, Cecil http://www.w5dxp.com

4464. Re: Help with AM Broadcaster

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 00:28:56 UTC
From: courir26@yahoo.com
Message-ID: <1176683336.124781.152430@y80g2000hsf.googlegroups.com>
Source record: 42862

Yes, the interference happens on all radios at all locations within 20 miles of the TX. I first heard it in my hamshack but then thought I might of had too much sensitivity and antenna there (Harris HF receiver, also IC-736) so I tried it in the car and sure enough it's bad in the car too. It's also bad in my office several miles away on a boom box.

I don't think they are broadcasting digital.

They have two towers and go directional at night. Just so happens in my direction the nighttime signal is about the same (swell).

This all happened right about the time they got the new transmitter. The engineer even offered me the old one.

73 Tom

On Apr 15, 6:33 pm, "Tam/WB2TT" <t-tammaru@c0mca$t.net> wrote:
> <couri...@yahoo.com> wrote in message
>
> news:1176641742.157686.190690@o5g2000hsb.googlegroups.com...
>
> > I'm getting lots of noise from a local broadcaster and am looking for
> > assistance in stopping the problem. Their freq is 1330 KHz, 5KW.
> > They are putting out a wideband garbled signal several channels wide
> > centered at 1120 KHz. There is a similar wideband hash up higher
> > centered at around 1490 or so, and God only knows where else. When
> > they play Dr. Laura on 1330, I can hear a garbled Dr. Laura all over
> > the band. I am about 3 miles from the station but yesterday I was
> > driving and could hear the trash 20 miles out on 1120. I've driven
> > down I-10 in both directions from the station and their noise reaches
> > out at least 20 miles. The station's response is that other stations
> > also carry Dr. Laura. Please . . . . not on a dozen channels in a
> > row with your station ID!
>
> > I've talked to the station manager several times and the engineer a
> > couple of times and even though they will talk to me and are friendly
> > folks, they have not fixed it. They got a new transmitter last fall
> > and this is when it started. I've been listening here for about 30
> > years and this is a new problem.
>
> > I'm going to talk with the engineer one more time and then plan to
> > write the FCC. If anyone has advice, please advise.
>
> > Thanks
> > Tom

> > La
>
> Are they broadcasting digital AM?
>
> Tam

4465. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 02:00:33 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176688833.310771.220640@n76g2000hsh.googlegroups.com>
Source record: 42863

On Apr 15, 8:08 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> I will admit it when you prove that "matching the source
> impedance to the line" prevents reflections from the
> source. You have to run bench experiments to prove
> that - no 10 cent resistor hand-waving allowed.

Ahhh. A challenge. I like it.

But first, we need to agree on an experiment that you will
find convincing. We don't want any wiggle room after the
work is done, do we?

So I propose the following:

A signal generator with 50 Ohm output impedance is connected
to the left end of a length of 50 Ohm line and another signal
generator, also with 50 Ohm output impedance is connected to
the right end of the same line.

The signal generator on the left is set to frequency Fleft
and the one on the right is set to a different frequency
Fright. The line is appreciable fraction of 1 wavelength
long at Fleft and Fright.

Step 1 - Replace the signal generator on the right with a
50 Ohm terminator
Step 2 - Observe the signal at the left and right end of
the line. The signal at the right will be a delayed
and possibly reduced copy of the one on the left.
Step 3 - Replace the signal generator on the left with a
50 Ohm terminator.
Step 4 - Observe the signal at the right and left end of
the line. The signal at the left will be a delayed
and possibly reduced copy of the one on the right.
Step 6 - With both generators operating, observe the signal
at the left and right ends of the line.

MY expected result: If no reflections are occurring then the
signal at the left will be the sum of the signals observed at
the left in Step 2 and Step 4, while the signal at the right
will be the sum of the signals observed at the right in Step 2
and Step 4.

If any reflections have occurred, the reflection will modify
the signal at the generator end (for that particular frequency)
and MY expected result will not occur.

Does this cover it?

If MY expected result occurs, you will accept that 10 cent resistors in generators will prevent re-reflections, "realize that you are wrong and be the first to admit it."

What say ye?

...Keith

4466. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 02:30:13 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <VcBUh.15208$JZ3.14566@newssvr13.news.prodigy.net>
Source record: 42864

Keith Dysart wrote:
> A signal generator with 50 Ohm output impedance is connected
> to the left end of a length of 50 Ohm line and another signal
> generator, also with 50 Ohm output impedance is connected to
> the right end of the same line.

No, you miss the point. You need to prove your
assertions using an ordinary commercial amateur
radio transceiver, like an IC-706.
--
73, Cecil http://www.w5dxp.com

4467. Re: Help with AM Broadcaster

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 02:36:16 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <4622e119$0$5724$4c368faf@roadrunner.com>
Source record: 42865

<courir26@yahoo.com> wrote in message
news:1176683336.124781.152430@y80g2000hsf.googlegroups.com...
> Yes, the interference happens on all radios at all locations within 20
> miles of the TX. I first heard it in my hamshack but then thought I
> might of had too much sensitivity and antenna there (Harris HF
> receiver, also IC-736) so I tried it in the car and sure enough it's
> bad in the car too. It's also bad in my office several miles away on a
> boom box.
>
> I don't think they are broadcasting digital.
>
> They have two towers and go directional at night. Just so happens in
> my direction the nighttime signal is about the same (swell).
>
> This all happened right about the time they got the new transmitter.
> The engineer even offered me the old one.
>
> 73 Tom

I would close the deal on the TX before I called the FCC.

Jimmie
>
>
> On Apr 15, 6:33 pm, "Tam/WB2TT" <t-tammaru@c0mca$t.net> wrote:
>> <couri...@yahoo.com> wrote in message
>>
>> news:1176641742.157686.190690@o5g2000hsb.googlegroups.com...
>>
>> > I'm getting lots of noise from a local broadcaster and am looking for
>> > assistance in stopping the problem. Their freq is 1330 KHz, 5KW.
>> > They are putting out a wideband garbled signal several channels wide
>> > centered at 1120 KHz. There is a similar wideband hash up higher
>> > centered at around 1490 or so, and God only knows where else. When
>> > they play Dr. Laura on 1330, I can hear a garbled Dr. Laura all over
>> > the band. I am about 3 miles from the station but yesterday I was
>> > driving and could hear the trash 20 miles out on 1120. I've driven
>> > down I-10 in both directions from the station and their noise reaches
>> > out at least 20 miles. The station's response is that other stations
>> > also carry Dr. Laura. Please . . . . not on a dozen channels in a
>> > row with your station ID!
>>
>> > I've talked to the station manager several times and the engineer a
>> > couple of times and even though they will talk to me and are friendly
>> > folks, they have not fixed it. They got a new transmitter last fall

>> > and this is when it started. I've been listening here for about 30
>> > years and this is a new problem.
>>
>> > I'm going to talk with the engineer one more time and then plan to
>> > write the FCC. If anyone has advice, please advise.
>>
>> > Thanks
>> > Tom
>> > La
>>
>> Are they broadcasting digital AM?
>>
>> Tam
>
>

4468. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 03:03:11 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176692591.134812.298880@w1g2000hsg.googlegroups.com>
Source record: 42866

On Apr 15, 10:30 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > A signal generator with 50 Ohm output impedance is connected
> > to the left end of a length of 50 Ohm line and another signal
> > generator, also with 50 Ohm output impedance is connected to
> > the right end of the same line.
>
> No, you miss the point. You need to prove your
> assertions using an ordinary commercial amateur
> radio transceiver, like an IC-706.

So, out of curiosity, what do you think the outcome of my
experiment would be?

Do 10 cent resistors ever work? Or is a circulator always needed
to prevent re-reflections?

...Keith

4469. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 04:46:47 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <lvu523hrpkus3a1tmmkc3rebvgfnfc6hue@4ax.com>
Source record: 42867

On Sun, 15 Apr 2007 18:30:59 -0500, "J. Mc Laughlin"
<jcm@power-net.net> wrote:

>One characteristic of a "virtual short" is that its presence or location is
>dependent on frequency. Another characteristic is that signals are expected
>to exist on both sides of a "virtual short." One characteristic of a
>"physical short" is that it does not depend on frequency. Another
>characteristic of a "physical short" is that signals exist on only one side
>of the "physical short's" location.

Hi Mac,

It's a shame no one has offered you kudos for such a telling and
succinct observation. It stands there balanced with another book-end:

>A certain English SK would observe that an English
>writer of mathematics and children's books had these ideas down a long time
>ago.

No doubt this is a delicious reference to how these threads approach
an agony in 8 fits: "What I tell you three times is true."

73's
Richard Clark, KB7QHC

4470. Re: Effects of TOA

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 05:01:06 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <vm06231ps1undi4voncacmht4v5fchp5gm@4ax.com>
Source record: 42868

On Sun, 15 Apr 2007 18:43:12 -0400, "Jimmie D"
<GFENDER@carolina.rr.com> wrote:

>I would be
>interested in knowing if others have experienced this effect using unually
>long vertical antennas on the higher frequencies.

Hi Jimmie,

Sure, and on 10M too. Unfortunately I was the deaf one when others
were working the skip. It cuts both ways.

73's
Richard Clark, KB7QHC

4471. Re: Help with AM Broadcaster

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 05:28:35 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <q11623hti4ou97e5125klc58haag745rv5@4ax.com>
Source record: 42869

On 15 Apr 2007 17:28:56 -0700, courir26@yahoo.com wrote:

>Yes, the interference happens on all radios at all locations within 20
>miles of the TX. I first heard it in my hamshack but then thought I
>might of had too much sensitivity and antenna there (Harris HF
>receiver, also IC-736) so I tried it in the car and sure enough it's
>bad in the car too. It's also bad in my office several miles away on a
>boom box.
>
>I don't think they are broadcasting digital.
>
>They have two towers and go directional at night. Just so happens in
>my direction the nighttime signal is about the same (swell).
>
>This all happened right about the time they got the new transmitter.
>The engineer even offered me the old one.

Hi Tom,

I gather this is KVOL in Lafayette. The FCC doesn't offer any
particulars about their rig, just antennas. In that regard, they may
have a bad joint in one tower that is heterodyning with another
signal.

73's
Richard Clark, KB7QHC

4472. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 05:51:42 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1176702702.936048.216130@q75g2000hsh.googlegroups.com>
Source record: 42871

On Apr 15, 12:56 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Jim, I challenge you to find anything wrong with this S-
> Parameter analysis.
> It follows exactly Born and Wolf's
> intensity equations for constructive interference when
> the phase angle between a1 and a2 is 180 degrees and
> their magnitudes are equal.

Profound. Wouldn't it be strange if other texts had similar ideas
too?...

Let us know when HP gets around to ammending its S-Parameter treatise
to include the 4th Mechanism of Reflection.

ac6xg

4473. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 06:30:01 UTC
From: Alan Peake <adpeake@killspam.internode.on.net>
Message-ID: <462317E9.4080807@killspam.internode.on.net>
Source record: 42870

Jim Kelley wrote:

>
> I guess I may have been 'intuiting' too much, myself. Since virtual
> shorts and opens only appear in the steady state, I wouldn't expect
> pulses to reflect off of them. I don't expect sine waves to reflect
> off of them in steady state either for that matter, but that remains a
> point of contention apparently.
>
> 73, Jim AC6XG
>

Actually Jim, virtual shorts etc. act the same for pulse systems as for CW systems. The classic case is the rotating joint in radar systems.
Alan

4474. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 06:45:59 UTC
From: Alan Peake <adpeake@killspam.internode.on.net>
Message-ID: <46231BA7.4030808@killspam.internode.on.net>
Source record: 42872

>>Begging your pardon, but don't TDR's examine the transient response of
>>a system, rather the steady state response?
>>
>>ac6xg
>>
>
> You're correct, of course, Jim, but I was intuitively assuming we'd not be continuing the use of the TDR with
> the sine wave signal. I'm sure my intuition wasn't communiated, sorry.
>
> Walt

Of course, real signals aren't just a single pulse but any CW signal can be represented as a series of pulses. One VNA I used years ago (Wiltron) allowed you to analyse a network by driving it with pulses , capturing the pulse or transient response and then doing a transform to go from the time domain to the frequency domain, thus producing the steady-state response. Very handy for analysing antennae in a confined space. The time window was set to exclude reflections from walls etc. so one didn't need an anechoic chamber.
Alan

4475. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 11:26:36 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176722796.251225.228390@q75g2000hsh.googlegroups.com>
Source record: 42873

On Apr 16, 2:30 am, Alan Peake <adpe...@killspam.internode.on.net>
wrote:
> Jim Kelley wrote:
>
> > I guess I may have been 'intuiting' too much, myself. Since virtual
> > shorts and opens only appear in the steady state, I wouldn't expect
> > pulses to reflect off of them. I don't expect sine waves to reflect
> > off of them in steady state either for that matter, but that remains a
> > point of contention apparently.
>
> > 73, Jim AC6XG
>
> Actually Jim, virtual shorts etc. act the same for pulse systems as for
> CW systems. The classic case is the rotating joint in radar systems.
> Alan

But isn't that a number of cycles of RF?
Enough to reach 'steady-state'?

When I read the word 'pulse', I think rising edge, flat top,
falling edge, and the virtual short is quite different than
a real short for this signal.

...Keith

4476. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 12:18:27 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <mQJUh.594$iZ5.37@newssvr22.news.prodigy.net>
Source record: 42874

Keith Dysart wrote:
> So, out of curiosity, what do you think the outcome of my
> experiment would be?

With an IC-706? I don't know. Others have tried it with
varying results.

> Do 10 cent resistors ever work? Or is a circulator always needed
> to prevent re-reflections?

Your 10 cent resistor can be thought of as a low dB
pad of sorts. It will attenuate but not eliminate
re-reflection. Again, let me remind you of Ramo &
Whinnery's warning not to attach importance to
what is calculated to happen inside an equivalent
source. There are models available for virtually
any amplifier you might choose but I don't know
how those models handle reflections.
--
73, Cecil http://www.w5dxp.com

4477. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 12:34:39 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <z3KUh.10181$YL5.125@newssvr29.news.prodigy.net>
Source record: 42875

Jim Kelley wrote:
> Let us know when HP gets around to ammending its S-Parameter treatise
> to include the 4th Mechanism of Reflection.

Please wade through the S-Parameter analysis with me,
see for yourself, and suggest an alternative. The
Florida State web page says the energy involved in
wave cancellation is redistributed "somehow". Wave
cancellation is obviously not a simple reflection
from an impedance discontinuity because it does not
obey the reflection rules.
--
73, Cecil http://www.w5dxp.com

4478. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 12:42:26 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <SaKUh.10182$YL5.2129@newssvr29.news.prodigy.net>
Source record: 42876

Alan Peake wrote:
> Of course, real signals aren't just a single pulse but any CW signal can
> be represented as a series of pulses.

I think within the present context, we would say a CW dot
or dash has a transient response at the leading edge and
trailing edge and achieves steady-state in the middle.
I once calculated that it takes about ~30 cycles with
rho=0.707 to get very close to steady-state.
--
73, Cecil http://www.w5dxp.com

4479. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 13:21:07 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <7LKUh.10184$YL5.2303@newssvr29.news.prodigy.net>
Source record: 42728

Alan Peake wrote:
> But I still can't see that a virtual short would be
> different to a real short.

A virtual short is (Vfor-Vref)/(Ifor+Iref) = 0
where |Vfor| = |Vref|

For the virtual short to exist, two equal magnitude
EM waves have to be *flowing through* the virtual
short. EM waves *cannot flow through* a real short.

For real shorts:
V/I=0 is a result caused by the real short.

For virtual shorts:
A virtual short is a result caused by V/I=0.
--
73, Cecil http://www.w5dxp.com

4480. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 13:50:41 UTC
From: Alan Peake <adpeake@killspam.internode.on.net>
Message-ID: <46237F31.20604@killspam.internode.on.net>
Source record: 42727

>>Actually Jim, virtual shorts etc. act the same for pulse systems as for
>>CW systems. The classic case is the rotating joint in radar systems.
>>Alan
>
>
> But isn't that a number of cycles of RF?
> Enough to reach 'steady-state'?
>
> When I read the word 'pulse', I think rising edge, flat top,
> falling edge, and the virtual short is quite different than
> a real short for this signal.
>
> ...Keith
>
I see your point. But as a CW signal can be thought of as series of
rectangular pulses,
then the effect of a virtual short/open/whatever, should be the same.
For a such a series,
the resultant signal at any point in the TL is of course quite different
from a single pulse. But I still can't see that a virtual short would be
different to a real short.
Alan

4481. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 14:23:50 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <VFLUh.597$Ir2.557@newssvr17.news.prodigy.net>
Source record: 42729

Cecil Moore wrote:
> Alan Peake wrote:
>> But I still can't see that a virtual short would be different to a
>> real short.

I forgot to say, the following applies only to a virtual
short in the absence of a physical impedance discontinuity.
A virtual short at a physical impedance discontinuity
involves interference between forward wave components and
reflected wave components.

> A virtual short is (Vfor-Vref)/(Ifor+Iref) = 0
> where |Vfor| = |Vref|
>
> For the virtual short to exist, two equal magnitude
> EM waves have to be *flowing through* the virtual
> short. EM waves *cannot flow through* a real short.
>
> For real shorts:
> V/I=0 is a result caused by the real short.
>
> For virtual shorts:
> A virtual short is a result caused by V/I=0.
--
73, Cecil http://www.w5dxp.com

4482. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 15:44:15 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1176738255.227064.26150@o5g2000hsb.googlegroups.com>
Source record: 42730

On Apr 15, 11:30 pm, Alan Peake <adpe...@killspam.internode.on.net>
wrote:
> Jim Kelley wrote:
>
> > I guess I may have been 'intuiting' too much, myself. Since virtual
> > shorts and opens only appear in the steady state, I wouldn't expect
> > pulses to reflect off of them. I don't expect sine waves to reflect
> > off of them in steady state either for that matter, but that remains a
> > point of contention apparently.
>
> > 73, Jim AC6XG
>
> Actually Jim, virtual shorts etc. act the same for pulse systems as for
> CW systems.

Hi Alan -

Reflections measured by a TDR are caused by physical impedance
discontinuities. Virtual impedances are defined by the superposition
of forward and reflected voltages in the steady state. Pulsed systems
offer the ability to study the transient effects of a system by
viewing reflections caused only by changes in the characteristic
impedance of the transmission line. Since TDR doesn't use CW (not to
be confused with Morse Code) it does not operate under steady state
conditions and can therefore neither prove nor disprove the claim for
reflections from virtual impedances.

73, Jim AC6XG

4483. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 16:14:08 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1176740048.403209.104880@d57g2000hsg.googlegroups.com>
Source record: 42731

On Apr 16, 5:34 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Jim Kelley wrote:
> > Let us know when HP gets around to ammending its S-Parameter treatise
> > to include the 4th Mechanism of Reflection.
>
> Please wade through the S-Parameter analysis with me,
> see for yourself, and suggest an alternative. The
> Florida State web page says the energy involved in
> wave cancellation is redistributed "somehow". Wave
> cancellation is obviously not a simple reflection
> from an impedance discontinuity because it does not
> obey the reflection rules.
> --
> 73, Cecil http://www.w5dxp.com

Hi Cecil,

I really do appreciate your courteous and patient offer. But in fact, you have already waded us through that so many times it's kinda funny that you hope it will somehow turn out differently this time. I don't understand why the S-parameter analysis is controversial - unless perhaps you're doing something fanciful with it. If not, it's no lo contendre. The point of contention is only one or two particular aspects of your energy analysis. By that I mean _your_ energy analysis, not Eugene Hechts interference equations (and poor choices of terms), not B&W's Poynting vector discussion, and not the Hewlett-Packard s-parameter application note. Although you do frequently quote, paraphrase, and presume to speak on their behalf, those people do not post your ideas to rec.radio.amateur.antenna.

73, Jim AC6XG

4484. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 17:07:55 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176743275.416459.246790@d57g2000hsg.googlegroups.com>
Source record: 42732

On Apr 15, 7:49 am, Gene Fuller <W4SZzzz...@att.net> wrote:
...
>
> Cecil,
>
> I pointed out a few days ago that the FSU Java applet you lean on so
> heavily these days is a simple tutorial device designed by a grad
> student and a programmer. As shown, it is physically impossible, since
> there is no mechanism in place to cause the waves to suddenly jump
> together and interfere.
>
> It is a useful picture showing how sine waves with differing phases add
> together; no more and no less. It is a simple matter of mathematics. It
> is not a new discovery in the world of RF or optics.
>
> 73,
> Gene
> W4SZ

I have yet to see Cecil, or anyone else, post an example of how waves can become perfectly collinear, except at an interface: a discontinuity in a transmission line, a partially-reflecting surface in an interferometer, ... -- a physical interface of some sort.

I have yet to see Cecil, or anyone else, post an example of perfectly collinear waves that perfectly cancel over some small finite volume which do not also cancel perfectly at all points up to their point of origin: a physical interface. In other words, lacking that example, I see NO physical evidence that those waves exist beyond that "point of origin." Specifically, I have not seen an example of a uniform TEM line on which it is supposed that two waves cancel perfectly over some distance, but over some other length on the same line with no interposed interfaces, the two do not perfectly cancel.

I have yet to see Cecil, or anyone else, post an example wherein the behaviour of a uniform, linear TEM transmission line is not adequately explained by the propagation constant of the line, the concept that Vf/If=-Vr/Ir=Zo, Vtotal=Vf+Vr, and Itotal=If+Ir, and the boundary conditions at any transitions or interfaces.

Whether or not any claims about power and energy formulas are accurate or not, I don't know. I'd have to be convinced they're actually useful before I looked at them more closely. So far, I've not been convinced of their utility. But then maybe I'm just slow. I could never see how the current at two ends of a wire (with no other

conductive paths between the ends) could be different unless the wire in between was storing or giving up charge, either, and I was LAUGHED AT and told that was just flat-out wrong. The laughing didn't seem to help; I still don't see it.

When I brought up that applet a few days ago, the same thing jumped out at me, and gave ME a good laugh. Yes, it shows waves cancelling, but it never shows how they got there.

Cheers,
Tom

This posting (c) 2007; it may be quoted only in its entirety.

4485. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 17:39:09 UTC
From: szilagyic <chris@groupinfo.com>
Message-ID: <1176745148.996675.10360@d57g2000hsg.googlegroups.com>
Source record: 42733
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

On Apr 7, 12:38 am, "Steve Barker" <ichasetra...@some.yahoo.com>
wrote:
> cool. I already got the green connector today from another seller $16 for a
> hundred plus $16 to ship <G> . Still a deal. Going after the tool now.
>
> thanks for the info.
>
> --
> Steve Barker
>
> "Carl Navarro" <cnava...@wcnet.org> wrote in message
>
> news:7ntd13lmd6eolfemibjjbc6qkmjj8nbdu9@4ax.com...
>
> > On Fri, 6 Apr 2007 15:58:29 -0500, "Steve Barker"
> > <ichasetra...@some.yahoo.com> wrote:
>
> >>Carl, is ebay item 320099467506 along the right lines?
>
> > Yep, that's the tool, here's the reference to my Detroit Connection
>
> >http://cgi.ebay.com/100-DIGICON-DS6Q-COMPRESSION-CONNECTORS-FOR-RG6-Q...
>
> > Carl

I too purchased some of the Digicon fittings (DS6 and DS6Q) on Ebay.
Have already replaced some of my crimp-on fittings on some older RG-6
and also the new RG-6 QS, and noticed some signal improvement on a few
stations. They have completely eliminated some minor interference we
were seeing from our 30 db amp. These are great fittings, especially
for the price.

Just wanted to mention that I also got the Zenith ZDS-5061 compression
tool for $15 on Ebay, and it works great with these fittings.

Thanks again for all of the info!

--
Chris

4486. Book (and software) sale

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 17:59:46 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176746386.038779.60720@o5g2000hsb.googlegroups.com>
Source record: 42734
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Hi all,

Just got an email from SciTech Publishing about a sale linked to their 10th anniversary. Some reading this group might be interested. From their home page at http://www.scitechpub.com/, click on the link just below the banner, "RadarCon 2007 - Take advantage of our special conference prices. "

Though it's mainly books, you can also pick up WinSMITH 2.0 for $89 insead of their usual $125, I think it is, which is a discount from the "list" price of $149. There are quite a few books with "antenna" or "antennas" in the title, though most are a bit esoteric for ham use, and there are some "receiver" books. The discount is 40% from their usual prices for SciTec and Nobel titles, and 15% for others. The 15% may not be very exciting, but the 40% seems worthwhile if it's something you're looking for.

Cheers,
Tom

4487. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 18:22:31 UTC
From: Bud-- <remove.BudNews@isp.com>
Message-ID: <7e97d$4623beaa$4213eb79$462@DIALUPUSA.NET>
Source record: 42735

Jimmie D wrote:
> "Thomas Horne" <hornetd@mindspring.com> wrote in message
> news:4QNTh.397$j63.395@newsread2.news.pas.earthlink.net...
>>
>>And my point is that your opinion does not jibe with the National Electric
>>Code.
>>--
>>Tom Horne
>
>
> Please Tom, tell me in what way that the grounding system should be
> sufficent on its own and not having to rely on the plumbing to provide
> grounding for an electrical system in violation of the NEC.

In violation of the NEC?? Underground metal water pipe was a required
electrode in the oldest NEC I have, 1968, and I think it has been
required since shortly after Columbus ï¿½discovered Americaï¿½.

> Also please tell
> me how you intend to prevent the scenario I discribed where the ground
> system was completely disconnected from the home when the well's metal
> plumbing was replaced with plastic.

For that very reason the NEC requires a ï¿½supplementalï¿½ electrode. As
the ï¿½NEC Handbookï¿½ makes clear, the supplemental electrode is not
required because metal water pipe is a bad electrode, only because it
may be replaced in the future by plastic.

The supplemental electrode was commonly one or two ground rods. Rods are
a little better than nothing - a rod-to-earth resistance of 25 ohms is
considered acceptable, or install 2 and resistance doesnï¿½t matter. With
a supplemental rod, if an underground metal water pipe is replaced with
plastic a good grounding electrode system becomes a poor system.

The 2005 NEC generally requires adding a ï¿½concrete encased electrodeï¿½ in
new construction . This is actually a decent electrode.

>
> The Code is the min and max that an inspector can apply to an inspection
> This means that the inspector cant find fault with using plumbing for
> grounding if this is what the code says, it doesnt mean that the inspector
> can find fault if it is built better than code requirements, so again I
> say the code is written to a minimum spec. Your own definition of min max
> confirms this. Traditionally the NEC has the lowest minimum standard and the
> state and local codes usually have a higher standard., there may be some
> exceptions to this. I will will stipulate that using plumbing for ground may

> be "to code" in some places but it still is not a good way to ground your
> house and definately should not be used for a lightning ground.
>

Using underground metal water pipes for grounding is ï¿½to codeï¿½ anywhere the NEC is adopted and not modified. That is a major piece of the US. The requirement to use metal water pipe as an electrode dates back a long time and is substantially unchanged. The authors of the NEC see metal underground water pipe as an effective grounding electrode. As Thomas said, ï¿½your opinion does not jibe with the National Electric Codeï¿½. You also donï¿½t say what your improvement over water pipe is.

If installing lightning rods a different NFPA standard is used. If installing a lightning rod in the form of a tower or high antenna it would also be wise to look at other standards.

Regarding corrosion, water pipe corrosion has been investigated by the International Association of Electrical Inspectors and the National Institute of Standards and Technology, and corrosion problems were found to be minimal.

--
bud--

4488. very important for your life...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 18:34:51 UTC
From: ibrahim <rrr1001@gmail.com>
Message-ID: <1176748491.842502.255180@n76g2000hsh.googlegroups.com>
Source record: 42736

Hi there ...

Thank you for reading this message .

Did you here about Islam? I mean the real Islam...
Do you have some questions in your religion and you don't have the
answers for them?
Do you know that you have to condemns in Islam?

Ok... just visit these sites, read and download any thing you want
for free and I wish that you will have a good time with the sites
below:

http://www.islamhouse.com

http://www.islam-qa.com/index.php?ln=eng

http://www.islamtoday.net/english

http://www.islam-guide.com

http://www.islamhouse.com/library/?p...eb5324d19c1609

You can read about prophet Mohammad in this site:
http://www.islamway.com/mohammad
And:
http://www.islamhouse.com/en/modules...&bookno=378 7

Also you can see this wonderful site :
http://www.islamawareness.net/Science/

If you have other questions you can send them to :
rabwahoffice@yahoo.com or rabwah@www.com

Or you can ask in this site:
http://www.en.islamhouse.com/modules.php?name=Feedback

And if you want to read more and more see these sites:

http://www.ahmed-deedat.co.za/frameset.asp

http://www.todayislam.com

http://www.beconvinced.com

http://www.thetruereligion.org

http://www.it-is-truth.org

http://www.islamunveiled.org

http://www.discoverislam.com

http://www.lordswrds.com

http://www.plaintruth.org

http://www.sultan.org

http://www.prophetmuhammed.org

http://www.religionofislam.com/english/index.htm

http://lordswords.com/
If you need to ask me about something just send it to my email:
factislam@gmail.com

***Here I'm asking you to carefully analyze and look deeply at this religion; you shall discover new findings - even concerning yourself - and also that this religion is completely different from what is portrayed in the media and from what you have heard or read about it.
So I leave you now with these links and hope you enjoy them....
I wish that you will visit the above sites and take it seriously.
Thank you for your time.

4489. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 18:55:55 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f00gv2dfj1@news.service.uci.edu>
Source record: 42737

Cecil Moore wrote:
> Jim Kelley wrote:
>
>> Cecil Moore <nos...@w5dxp.com> wrote:
>
>
>>> Jim Kelley wrote:
>>>
>>>> Roy is absolutely right, Cecil. Interact is a very poor choice of
>>>> terms in this discussion.
>
>
>>> Roy did NOT say "interact" was a poor choice of terms.
>>
>>
>> That's correct. I said that interact is a poor choice of terms.
>
>
> But you implied that is what Roy said just above.

I observed that Roy is absolutely right, and, that 'interact' is a
very poor choice of terms in this discussion. I said it because waves
do not, according to the definition of the word, 'act upon one
another'. That of course does not mean there isn't a net effect when
they superpose. It simply means that waves do not effect other waves.
At this point I really don't expect you to understand that.

>>> chose to use it as did Hecht. Hecht says waves interact.
>>> Roy says they don't interact.
>>
>>
>> As I said, Roy is correct.
>
>
> Roy is right and Hecht is wrong???

If Hecht actually weighed in on the subject, he would agree with Roy.
His use of the term caused you to infer something that he, I assure
you, did not intend to imply.

>> And the funny thing is, you say that even you know of instances in
>> which the net fields are zero, and yet the waves propagate beyond that
>> point.

> Where do the reflected waves go that propagate beyond that
> point and are measured as zero amplitude by a Bird wattmeter?

Take a look at the interference pattern created in space by two, separated, coherent, point sources of light. The light waves propagating from each point sources have absolutely no effect on each other as they pass through one another, alternately interfering destructively and constructively as they continue to propagate totally unaffected by the process. It doesn't matter which direction they're traveling; in no instance do waves destroy or act upon other waves, totally or partially. The result of their superposition may differ from one case to the next, but the phenomenon itself does not. But again, at this point I don't expect you to understand this.

> Dr. Best said those zero energy canceled waves propagate right
> into the source.

He might have a point. But since cancelled waves convey no energy, it doesn't really matter one way or the other, as others here have noted.

> Are
> you making that same stupid assertion?

All I'm trying to do is point out when you make a stupid assertion.

>> I think you just like to argue.
>
>
> No, I honestly think we would pinpoint our differences. But,
> of course, you would never agree to such.

I've already made the differences as clear as I possibly can in every way I can think of, Cecil. That is why at this point I really don't expect you to understand. You could, but I think it's pretty apparent that you have too much invested in your personal theories.

73, Jim AC6XG

4490. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 19:19:27 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <hoe723hi5eb1a66pbqe8hvuf7fjdtcn2fr@4ax.com>
Source record: 42738

On 16 Apr 2007 10:07:55 -0700, "K7ITM" <k7itm@msn.com> wrote:

>I have yet to see Cecil, or anyone else, post an example of how waves
>can become perfectly collinear, except at an interface: a
>discontinuity in a transmission line, a partially-reflecting surface
>in an interferometer, ... -- a physical interface of some sort.

Two sources impinging upon each other? If we take a specialized
example of lasers, their being bore sight in opposition. If we take
two antennas, where their -ahem- waves meet, again in opposition.
Nothing physical but the sources are required. As for perfection....

>I have yet to see Cecil, or anyone else, post an example of perfectly
>collinear waves that perfectly cancel over some small finite volume
>which do not also cancel perfectly at all points up to their point of
>origin: a physical interface. In other words, lacking that example,
>I see NO physical evidence that those waves exist beyond that "point
>of origin." Specifically, I have not seen an example of a uniform TEM
>line on which it is supposed that two waves cancel perfectly over some
>distance, but over some other length on the same line with no
>interposed interfaces, the two do not perfectly cancel.

This one is extremely simple to reveal. Those familiar with
microwaves would immediately sputter "Magic T!" Tom, if you have not
seen this offered in several many posts by me, it stands to reason you
must have filters set (but how is it you are reading this?). Of
course, this like the "rat race" coupler (or hybrid ring) all share
the same dynamics. However, for the "Magic T" the cancellation port
is fed by two apparent sources wherein their phases combine to a null
(given the appropriate phases, of course) at this "point of origin."
This may beg what is meant by interface as the "Magic T" is replete in
transmission line arms - however, all are identical in characteristic
Z (a uniformity), all can be Zload matched (a uniformity which then
discards the useful illustration of cancellation), and all are TEM (a
uniformity). As for perfection....

>I have yet to see Cecil, or anyone else, post an example wherein the
>behaviour of a uniform, linear TEM transmission line is not adequately
>explained by the propagation constant of the line, the concept that Vf/
>If=-Vr/Ir=Zo, Vtotal=Vf+Vr, and Itotal=If+Ir, and the boundary
>conditions at any transitions or interfaces.

Hmmm, those filters must have been a brick wall: In times past I've
offered Soliton waves in fiber optics (TEM lines, of course) wherein
there is no dispersion as would be typically found. This, of course,
stretches the concept of "linear" TEM lines insofar as NONE are! So

much for perfection, or practicality....

>Whether or not any claims about power and energy formulas are accurate
>or not, I don't know. I'd have to be convinced they're actually
>useful before I looked at them more closely. So far, I've not been
>convinced of their utility. But then maybe I'm just slow. I could
>never see how the current at two ends of a wire (with no other
>conductive paths between the ends) could be different unless the wire
>in between was storing or giving up charge, either, and I was LAUGHED
>AT and told that was just flat-out wrong. The laughing didn't seem to
>help; I still don't see it.

I don't trust claims, and measurements proving them even less so. If this statement above is about perfection; then, again, the last word has yet to be made such that accuracy can be guaranteed. [Even Ohm's law isn't accurate. Hence any power statement made in regard to it fails at some digit to the right of the decimal.]

>When I brought up that applet a few days ago, the same thing jumped
>out at me, and gave ME a good laugh. Yes, it shows waves cancelling,
>but it never shows how they got there.

When a sudden galactic Gamma burst hit us in the past, it too was of unknown origin (meaning no one knew how they got here). Later, we put up satellites to warn detectors an event was coming so we could roughly triangulate any new Gamma burst. One such event suggested a galactic black hole. Back of the envelope calculations have suggested similar Gamma burst sources (millions of light years away, but bore sight on us) could obliterate life in an entire solar systems in the space of milliseconds. Some might call that canceling waves - or a cosmic laugh.

OK, so admittedly all responses above entail exotic, rare, or strained examples. Some are ordinary within the context of experience. If all of your provisos were combined, then yes, nothing would satisify by virtue of a self-fulfilling definition.

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73's
Richard Clark, KB7QHC

4491. Running low on suicide bombers, terrorist cannon fodder, etc.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 19:45:48 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <f00jnlet3@nnrp.linuxfan.it>
Source record: 42739

```
ibrahim wrote:
> Hi there ...
>
> Thank you for reading this message .
> ...

Please respond and give us more supplies! <grin>

JS
```

4492. Re: RF/antennas hands-on book

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 19:47:42 UTC
From: Theo Markettos <theom+news@chiark.greenend.org.uk>
Message-ID: <+eb*3splr@news.chiark.greenend.org.uk>
Source record: 42740
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.misc

Bill Shymanski <wtshyman@mts.net> wrote:
> Amateur radio, perhaps? In the UK look for publications by the Radio
> Society of Great Britain; or possibly some libraries and bookstores have
> the ARRL Handbooks.

Hmm... good idea. The university library only has ARRL and RSGB handbooks
(which I think is things like current bands, callsigns etc) but I'll see if
I can find some amateur radio books. A big stack of 1970s magazines looks
to be coming my way too :)

Thanks for the suggestions!
Theo

4493. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 20:05:50 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <yGQUh.83915$aG1.59501@pd7urf3no>
Source record: 42741

It was much simpler when old boilers were easily obtained and could be buried in the back yard!

Just a fond memory.

Irv VE6BP

4494. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 20:06:33 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f00l3h$gt3$1@news.service.uci.edu>
Source record: 42742

Walter Maxwell wrote:

> On 15 Apr 2007 15:10:11 -0700, "Jim Kelley" <jwkelley@uci.edu> wrote:
>
>
>>On Apr 15, 12:50 pm, Walter Maxwell <w...@w2du.com> wrote:
>>
>>
>>>Seems to me that the only disagreement with my original posting is whether the condition at the stub point can
>>>be called a 'virtual' short circuit.
>>
>>Hi Walt,
>>
>>Most everyone has directly expressed complete agreement with that
>>idea.
>
>
>>>Here's the recurring theme:
>>
>>
>>*******Virtual impedance discontinuities do not cause
>>reflections.********
>>
>>
>>73, Jim AC6XG
>>
>
> OK Jim, if that's so, then I've got to figure out a new way to explain how antenna radiation patterns are
> modified by changing the relative phase of the signals fed to multiple radiators, and by changing the spacing
> between the radiators. Looks like I've had it all wrong for lo these many years. I thought I've been reading
> the same references as all the other posters.
>
> Walt

Hi Walt,

Your entire treatise is brilliant and useful with the one exception noted clearly above. Perhaps you could cite a single one of those references (other than Reflections of course) which directly contradicts my simple observation of an extremely well understood fundamental of nature.

Obviously a revision of that one circumstantial claim would have absolutely no impact on element spacing or how waves interfere, and it would in my view perfect the book. Once you have the currents and fields worked out properly, they look after themselves. You don't need to help them by inventing another mechanism for them to do their job. Faraday, JC Maxwell and others have already worked that out to most everyone else's satisfaction.

I think the discussion of virtual impedances and reflection coefficients is useful as an analytical tool. But it should also follow that the behavior being attributed to virtual entities is likewise, virtual i.e. it behaves as though....; that the actual cause of reflections is the real physical boundaries. That is the more reasonable approach, Walt. IMO.

73, Jim AC6XG

4495. GAP Titan DX

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 20:30:36 UTC
From: franky <frankyb_doe_weg@sk>
Message-ID: <4623dcf8$0$13850$ba620e4c@news.skynet.be>
Source record: 42743

Hi,

Have installad second hand gap titan DX.
Have problems to tune the antenna. If the antenna works fine voor 20 it doesn't work for 15

I have no dip at all on 40m.

The dip voor 20 is rather high in (out) the band 14600

Anyone info/tips/suggestions?

thanks, ON7RU

4496. Re: GAP Titan DX

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 20:31:38 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <d8n7239g6t6lh1aqfse4h99h001skt2r8r@4ax.com>
Source record: 42744

On Mon, 16 Apr 2007 22:30:36 +0200, franky <frankyb_doe_weg@sk> wrote:
>Have installad second hand gap titan DX.
>Have problems to tune the antenna. If the antenna works fine voor 20 it
>doesn't work for 15
>
>I have no dip at all on 40m.
>
>The dip voor 20 is rather high in (out) the band 14600

Hi Franky,

Is it ground mounted, or elevated?

73's
Richard Clark, KB7QHC

4497. Re: GAP Titan DX

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 20:48:59 UTC
From: The Shadow <repose@zilch.com>
Message-ID: <_iRUh.244960$6P2.72609@newsfe16.phx>
Source record: 42745

"franky" <frankyb_doe_weg@sk> wrote in message
news:4623dcf8$0$13850$ba620e4c@news.skynet.be...
> Hi,
>
> Have installad second hand gap titan DX.
> Have problems to tune the antenna. If the antenna works fine voor 20 it
> doesn't work for 15
>
> I have no dip at all on 40m.
>
> The dip voor 20 is rather high in (out) the band 14600
>
> Anyone info/tips/suggestions?
>
> thanks, ON7RU

Do you have the manual?
It is at URL:
http://www.gapantenna.com/files/TitanSinglePage.pdf

Lamont

4498. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 20:52:41 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f00nq0jgl1@news.service.uci.edu>
Source record: 42748

Cecil Moore wrote:

> Partially reflective surfaces cannot, by themselves,
> reflect 100% of the incident energy.

They can and certainly do when no energy is passing through the reflecting surface. In such a case the only energy conveyed by the wave is that which is reflected. The 100% number comes not in a single bounce, or from a single wavefront. But I don't expect you to understand this.

> The waves existed along with their energy components before
> they were canceled.

I believe your misunderstanding probably lies somewhere within that statement. It does not convey concise meaning.

> What happens to those energy components
> after the waves are canceled.

Where there are waves, there is energy. Where there are no waves, there is no energy. Show me the canceled waves.

73, Jim AC6XG

4499. Re: Effects of TOA

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 20:54:52 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <4623e295$0$9917$4c368faf@roadrunner.com>
Source record: 42746

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:vm06231ps1undi4voncacmht4v5fchp5gm@4ax.com...
> On Sun, 15 Apr 2007 18:43:12 -0400, "Jimmie D"
> <GFENDER@carolina.rr.com> wrote:
>
>>I would be
>>interested in knowing if others have experienced this effect using unually
>>long vertical antennas on the higher frequencies.
>
> Hi Jimmie,
>
> Sure, and on 10M too. Unfortunately I was the deaf one when others
> were working the skip. It cuts both ways.
>
> 73's
> Richard Clark, KB7QHC

Yeah the 1.25wl vertical want even put a signal across town on most days,
it is definatly a specialty antenna.

Jimmie

4500. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 20:59:11 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <4623e396$0$17147$4c368faf@roadrunner.com>
Source record: 42747

"Bud--" <remove.BudNews@isp.com> wrote in message
news:7e97d$4623beaa$4213eb79$462@DIALUPUSA.NET...
> Jimmie D wrote:
>> "Thomas Horne" <hornetd@mindspring.com> wrote in message
>> news:4QNTh.397$j63.395@newsread2.news.pas.earthlink.net...
>>>
>>>And my point is that your opinion does not jibe with the National
>>>Electric Code.
>>>--
>>>Tom Horne
>>
>>
>> Please Tom, tell me in what way that the grounding system should be
>> sufficent on its own and not having to rely on the plumbing to provide
>> grounding for an electrical system in violation of the NEC.
>
> In violation of the NEC?? Underground metal water pipe was a required
> electrode in the oldest NEC I have, 1968, and I think it has been required
> since shortly after Columbus discovered America.
>
>
>> Also please tell me how you intend to prevent the scenario I discribed
>> where the ground system was completely disconnected from the home when
>> the well's metal plumbing was replaced with plastic.

My point exactly, and who is going to replace the pipe, definately not an electrician that will make sure the ground system is maintained.

>
> For that very reason the NEC requires a supplemental electrode. As the
> NEC Handbook makes clear, the supplemental electrode is not required
> because metal water pipe is a bad electrode, only because it may be
> replaced in the future by plastic.
>
> The supplemental electrode was commonly one or two ground rods. Rods are a
> little better than nothing - a rod-to-earth resistance of 25 ohms is
> considered acceptable, or install 2 and resistance doesn't matter. With a
> supplemental rod, if an underground metal water pipe is replaced with
> plastic a good grounding electrode system becomes a poor system.
>
> The 2005 NEC generally requires adding a concrete encased electrode in
> new construction . This is actually a decent electrode.
>
>

>>
>> The Code is the min and max that an inspector can apply to an inspection
>> This means that the inspector cant find fault with using plumbing for
>> grounding if this is what the code says, it doesnt mean that the
>> inspector can find fault if it is built better than code requirements,
>> so again I say the code is written to a minimum spec. Your own
>> definition of min max confirms this. Traditionally the NEC has the lowest
>> minimum standard and the state and local codes usually have a higher
>> standard., there may be some exceptions to this. I will will stipulate
>> that using plumbing for ground may be "to code" in some places but it
>> still is not a good way to ground your house and definately should not be
>> used for a lightning ground.
>>
>
> Using underground metal water pipes for grounding is "to code" anywhere
> the NEC is adopted and not modified. That is a major piece of the US. The
> requirement to use metal water pipe as an electrode dates back a long time
> and is substantially unchanged. The authors of the NEC see metal
> underground water pipe as an effective grounding electrode. As Thomas
> said, "your opinion does not jibe with the National Electric Code". You
> also don't say what your improvement over water pipe is.
>
> If installing lightning rods a different NFPA standard is used. If
> installing a lightning rod in the form of a tower or high antenna it would
> also be wise to look at other standards.
>
>
>
> -----
> Regarding corrosion, water pipe corrosion has been investigated by the
> International Association of Electrical Inspectors and the National
> Institute of Standards and Technology, and corrosion problems were found
> to be minimal.
>
> --
> bud--

4501. Re: all informations delta loop antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 21:05:35 UTC
From: Rich <w9juc#comcast.not>
Message-ID: <FoqdnVNr-luEeL7bnZ2dnUVZ_v-tnZ2d@comcast.com>
Source record: 42749

Take a gander at this web site:

http://www.gopherlink.com/DeltaXray/CustomerComments.html

"oli" <oli004@wanadoo.fr> wrote in message
news:461cd78a$0$5075$ba4acef3@news.orange.fr...
> Hi all,
>
> I'am looking for a maximum informations about delta loop antennas.
> First of all, I found a lot of interesting documents with Antenna Search
> http://www.les-antennes.fr/index.php?antenna=delta+loop+calculator
> that can help me, but I don't find any document who explain what is the
> best mechanical technics to fixed elements to the boom.
>
> Best regards
>
> Oli
>

4502. Re: RF/antennas hands-on book

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 21:13:12 UTC
From: "Kevin G. Rhoads" <kgrhoads@alum.mit.edu>
Message-ID: <4623E6E8.4BDEA2D0@alum.mit.edu>
Source record: 42751
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.misc

http://www.pmillett.com/technical_books_online.htm

4503. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 21:29:01 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176758941.013714.284340@o5g2000hsb.googlegroups.com>
Source record: 42750

On Apr 16, 12:19 pm, Richard Clark <kb7...@comcast.net> wrote:
> On 16 Apr 2007 10:07:55 -0700, "K7ITM" <k...@msn.com> wrote:
>
> >I have yet to see Cecil, or anyone else, post an example of how waves
> >can become perfectly collinear, except at an interface: a
> >discontinuity in a transmission line, a partially-reflecting surface
> >in an interferometer, ... -- a physical interface of some sort.
>
> Two sources impinging upon each other? If we take a specialized
> example of lasers, their being bore sight in opposition. If we take
> two antennas, where their -ahem- waves meet, again in opposition.
> Nothing physical but the sources are required. As for perfection....

Best stick with transmission lines, and not lasers, but yes, you're
absolutely right. In my mind I was qualifying it as being waves
propagating in the same direction, since the discussion centers around
propagating EM cancelling out in a finite (non-zero) volume, and as
far as I know, there hasn't been anyone suggesting that waves on a
line in opposite directions cancel over a non-zero distance. I should
have explicitly stated that qualification, especially in this group.
I should, of course, also specified that all this propagation is
assumed to be in a perfectly linear medium, so someone can now offer a
transmission line made from wire wound around a ferrite core, shunted
by varicap diodes, and we'll have a nice nonlinear TEM line that all
sorts of strange things can happen on.
>
> >I have yet to see Cecil, or anyone else, post an example of perfectly
> >collinear waves that perfectly cancel over some small finite volume
> >which do not also cancel perfectly at all points up to their point of
> >origin: a physical interface. In other words, lacking that example,
> >I see NO physical evidence that those waves exist beyond that "point
> >of origin." Specifically, I have not seen an example of a uniform TEM
> >line on which it is supposed that two waves cancel perfectly over some
> >distance, but over some other length on the same line with no
> >interposed interfaces, the two do not perfectly cancel.
>
> This one is extremely simple to reveal. Those familiar with
> microwaves would immediately sputter "Magic T!" Tom, if you have not
> seen this offered in several many posts by me, it stands to reason you
> must have filters set (but how is it you are reading this?). Of
> course, this like the "rat race" coupler (or hybrid ring) all share
> the same dynamics. However, for the "Magic T" the cancellation port
> is fed by two apparent sources wherein their phases combine to a null
> (given the appropriate phases, of course) at this "point of origin."

> This may beg what is meant by interface as the "Magic T" is replete in
> transmission line arms - however, all are identical in characteristic
> Z (a uniformity), all can be Zload matched (a uniformity which then
> discards the useful illustration of cancellation), and all are TEM (a
> uniformity). As for perfection....

The "Magic T" as I know it is most certainly a physical interface in
the line. It's a four-port network. I'm surprised you'd even think
to mention it as a counter-example. Next you'll be saying that a
Michaelson interferometer (also a 4-port, where one port is commonly
terminated in a full reflection) isn't a physical interface...

>
> >I have yet to see Cecil, or anyone else, post an example wherein the
> >behaviour of a uniform, linear TEM transmission line is not adequately
> >explained by the propagation constant of the line, the concept that Vf/
> >If=-Vr/Ir=Zo, Vtotal=Vf+Vr, and Itotal=If+Ir, and the boundary
> >conditions at any transitions or interfaces.
>
> Hmmm, those filters must have been a brick wall: In times past I've
> offered Soliton waves in fiber optics (TEM lines, of course) wherein
> there is no dispersion as would be typically found. This, of course,
> stretches the concept of "linear" TEM lines insofar as NONE are! So
> much for perfection, or practicality....

Fiber optics are TEM lines??? I find lots of references to the
contrary. Can you give me any showing that they are?

I have to admit I haven't paid any attention to anything you've posted
about Soliton waves. (Do they differe from soliton waves?) Are you
saying they propagate as TEM waves in a linear medium but don't follow
the same rules with respect to linearity that other TEM waves do? Do
they not behave at boundaries in the same way that other waves do?
How do you create one in a piece of coax? I'm afraid I don't see in
what way they might be an example of something that propagates as a
TEM wave but doesn't obey the rules I'm used to seeing TEM waves obey.

>
> >Whether or not any claims about power and energy formulas are accurate
> >or not, I don't know. I'd have to be convinced they're actually
> >useful before I looked at them more closely. So far, I've not been
> >convinced of their utility. But then maybe I'm just slow. I could
> >never see how the current at two ends of a wire (with no other
> >conductive paths between the ends) could be different unless the wire
> >in between was storing or giving up charge, either, and I was LAUGHED
> >AT and told that was just flat-out wrong. The laughing didn't seem to
> >help; I still don't see it.
>
> I don't trust claims, and measurements proving them even less so. If
> this statement above is about perfection; then, again, the last word
> has yet to be made such that accuracy can be guaranteed. [Even Ohm's
> law isn't accurate. Hence any power statement made in regard to it

> fails at some digit to the right of the decimal.]

No, it's about practicality. Convince me that calculations based
primarily on power (or energy) rather than on voltage and current
offer me something useful, with respect to TEM lines, and I might have
a closer look at them. I have tools that give me an accurate picture
of the distribution of voltage and current on a line as a function of
time, at any point along the line. From these, I can find the power
delivered to loads (a useful, practical quantity that I do care
about). I can calculate the power dissipated as heat as a function of
distance along the line, which in some cases is useful and practical
information. I can easily calculate the steady-state load impedance
presented to a source, given a particular line and load, and again
that's useful, practical information. Give me a practical reason for
caring about "power" in "forward" and "reverse" waves on a TEM line.
>
> >When I brought up that applet a few days ago, the same thing jumped
> >out at me, and gave ME a good laugh. Yes, it shows waves cancelling,
> >but it never shows how they got there.
>
> When a sudden galactic Gamma burst hit us in the past, it too was of
> unknown origin (meaning no one knew how they got here). Later, we put
> up satellites to warn detectors an event was coming so we could
> roughly triangulate any new Gamma burst. One such event suggested a
> galactic black hole. Back of the envelope calculations have suggested
> similar Gamma burst sources (millions of light years away, but bore
> sight on us) could obliterate life in an entire solar systems in the
> space of milliseconds. Some might call that canceling waves - or a
> cosmic laugh.

I don't know what that was all about, but it doesn't matter anyway,
since I'm only a figment of Cecil's imagination.

Cheers,
Tom

>
> OK, so admittedly all responses above entail exotic, rare, or strained
> examples. Some are ordinary within the context of experience. If all
> of your provisos were combined, then yes, nothing would satisify by
> virtue of a self-fulfilling definition.
>
> Copy made in accordance with "Fair Use."
>
> 73's
> Richard Clark, KB7QHC

4504. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-16 22:38:08 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ass723tftlt20ijc7i5knfihi49dck0odc@4ax.com>
Source record: 42752

On 16 Apr 2007 14:29:01 -0700, "K7ITM" <k7itm@msn.com> wrote:

>In my mind I was qualifying it as being waves
>propagating in the same direction, since the discussion centers around
>propagating EM cancelling out in a finite (non-zero) volume, and as
>far as I know, there hasn't been anyone suggesting that waves on a
>line in opposite directions cancel over a non-zero distance.

Hi Tom,

Then the challenge devolves to a self-fulfilling proposition (which may be your point at this turn) as it requires two sources to occupy the same point.

>The "Magic T" as I know it is most certainly a physical interface in
>the line. It's a four-port network. I'm surprised you'd even think
>to mention it as a counter-example. Next you'll be saying that a
>Michaelson interferometer (also a 4-port, where one port is commonly
>terminated in a full reflection) isn't a physical interface...

Again, you have a self-fulfilling proposition. This has nothing to do with obtaining a condition of interference, but about filling an impossible constraint.

Consider, you do not mention where the line begins (or ends) or otherwise constrain this physically, and yet you can easily dismiss an example out of hand. It seems it is up to the respondent to feel out these constraints, much like reading Braille on a waffle iron.

Any issue of "interface" as has been offered by quotes from Terman, or otherwise bandied about in discussion is that the "interface" presents a disturbance (a step-wise shift in characteristic Z). There is nothing, per se, about an interface that disqualifies it from the study of interference as it is quite obvious power must enter through a system through some interface.

The "Magic T" and similar devices make every effort to present a non-perturbing environment to the transmission of waves, otherwise their utility would be nil.

Also, the "Magic T" offers an excellent solution to your first issue in that it does present two sources combining at one point whereby there is total null following. There is absolutely nothing about the "Magic T" that disturbs the field with discontinuities and would appear (from the perspective of the energy) as continuous.

>Fiber optics are TEM lines??? I find lots of references to the
>contrary. Can you give me any showing that they are?
>
>I have to admit I haven't paid any attention to anything you've posted
>about Soliton waves. (Do they differe from soliton waves?) Are you
>saying they propagate as TEM waves in a linear medium but don't follow
>the same rules with respect to linearity that other TEM waves do? Do
>they not behave at boundaries in the same way that other waves do?

OK, this is foreign turf for you. I don't think offering a course on
Solitons, fiber optics and TEM waves will change the discussion here.
You asked for examples and they were provided. Do you want to further
constrain to RF below a certain frequency?

>How do you create one in a piece of coax? I'm afraid I don't see in
>what way they might be an example of something that propagates as a
>TEM wave but doesn't obey the rules I'm used to seeing TEM waves obey.

So we are now confined to coax? The refinement of constraints is
painting examples into a corner as we progress.

>> I don't trust claims, and measurements proving them even less so. If
>> this statement above is about perfection; then, again, the last word
>> has yet to be made such that accuracy can be guaranteed. [Even Ohm's
>> law isn't accurate. Hence any power statement made in regard to it
>> fails at some digit to the right of the decimal.]
>
>No, it's about practicality.

Practicality when your post is littered with "perfect?" You have
rebutted every practical example offered! Do we now constrain what
practical means or is this about studying the effects of interference?

>Convince me that calculations based
>primarily on power (or energy) rather than on voltage and current
>offer me something useful, with respect to TEM lines, and I might have
>a closer look at them.

I presume this challenge is to the general readership.

73's
Richard Clark, KB7QHC

4505. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 00:18:49 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <8b48231t6lbu3i8tfghke4kiou5hpr0u9u@4ax.com>
Source record: 42755

On Tue, 17 Apr 2007 10:35:11 +1000, Alan Peake
<adpeake@killspam.internode.on.net> wrote:

>So how does one prove or disprove the existence of a real reflection
>from a virtual discontinuity?

Mac already covered that in the space of four sentences:
>On Sun, 15 Apr 2007 18:30:59 -0500, "J. Mc Laughlin" <jcm@power-net.net> wrote:
>
>>One characteristic of a "virtual short" is that its presence or location is
>>dependent on frequency. Another characteristic is that signals are expected
>>to exist on both sides of a "virtual short." One characteristic of a
>>"physical short" is that it does not depend on frequency. Another
>>characteristic of a "physical short" is that signals exist on only one side
>>of the "physical short's" location.

73's
Richard Clark, KB7QHC

4506. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 00:35:11 UTC
From: Alan Peake <adpeake@killspam.internode.on.net>
Message-ID: <4624163F.5080409@killspam.internode.on.net>
Source record: 42753

> Hi Alan -
>
> Reflections measured by a TDR are caused by physical impedance
> discontinuities. Virtual impedances are defined by the superposition
> of forward and reflected voltages in the steady state. Pulsed systems
> offer the ability to study the transient effects of a system by
> viewing reflections caused only by changes in the characteristic
> impedance of the transmission line. Since TDR doesn't use CW (not to
> be confused with Morse Code) it does not operate under steady state
> conditions and can therefore neither prove nor disprove the claim for
> reflections from virtual impedances.
>
> 73, Jim AC6XG
>

Yes, I had a bit of LNBF (Late Night Brain Fade) when I threw in the rotary joint example.
What I was trying underline was that there will be a real reflection at the point where a stub is attached - simply because it becomes a discontinuity in the TL. A TDR can show this but of course, I agree that a single pulse won't see the same discontinuity as a CW.
So how does one prove or disprove the existence of a real reflection from a virtual discontinuity?
Alan

4507. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 00:37:29 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <dFUUh.10658$YL5.10231@newssvr29.news.prodigy.net>
Source record: 42756

Jim Kelley wrote:
> I really do appreciate your courteous and patient offer. But in fact,
> you have already waded us through that so many times it's kinda funny
> that you hope it will somehow turn out differently this time.

We have never discussed the point in the analysis that
I would like to discuss next. It will be brand new
territory. What have you got to lose?
--
73, Cecil http://www.w5dxp.com

4508. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 00:45:57 UTC
From: Alan Peake <adpeake@killspam.internode.on.net>
Message-ID: <462418C5.3050308@killspam.internode.on.net>
Source record: 42754

> Hi Alan -
>
> Reflections measured by a TDR are caused by physical impedance
> discontinuities. Virtual impedances are defined by the superposition
> of forward and reflected voltages in the steady state. Pulsed systems
> offer the ability to study the transient effects of a system by
> viewing reflections caused only by changes in the characteristic
> impedance of the transmission line. Since TDR doesn't use CW (not to
> be confused with Morse Code) it does not operate under steady state
> conditions and can therefore neither prove nor disprove the claim for
> reflections from virtual impedances.
>
> 73, Jim AC6XG
>

Hi Jim, not sure if my previous reply got through.
Yes, I have to admit to LNBF (Late Night Brain Fade) when I threw in the rotary joint example. Of course it is CW in the pulse. I was trying to underline that a stub puts a physical discontinuity on the TL which will give a real reflection. But as you point out, this reflection is not the same as the reflection from a virtual discontinuity for CW. However, if the CW can be thought of as a series of pulses, then does that not mean that real reflections occur and that the sum of the reflections for each pulse looks like they have come from a virtual discontinuity?
If not, how would one go about proving or disproving the idea of reflections from virtual discontinuities?
Alan

4509. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 00:50:10 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176771010.595200.255840@y80g2000hsf.googlegroups.com>
Source record: 42757

On Apr 16, 3:38 pm, Richard Clark <kb7...@comcast.net> wrote:
> On 16 Apr 2007 14:29:01 -0700, "K7ITM" <k...@msn.com> wrote:
>
> >In my mind I was qualifying it as being waves
> >propagating in the same direction, since the discussion centers around
> >propagating EM cancelling out in a finite (non-zero) volume, and as
> >far as I know, there hasn't been anyone suggesting that waves on a
> >line in opposite directions cancel over a non-zero distance.
>
> Hi Tom,
>
> Then the challenge devolves to a self-fulfilling proposition (which
> may be your point at this turn) as it requires two sources to occupy
> the same point.

Well, maybe I'm mistaken, but I was under the impression that there was someone around here who was promoting the idea that two waves propagating in a linear medium could cancel over some non-zero finite volume, but not cancel everywhere along their path, even though that path was uninterrupted by any discontinuities in the medium. Maybe I'm mistaken, but I was under the impression that there was someone around here who was promoting the idea that calculations based on power rather than on voltage and current in a TEM transmission line offered some inherent value. I posted my original, "I have yet to see...," statements as a way of saying that I'm not convinced about the truth of either of those ideas, and it would go a long ways toward convincing me if someone posted examples. I'm still waiting. I still don't have a reference that a fiber optic cable is a TEM transmission line, though I have others that say that it's not. I still don't have information on whether a soliton wave can propagate in a linear medium, though I have references that say it is a non-linear phenomenon that occurs in non-linear media. If you can convince me that a wavefront coming to a Magic T doesn't see it as an impedance discontinuity, we could perhaps post more about that--or not.

But so far, your responses make me think you don't disagree with my implicit suggestions: that it's impossible to distinguish between the condition of two cancelled waves that somehow still exist (huh?) and the condition of no wave at all; and that there's precious little value in doing calculations based on "forward power" and "reverse power" in TEM lines--qualify that if you want by limiting it to the frequency range where we find it relatively easy to express what's going on in terms of voltage and current. That seems a reasonable qualification in this newsgroup.

Beyond that, you're of course welcome to go off on whatever tangents you wish. Basenote drift is the expected norm here; I engage in it all the time myself.

And I still don't exist; I'm only a figment of Cecil's imagination.

Cheers,
Tom

4510. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 00:56:39 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <bXUUh.10669$YL5.2962@newssvr29.news.prodigy.net>
Source record: 42758

K7ITM wrote:
> I have yet to see Cecil, or anyone else, post an example of how waves
> can become perfectly collinear, except at an interface: a
> discontinuity in a transmission line, a partially-reflecting surface
> in an interferometer, ... -- a physical interface of some sort.

Please stop the unfair innuendo. You have yet to see me say that
waves can become perfectly collinear, except at an impedance
discontinuity. I have gone out of my way to say reflections
happen only at a physical impedance discontinuity. Waves become
perfectly collinear because of reflections at a physical
impedance discontinuity. I don't know how you can possibly
be confused regarding what I said.

> I have yet to see Cecil, or anyone else, post an example of perfectly
> collinear waves that perfectly cancel over some small finite volume
> which do not also cancel perfectly at all points up to their point of
> origin: a physical interface.

Please stop the unfair innuendo. You have yet to see me say that
waves do not cancel immediately at the point of reflection. That's
because they are canceled immediately, like delta-t, after the
reflection. They exist for such a short time that they cannot even
be seen on an o'scope. There existence can only be deduced because
if they didn't exist, nothing would happen at a physical impedance
discontinuity.

> I have yet to see Cecil, or anyone else, post an example wherein the
> behaviour of a uniform, linear TEM transmission line is not adequately
> explained by the propagation constant of the line, the concept that Vf/
> If=-Vr/Ir=Zo, Vtotal=Vf+Vr, and Itotal=If+Ir, and the boundary
> conditions at any transitions or interfaces.

Not sure what you are getting at. All those waves are associated
with joules/second. I am not trying to replace anything. I am
merely adding an energy analysis to the voltage analysis. The
voltage analysis remains exactly the same as it has always been.

In an S-parameter analysis, if you square any of the normalized
voltage terms, you get joules/sec (power). If you square any
of the voltage reflection or transmission coefficients, you
get the power reflection coefficient. The S-Parameter analysis
seems to have been designed with power in mind. The HP Ap Note
says, "The previous four equations show that s-parameters are
simply related to power gain and mismatch loss, quantities
which ARE OFTEN OF MORE INTEREST than the corresponding

voltage functions." What do you suppose HP meant by, "ARE
OFTEN OF MORE INTEREST" regarding the power components?
--
73, Cecil http://www.w5dxp.com

4511. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 01:22:52 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f017ko$2rp$1@news.service.uci.edu>
Source record: 42760

Alan Peake wrote:

> However, if
> the CW can be thought of as a series of pulses, then does that not mean
> that real reflections occur and that the sum of the reflections for each
> pulse looks like they have come from a virtual discontinuity?

Hi Alan -

The point of using pulses is that their width is short, and the time between pulses is long compared to the delay times in the system. In the case of of CW there will be standing waves all throughout the system obscuring any possible measurement of transient response. These pulses only reflect from physical discontinuities in the surge impedance of the transmission line. Otherwise, TDR would be a complete wild goose chase; a real cluster _blank_, in the vernacular of the trade.

> If not, how would one go about proving or disproving the idea of
> reflections from virtual discontinuities?
> Alan

Disproving the idea of reflections from virtual discontinuities would be done, for instance, and has been suggested, by measuring the presence of fields beyond the virtual short in a 1/4 wave stub. Finding waves reflecting instead from the open end sure would not lend support to the notion. The fact that the idea is inconsistent with Maxwell's equations doesn't help either.

I don't think there is a way to prove the idea of reflections from virtual discontinuities. But with certain specific exceptions, a system could in other ways appear to behave as though reflections are originating at virtual impedance discontinuities (+/- n half wavelengths).

73, Jim AC6XG

4512. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 01:25:30 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <emVUh.10685$YL5.4370@newssvr29.news.prodigy.net>
Source record: 42759

Jim Kelley wrote:
> I said it because waves do
> not, according to the definition of the word, 'act upon one another'.

But they can act upon one another, Jim. The Florida State web page says so. The Melles-Groit web page says so. It says their energy components are redistributed. How can their energy components be redistributed if they have no effect on each other? You really need to join me in the s-parameter analysis.

b1 = s11(a1) + s12(a2)

That's phasor math proving that components of waves a1 and a2 have an effect on b1 and therefore on each other. Every time two coherent waves are collinear in the same direction in a transmission line, they have an effect on each other. It's called interference, either constructive or destructive.

> If Hecht actually weighed in on the subject, he would agree with Roy.

Good grief, Jim, now you are mind-fornicating Hecht. Hecht would certainly not agree with your obviously false assertions.

> His use of the term caused you to infer something that he, I assure
> you, did not intend to imply.

Your assurance and three bucks will get me a cup of Starbucks.

> Take a look at the interference pattern created in space by two,
> separated, coherent, point sources of light. The light waves
> propagating from each point sources have absolutely no effect on each
> other as they pass through one another, alternately interfering
> destructively and constructively as they continue to propagate totally
> unaffected by the process.

Yes, because they are not collinear. If they don't intersect, they also don't interfere. You can find billions of cases where they don't interfere. That doesn't mean they don't ever interfere.

Just as illustrated on the Florida State web page, when coherent waves are also collinear, as they are in a transmission line, they merge into the total wave and cease to exist as separate wave components.

b1 = s11(a1) + s12(a2)

s11(a1) and s12(a2) lose their identities and merge into b1. If your statements were true, an s-parameter analysis wouldn't

be valid but it is. Therefore, your statements are false. That's
why you need to wade through an s-parameter analysis because
you don't understand what happens or comprehend the physics
behind it.

> It doesn't matter which direction they're traveling;

On the contrary, coherent waves traveling in the same direction
in a transmission line are *collinear*. They merge and permanently
interfere with each other thus proving your strange assertions to
be false.

> I've already made the differences as clear as I possibly can in every
> way I can think of, Cecil.

But you are uttering assertions that are patently false. Given
two coherent waves traveling in the same direction in a Z0
transmission line, with equal magnitudes, V, and equal phases,
0 deg, what is the total magnitude? Do you even know how to do
phasor math?

V at 0 deg + V at 0 deg = _____

If you need help, ask your supervisor what the answer is.
--
73, Cecil http://www.w5dxp.com

4513. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 01:40:13 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <1AVUh.10694$YL5.4926@newssvr29.news.prodigy.net>
Source record: 42761

Jim Kelley wrote:
> They can and certainly do when no energy is passing through the
> reflecting surface. In such a case the only energy conveyed by the wave
> is that which is reflected. The 100% number comes not in a single
> bounce, or from a single wavefront. But I don't expect you to
> understand this.

I fully understand it Jim. I'm willing to take the time
to explain it to you with s-parameter examples, but you
have refused to listen. One wonders what you are afraid
of and what you have to lose except face.

> Where there are waves, there is energy. Where there are no waves, there
> is no energy. Show me the canceled waves.

b1 = s11(a1) + s12(a2) = 0

s11(a1) and s12(a2) are the two waves that are being
canceled. They exist sum to zero. Have you ever done
any phasor or vector addition?
--
73, Cecil http://www.w5dxp.com

4514. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 01:49:07 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0195u$4a3$1@news.service.uci.edu>
Source record: 42764

Cecil Moore wrote:

> We have never discussed the point in the analysis that
> I would like to discuss next. It will be brand new
> territory. What have you got to lose?

Time, patience, energy......

As Jack Nicholson once said, "I'd rather stick needles in my eyes".

ac6xg

4515. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 01:53:58 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <UMVUh.44$im2.23@newssvr22.news.prodigy.net>
Source record: 42762

K7ITM wrote:
> No, it's about practicality. Convince me that calculations based
> primarily on power (or energy) rather than on voltage and current
> offer me something useful, with respect to TEM lines, and I might have
> a closer look at them.

Assume you are dealing with light waves in free space
instead of RF waves in a transmission line. Would you
then find intensity (power density) calculations useful?
That's why optical physicists find them so useful.

Tom, are you familiar with an s-parameter analysis?

If so, it seems to me that b1 = s11(a1) + s12(a2) = 0
represent two wave components that immediately cancel
to zero when superposed at the impedance discontinuity.
Would you care to comment?
--
73, Cecil http://www.w5dxp.com

4516. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 01:58:22 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <0RVUh.45$im2.6@newssvr22.news.prodigy.net>
Source record: 42763

Alan Peake wrote:
> So how does one prove or disprove the existence of a real reflection
> from a virtual discontinuity?

One sure way would be to demonstrate a reflection from
a virtual impedance where no physical impedance discontinuity
exists. Good luck on that one.
--
73, Cecil http://www.w5dxp.com

4517. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 02:06:12 UTC
From: richardharrison@webtv.net
Message-ID: <19454-46242B94-108@storefull-3251.bay.webtv.net>
Source record: 42766

Walter, W2DU wrote:
"OK, Jim, if that`s so, then I`ve got to figure out a new way to explain how antenna radiation patterns are modified by changing the relative phase of the signals fed to multiple radiators, and by changing the spacing between the radiators."

Walter`s systen isn`t broken so it shouldn`t be fixed. Signal strength at a point in space depends on the vector totals of its constituents. Walter`s totals are determined by positions of the radiators and phases of the currents in those radiators.

Obviously, where vectors are in-phase they add and where they are out-of-phase they subtract.

The system works, that`s why the FCC endorses it.

Best regards, Richard Harrison, KB5WZI

4518. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 02:13:37 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <l3WUh.10955$Kd3.1999@newssvr27.news.prodigy.net>
Source record: 42765

K7ITM wrote:
> Well, maybe I'm mistaken, but I was under the impression that there
> was someone around here who was promoting the idea that two waves
> propagating in a linear medium could cancel over some non-zero finite
> volume, but not cancel everywhere along their path, even though that
> path was uninterrupted by any discontinuities in the medium.

Would you please name the person who said such. It certainly
was NOT me. The waves involved in the cancellation are
canceled so fast that they cannot be viewed on an o'scope.
But if they didn't exist, nothing would happen at an
impedance discontinuity.

Take the s-parameter equation, for instance.

b1 = s11(a1) + s12(a2) = 0

If s11(a1) doesn't exist, then s11 and/or a1 must not exist
either. But s11 and a1 can be measured. So if s11 and a1
exist, does s11(a1) exist only to be canceled or did it
never exist. If s11(a1) never existed, what the heck is
an s-parameter analysis good for?

> Maybe
> I'm mistaken, but I was under the impression that there was someone
> around here who was promoting the idea that calculations based on
> power rather than on voltage and current in a TEM transmission line
> offered some inherent value.

An energy analysis is not supposed to replace a voltage analysis
but is supposed simply to settle the question, Where does the
energy go? If we assume that in a Z0 transmission line, that
Vfor^2/Z0 = forward joules/sec and Vref^2/Z0 = reflected joules/sec,
the energy analysis falls out from the voltage analysis.

If you don't care where the energy goes, that's cool, but some
of us, like Bruene and Maxwell, do care and have been arguing
about it for decades.

To keep an energy analysis from falling out from the voltage
analysis, we have been told that reflected waves don't exist,
and if they did exist, they would be devoid of energy content.
"I have yet to see" an EM wave that can exist devoid of
energy content.
--
73, Cecil http://www.w5dxp.com

4519. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 02:19:02 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f01au2$5ob$1@news.service.uci.edu>
Source record: 42768

Cecil Moore wrote:

> Jim Kelley wrote:
>
>> I said it because waves do not, according to the definition of the
>> word, 'act upon one another'.
>
>
> But they can act upon one another, Jim. The Florida State web
> page says so. The Melles-Groit web page says so.

No they don't. If the waves themselves changed, then their resultant superposition would also change. It's a completely unfounded notion, Cecil.

> It says their
> energy components are redistributed.

Which is not the same as saying waves have an effect on other waves. I said I didn't expect you to understand, and clearly you don't.

> How can their energy
> components be redistributed if they have no effect on each
> other?

I don't know what exactly an "energy component" is, but I would assert that it would be redistributed in the same way completely independently of however you or I might happen to feel about it.

>> His use of the term caused you to infer something that he, I assure
>> you, did not intend to imply.
>
> Your assurance and three bucks will get me a cup of Starbucks.

Not to mention a more realistic viewpoint.

>> Take a look at the interference pattern created in space by two,
>> separated, coherent, point sources of light. The light waves
>> propagating from each point sources have absolutely no effect on each
>> other as they pass through one another, alternately interfering
>> destructively and constructively as they continue to propagate totally
>> unaffected by the process.
>
>
> Yes, because they are not collinear. If they don't intersect,
> they also don't interfere. You can find billions of cases where
> they don't interfere. That doesn't mean they don't ever interfere.

As I said, I don't expect you to understand, and clearly here you don't.

> Just as illustrated on the Florida State web page, when coherent
> waves are also collinear, as they are in a transmission line, they
> merge into the total wave and cease to exist as separate wave
> components.

Yes, it very effectively shows how 1 + -1 = 0. Very profound, Cecil.

ac6xg

4520. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 02:26:04 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <1328c27kt02poda@corp.supernews.com>
Source record: 42767

Alan Peake wrote:
>>
> Hi Jim, not sure if my previous reply got through.
> Yes, I have to admit to LNBF (Late Night Brain Fade) when I threw in the
> rotary joint example. Of course it is CW in the pulse. I was trying to
> underline that a stub puts a physical discontinuity on the TL which will
> give a real reflection. But as you point out, this reflection is not the
> same as the reflection from a virtual discontinuity for CW. However, if
> the CW can be thought of as a series of pulses, then does that not mean
> that real reflections occur and that the sum of the reflections for each
> pulse looks like they have come from a virtual discontinuity?
> If not, how would one go about proving or disproving the idea of
> reflections from virtual discontinuities?
> Alan

If you think of CW as a series of pulses, a "virtual short" occurs only when an inverted reflected pulse arrives at the same point at the same time as a non-inverted non-reflected pulse, causing the two to add to zero. (Or, of course, more complex combinations of multiple pulses arriving at the same point.) It isn't the same pulse which appears twice to interfere with itself; it's different pulses of the pulse string, sent at different times but arriving at the same point simultaneously due to one being delayed by reflection and the other not. So you see, the interval between those pulses is critical; if it changes, then the location of the "virtual short" changes. This is analogous to the steady state CW situation where the location of the "virtual short" changes with frequency.

In theory, you could prove that reflection isn't occurring from a "virtual discontinuity" by making an abrupt change in the excitation, for example abruptly changing its level, then noting that the effect of the change isn't seen back at the input until it propagates through the "virtual discontinuity", on to physical discontinuities where reflection actually takes place, and back. This might be difficult to do in practice, though, except with some fairly sophisticated equipment or very long lines because of the time intervals involved.

But let's suppose that you did somehow prove that a "virtual discontinuity" reflects waves. Then you have to explain the mechanism by which waves alter each other in a linear medium. Since you won't find any such mechanism described or explained in any reputable text, you'll have to come up with some pretty creative alternative physical laws or derivations on your own. They would have to explain such interesting phenomena as the diode-like nature of a "virtual discontinuity" -- that is, why the fields interact going one way and not the other. Also,

you'll need to come up with equations which take into account the infinite number of reflections from the "virtual discontinuities" which occur at nearly every point along any line not terminated in its characteristic impedance. At the end of the day, the results of those equations have to be the same as those which assume no reflections from "virtual discontinuities", because equations assuming no such reflection have been in use for over a century and have so far not been found to be in error.

Any of the proponents of "virtual discontinuity" reflections up to it?

Roy Lewallen, W7EL

4521. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 02:38:47 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <XqWUh.51373$VU4.26342@bgtnsc05-news.ops.worldnet.att.net>
Source record: 42769

```
Cecil Moore wrote:
> K7ITM wrote:
>> No, it's about practicality. Convince me that calculations based
>> primarily on power (or energy) rather than on voltage and current
>> offer me something useful, with respect to TEM lines, and I might have
>> a closer look at them.
>
> Assume you are dealing with light waves in free space
> instead of RF waves in a transmission line. Would you
> then find intensity (power density) calculations useful?
> That's why optical physicists find them so useful.
>
> Tom, are you familiar with an s-parameter analysis?
>
> If so, it seems to me that b1 = s11(a1) + s12(a2) = 0
> represent two wave components that immediately cancel
> to zero when superposed at the impedance discontinuity.
> Would you care to comment?

Cecil,

Most serious calculations by optical physicists are done through
Maxwell's Equations solvers. Intensity calculations are utterly
inadequate for exploring the details of high resolution imaging, for
example.

73,
Gene
W4SZ
```

4522. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 02:53:23 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <DEWUh.17169$Um6.15656@newssvr12.news.prodigy.net>
Source record: 42770

Jim Kelley wrote:
> Cecil Moore wrote:
>> We have never discussed the point in the analysis that
>> I would like to discuss next. It will be brand new
>> territory. What have you got to lose?
>
> Time, patience, energy......

I'm willing to furnish the bulk of the time and energy.
All you need to do is read my s-parameter analysis and
show me where I am wrong.
--
73, Cecil http://www.w5dxp.com

4523. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 02:58:25 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <jJWUh.51$im2.39@newssvr22.news.prodigy.net>
Source record: 42771

Richard Harrison wrote:
> Obviously, where vectors are in-phase they add and where they are
> out-of-phase they subtract.

In fact, Jim Kelley's assertion that there is no interaction
between waves would result in isotropic radiation in the
far field of every antenna if one went out far enough to
measure the waves after they are propagating free of each
other. I wonder if NASA knows that?
--
73, Cecil http://www.w5dxp.com

4524. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 03:29:59 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <XaXUh.51480$VU4.47738@bgtnsc05-news.ops.worldnet.att.net>
Source record: 42772

Cecil Moore wrote:
> Richard Harrison wrote:
>> Obviously, where vectors are in-phase they add and where they are
>> out-of-phase they subtract.
>
> In fact, Jim Kelley's assertion that there is no interaction
> between waves would result in isotropic radiation in the
> far field of every antenna if one went out far enough to
> measure the waves after they are propagating free of each
> other. I wonder if NASA knows that?

Cecil,

You don't believe in superposition, do you? It is discussed in lots of books if you want to understand.

8-)

73,
Gene
W4SZ

4525. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 03:35:01 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <FfXUh.10731$YL5.255@newssvr29.news.prodigy.net>
Source record: 42773

Jim Kelley wrote:
> Cecil Moore wrote:
>> But they can act upon one another, Jim. The Florida State web
>> page says so. The Melles-Groit web page says so.
>
> No they don't. If the waves themselves changed, then their resultant
> superposition would also change. It's a completely unfounded notion,

If what you say is true, then if we measure field strengths
far enough away from an antenna to get outside the range
of interference, then all antennas are isotropic. Why don't
you call up NASA and tell them that permanent constructive
interference doesn't exist and they might as well be
using isotropic antennas?

>> It says their
>> energy components are redistributed.
>
> Which is not the same as saying waves have an effect on other waves. I
> said I didn't expect you to understand, and clearly you don't.

Well then, please explain it to me.
Here's the s-parameter equation for wave cancellation
in the b1 direction.

b1 = s11(a1) + s12(a2) = 0

s11, a1, s12, and a2 are all real measured values. b1 is a
real measured value. All of the measured values are perfectly
consistent. Exactly how did b1 get to be 0 without s11(a1) and
s12(a2) canceling each other out?

What do *you* get when you add one volt at 0 deg to one volt
at 180 deg when they are coherent and traveling in a collinear
path in a transmission line? Assuming EM waves, a value of zero
tells us that wave cancellation has occurred. So what value do
you get?

> As I said, I don't expect you to understand, and clearly here you don't.

You are a broken record, Jim, mindlessly uttering mantras to
cover up your inability to comprehend reality. I'm beginning
to understand what Roy meant by his "academic" statement.

>> Just as illustrated on the Florida State web page, when coherent
>> waves are also collinear, as they are in a transmission line, they
>> merge into the total wave and cease to exist as separate wave

>> components.
>
> Yes, it very effectively shows how 1 + -1 = 0. Very profound, Cecil.

That, my friend, is permanent destructive interference, in
the flesh, as it were. One joule/second at 0 degrees plus
one joule/second at 180 degrees is indeed 0 joules/sec in
the direction of original travel of those two waves in a
transmission line. What happens after that is a two
joule/second reflection in the opposite direction away from
the impedance discontinuity that is causing the reflections
and permanent interference.
--
73, Cecil http://www.w5dxp.com

4526. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 03:36:03 UTC
From: richardharrison@webtv.net
Message-ID: <13395-462440A3-816@storefull-3255.bay.webtv.net>
Source record: 42775

Jim, AC6XC wrote:
"Virtual impedance discontinuities do not cause reflections."

Reflection is a change in direction. On a transmission line a complete reflection is caused by a physical open or short on the line.

Current is interrupted at an open circuit. Energy in the magnetic field at the interruption collapses generating a voltage which doubles the line voltage at the open. This causes the current direction to reverse (a reverse in its phase) while not changing the phase of the voltage.

Conditions necessary for the reversal in travel direction of an EM wave are to reverse either the magnetic or electric wave`s polarization, but not to change both.

At an actual short on a line, volts are forced to zero at the short. Current doubles at the short, and the voltage wave reverses its polarization. The EM wave reverses its travel direction at the short as it did in the case of an open circuit.

When volts or amps compete against an opponent of half their magnitude, the stronger opponent wins. So, it`s volts or amps which determine which direction a wave travels on a transmission line at a discontinuity.

At a short or an open on a line , it is the current or voltage the discontinuity generates which turns the wave around. The line doesn`t care how the amps or volts came to suddenly appear at the turnaround point. If a virtual condition can generate the energy surge or escalation needed for a reversal in direction, it is as acceptable as a real discontinuity, in my opinion.

Best regards, Richard Harrison, KB5WZI

4527. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 03:39:36 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <YjXUh.10735$YL5.6170@newssvr29.news.prodigy.net>
Source record: 42774

Roy Lewallen wrote:
> Any of the proponents of "virtual discontinuity" reflections up to it?

Would you please explain if there is any energy associated
with your "inverted reflected pulse" and your "non-inverted
non-reflected pulse" or do they exist devoid of energy?
--
73, Cecil http://www.w5dxp.com

4528. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 03:53:48 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <gxXUh.10760$YL5.8185@newssvr29.news.prodigy.net>
Source record: 42776

Gene Fuller wrote:
> Most serious calculations by optical physicists are done through
> Maxwell's Equations solvers. Intensity calculations are utterly
> inadequate for exploring the details of high resolution imaging, for
> example.

All that may be true, Gene. But don't Maxwell's
equations obey the superposition principle?
What does Maxwell say happens when we superpose
two EM waves out of phase such that destructive
interference occurs? What does Maxwell say
about the energy "lost" to destructive
interference? Where did it go?

Are intensity calculations utterly inadequate
for exploring the details of low resolution
transmission lines? :-) If the intensity
(power) calculations enumerated in the s-
parameter analysis description are utterly
inadequate, why are they used so often?
--
73, Cecil http://www.w5dxp.com

4529. Re: Phase and Gain for Directional Antenna Needed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 03:55:30 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <MzXUh.247601$6P2.70171@newsfe16.phx>
Source record: 42777

"junoexpress" <MTBrenneman@gmail.com> wrote in message
news:1175644410.017352.138390@e65g2000hsc.googlegroups.com...
>
> I would say that the specifics are not that important. The DGA we
> worked with had a cylindrically symmetric gain pattern that resembled
> a "skinny" cardiod. The gain at the zenith was about roughly 12 Bic,
> which fell to roughly 1 Bic at about 60 degrees (where the angle
> measured is not the elevation, but the spherical coord theta). In
> fact, you just made me realize that I fit the theta dependence very
> well via the equation
> 0.00002399q^3 - 0.0031083q^2 - 0.025008q+11.0153
> and that the phase as a function of theta was very linear, and that
> the phase as a function of phi was "about" constant.

What's a Bic?

4530. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 04:01:37 UTC
From: richardharrison@webtv.net
Message-ID: <13395-462446A1-820@storefull-3255.bay.webtv.net>
Source record: 42778

Alan Peake wrote:
"I was trying to underline that a stub puts a physical discontinuity on
the TL which will give you a real reflection."

Short-circuited 1/4-wave stubs have long been used as "metal insulators"
to support transmission lines. This would likely be impractical if the
stubs produced a discontinuity on the line at the operatibg frequency.
The number of stubs seems without limit also. Put enough together and
you`ve constructed rectangular waveguide.

Best regards, Richard Harrison, KB5WZI

4531. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 04:20:40 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <sWXUh.10819$YL5.2599@newssvr29.news.prodigy.net>
Source record: 42779

Gene Fuller wrote:
> You don't believe in superposition, do you? It is discussed in lots of
> books if you want to understand.

Do you believe Jim's argument that two coherent EM
waves of equal magnitudes and opposite phases traveling
collinearly in the same direction in a transmission line
can never be canceled? If Jim is right, we can toss the
s-parameter analysis in the garbage can and join Roy in
calling it gobbledigook (sic).
--
73, Cecil http://www.w5dxp.com

4532. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 07:00:38 UTC
From: Alan Peake <adpeake@killspam.internode.on.net>
Message-ID: <46247096.9000602@killspam.internode.on.net>
Source record: 42780

>
> Hi Alan -
>
> The point of using pulses is that their width is short, ...

Hi Jim,
While the individual pulses are short, for them to simulate CW, they must be right next to each other. Obviously, the pulses that cancel or reinforce aren't the same ones, as Roy points out, and the CW which appears to reflect from the virtual discontinuity is the sum of all pulses, whether they are from the stub point, the other end of the stub or the load end of the TL.

Alan

4533. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 07:25:50 UTC
From: Alan Peake <adpeake@killspam.internode.on.net>
Message-ID: <4624767E.4070504@killspam.internode.on.net>
Source record: 42781

> If you think of CW as a series of pulses, a "virtual short" occurs only
> when an inverted reflected pulse arrives at the same point at the same
> time as a non-inverted non-reflected pulse, causing the two to add to
> zero. (Or, of course, more complex combinations of multiple pulses
> arriving at the same point.) It isn't the same pulse which appears twice
> to interfere with itself; it's different pulses of the pulse string,
> sent at different times but arriving at the same point simultaneously
> due to one being delayed by reflection and the other not. So you see,
> the interval between those pulses is critical; if it changes, then the
> location of the "virtual short" changes. This is analogous to the steady
> state CW situation where the location of the "virtual short" changes
> with frequency.

Hi Roy,
No disagreement with that. A single pulse will have reflections from the open end of the stub, the load end of the TL (if it's not Zo) and the stub attachment point. In a TDR, the first return will be from the latter point but it won't be of the same magnitude and sign as it would from a short. That requires all the pulses which are simulating (if you like), the CW. It will be whatever you get when the pulse, which has been happily travelling along a TL of Zo, meets a point where there are now two TLs of Zo in parallel. I consider this to be a discontinuity and will produce a real reflection albeit not, as I said, the same as that from a virtual short etc. So, in the sense that the quarter wave stub appears as a virtual short, I agree that the actual reflection to cause this comes from the open end of the stub.

> In theory, you could prove that reflection isn't occurring from a
> "virtual discontinuity" by making an abrupt change in the excitation,
> for example abruptly changing its level, then noting that the effect of
> the change isn't seen back at the input until it propagates through the
> "virtual discontinuity", on to physical discontinuities where reflection
> actually takes place, and back. This might be difficult to do in
> practice, though, except with some fairly sophisticated equipment or
> very long lines because of the time intervals involved.
>
Yes, you'd have to have a stub of 1/4 wave plus N 1/2 waves to see this effect. If N was large enough to see the excitation change (you could probably use a "CW pulse" a la radar to do this) I would expect to see some return from the stub attachment point, then the reflection from the open end of the stub.

> But let's suppose that you did somehow prove that a "virtual
> discontinuity" reflects waves. Then you have to explain the mechanism by
> which waves alter each other in a linear medium.

Well, I'm a believer in superposition so I'll leave that one to others :)

>

4534. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 07:33:02 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <mtq8231cvfg5kme6iik10mbr8qs0dkef00@4ax.com>
Source record: 42782

On 16 Apr 2007 17:50:10 -0700, "K7ITM" <k7itm@msn.com> wrote:

>On Apr 16, 3:38 pm, Richard Clark <kb7...@comcast.net> wrote:
>> On 16 Apr 2007 14:29:01 -0700, "K7ITM" <k...@msn.com> wrote:
>>
>> >In my mind I was qualifying it as being waves
>> >propagating in the same direction, since the discussion centers around
>> >propagating EM cancelling out in a finite (non-zero) volume, and as
>> >far as I know, there hasn't been anyone suggesting that waves on a
>> >line in opposite directions cancel over a non-zero distance.
>>
>> Hi Tom,
>>
>> Then the challenge devolves to a self-fulfilling proposition (which
>> may be your point at this turn) as it requires two sources to occupy
>> the same point.
>
>Well, maybe I'm mistaken, but I was under the impression that there
>was someone around here who was promoting the idea that two waves
>propagating in a linear medium could cancel over some non-zero finite
>volume, but not cancel everywhere along their path, even though that
>path was uninterrupted by any discontinuities in the medium.

Hi Tom,

'T'warn't me.

>Maybe
>I'm mistaken, but I was under the impression that there was someone
>around here who was promoting the idea that calculations based on
>power rather than on voltage and current in a TEM transmission line
>offered some inherent value.

'T'warn't me.

>I posted my original, "I have yet to
>see...," statements as a way of saying that I'm not convinced about
>the truth of either of those ideas, and it would go a long ways toward
>convincing me if someone posted examples. I'm still waiting.

'T'was me.

>I still
>don't have a reference that a fiber optic cable is a TEM transmission
>line, though I have others that say that it's not.

That example of the non-TEM fiber optic would be rare species indeed. I've seen them, but that hardly constitutes the sole species of the breed.

>I still don't have
>information on whether a soliton wave can propagate in a linear
>medium, though I have references that say it is a non-linear
>phenomenon that occurs in non-linear media.

Of course it can propagate in a linear medium. Solitons were first reported in linear media - water - something like one hundred seventy years ago. Solitons can induce non-linearity in otherwise linear media. Solitons also interact in collision with a phase shift afterwards. Solitons have been applied to data transmission in fiber optics for a dozen years or more.

Your references are pretty sparse.

>If you can convince me
>that a wavefront coming to a Magic T doesn't see it as an impedance
>discontinuity, we could perhaps post more about that--or not.

Consult Terman. He is quite compelling when it comes to describing microwave plumbing. This hardly constitutes more than 4 pages total reading, if you choose to move on beyond the first page of discussion.

>But so far, your responses make me think you don't disagree with my
>implicit suggestions:

True enough to a point.

>that it's impossible to distinguish between the
>condition of two cancelled waves that somehow still exist (huh?)

The elliptical huh? seems to be a curious toe in the water for many here. Strange how a concept draws borders around energy it to make it "disappear" simply because both contributions cancel. This is like saying gravity disappears on a 1 square inch patch of earth when the falling apple has come to rest on the ground. This is also akin to the misnomer of zero-gravity environment of the astronauts in the space shuttle.

For example (drawing away from G and towards V), if I were to place two batteries in series opposition
- + + -
and connect a load to the two free terminals; sure, no current would flow because there is no potential difference, but that numerical combination doesn't make the batteries disappear. Yes, the condition is indistinguishable from a load floating in null space, but we have a priori knowledge of existing energy that informs us otherwise. If we choose to be ignorant of the knowledge in that specific locality, the map of all phase combinations around it will certainly bring it to our attention again.

>Beyond that, you're of course welcome to go off on whatever tangents
>you wish. Basenote drift is the expected norm here; I engage in it
>all the time myself.

The point of my going into a basenote drift is to present examples that demonstrate what is necessary to answer your objections (like providing two sources at one point that cancel on one side, but exist independently on the other side of an interface). If those who present their "theories" cannot meet these demonstrated characteristics, then it is reasonable to reject their claims barring their offering treatments that are equally compelling.

73's
Richard Clark, KB7QHC

4535. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 08:19:58 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <13290pq36gqvnda@corp.supernews.com>
Source record: 42783

Alan Peake wrote:
>> [I wrote]
>> But let's suppose that you did somehow prove that a "virtual
>> discontinuity" reflects waves. Then you have to explain the mechanism
>> by which waves alter each other in a linear medium.
>
> Well, I'm a believer in superposition so I'll leave that one to others :)

Those others have made, I'm sure, over a thousand postings so far, and
yet in them there's a complete lack of any explanation of the mechanism.

Roy Lewallen, W7EL

4536. Re: RG-6 QS, top brands?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 11:45:40 UTC
From: Joe <joe.massimino@gmail.com>
Message-ID: <1176810340.420693.187820@b75g2000hsg.googlegroups.com>
Source record: 42784
Cross-posted to: comp.dcom.cabling,rec.video.cable-tv,alt.home.repair,alt.cable-tv,rec.radio.amateur.antenna

On Apr 7, 11:14 am, "Ed Nielsen" <e...@dslr.net> wrote:
> I started using Times when I started in cable in '85. Have used the other 2
> aforementioned brands, but still spec Times for our systems.
>
> That tool, as well as three of the ones listed
herehttp://www.cencom94.com/gpage.html2.html(CT-FBR, PCT-DRS-CT, &
> PCT-DRS-CT-AS), Cable Pro's LCCT-1, and many others fit those fittings.
> Only sort of exception in that group of fittings is PPC. They originally
> started out with the EX Series, which is about 19mm in length. Then others
> started making compression connectors that were 21mm in length, which is
> what the majority of them are. A few years ago, AT&T Broadband pushed PPC
> into making a 21mm fitting, which they labeled EXXL. PCT also has a
> Universal connector (TRS Series) which is a different length.
>

There are many compression tols out here. The one that I started with
is the Ideal tool. It can be gotten in any Home Depot, but it cost far
more than it's worth. I think it is still about $58, and will only
crimp one size of compression connector. The other tool I bought is
designed like the one you reference above. It has orange handles, and
can crimp RCA, BNC, and all compression connectors. I paid in the mid
$30's for mine, but I've seen them priced as high as the Ideal tool as
well.
Someone at work gave me an old compression tool that was left at there
house by a cable tech many years ago. It is very old and similar to
the Ideal tool, but not as heavy. The tool I have can crimp the short
compression connectors, as well as the long ones My tool is made by
Stern, and says Perma-Seal-II on it. It has a cutter on it, and the
extra dies to make it work with BNC, and RCA are secured to the inside
of the handle by being screwed into the inside edge. It is a great
design.

4537. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 12:52:38 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <qq3Vh.17218$Um6.11239@newssvr12.news.prodigy.net>
Source record: 42785

Jim Kelley wrote:
> Cecil Moore wrote:
>
>> Jim Kelley wrote:
>>> I said it because waves do not, according to the definition of the
>>> word, 'act upon one another'.
>>
>> But they can act upon one another, Jim. The Florida State web
>> page says so. The Melles-Groit web page says so.
>
> No they don't. If the waves themselves changed, then their resultant
> superposition would also change. It's a completely unfounded notion,
> Cecil.

Here's an example of that "unfounded notion". Please
point out my error.

In the following example, the 100W signal generator
is equipped with a circulator load. The system is
Z0-matched during steady-state so b1 = 0 during
steady-state.

100W
SGCL--50 ohm line--x--1/2WL 291.4 ohm line--50 ohm load
a1--> b2-->
<--b1 <--a2

b1 = s11(a1) + s12(a2) b2 = s21(a1) + s22(a2)

Let t0 be the time at which the 100W forward wave
reaches point 'x' for the first time.

Just after after t0, the source signal has split
into two parts. There are as yet, no reflections,
so a2=0. Every one of these three voltages can be
measured as real. These values remain constant
throughout steady-state.

x
a1=10---->|
|---->s21(a1)=5 toward the load
s11(a1)=5<----|

Just after t0, b1=5. During steady-state, b1=0.

Please explain how b1 goes from 5 to 0 during the
transient build-up state without having s11(a1)

interact with anything. There, in a nutshell,
is your technical and logical contradiction.
--
73, Cecil http://www.w5dxp.com

4538. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 13:59:32 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <8p4Vh.15551$JZ3.12091@newssvr13.news.prodigy.net>
Source record: 42786

Cecil Moore wrote:
> x
> a1=10---->|
> |---->s21(a1)=5 toward the load
> s11(a1)=5<----|

For those of you who are unfamiliar with the way s-parameter
voltages are normalized, here are the *actual measured*
voltages at the impedance discontinuity at t=0 + delta-t.
All three voltages can easily be seen on an o'scope a
short time after t=0. During the buildup to steady-
state Vref1 goes from 50V to 0V. How that is possible
without interaction is the question for ac6xg.

x
Vfor1=70.7V---->|
|---->120.7V=Vfor2 toward the load
Vref1=50V<----|
rho1--> | <--tau2(Vref2)=0

The corresponding equation used by RF engineers is:

Vref1 = rho1(Vfor1) + tau2(Vref2)

In this t=0 case, Vref2=0, so

Vref1 = rho1(Vfor1) at t=0
--
73, Cecil http://www.w5dxp.com

4539. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 14:06:13 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <pv4Vh.316569$5j1.205447@bgtnsc04-news.ops.worldnet.att.net>
Source record: 42787

Cecil Moore wrote:
> Gene Fuller wrote:
>> Most serious calculations by optical physicists are done through
>> Maxwell's Equations solvers. Intensity calculations are utterly
>> inadequate for exploring the details of high resolution imaging, for
>> example.
>
> All that may be true, Gene. But don't Maxwell's
> equations obey the superposition principle?
> What does Maxwell say happens when we superpose
> two EM waves out of phase such that destructive
> interference occurs? What does Maxwell say
> about the energy "lost" to destructive
> interference? Where did it go?
>
> Are intensity calculations utterly inadequate
> for exploring the details of low resolution
> transmission lines? :-) If the intensity
> (power) calculations enumerated in the s-
> parameter analysis description are utterly
> inadequate, why are they used so often?

Cecil,

Changing the topic again? So soon?

You made a claim about optical physicists. I pointed out that your claim is simply not correct. You then start babbling about low resolution transmission lines. What a surprise!

You seem to be going back and forth about the utility of bringing optics into the discussion on antennas and transmission lines. I doubt that many here would expect different physical principles to apply to the two wavelength regimes. I wonder if there might be a practical reason why the preferred computational techniques are somewhat different?

The physics does not change, but the mathematical convenience does change. Yes, that seems to be a recurring theme from me.

8-)

73,
Gene
W4SZ

4540. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 14:31:42 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <iT4Vh.52790$VU4.47590@bgtnsc05-news.ops.worldnet.att.net>
Source record: 42788

Cecil Moore wrote:
> Gene Fuller wrote:
>> You don't believe in superposition, do you? It is discussed in lots of
>> books if you want to understand.
>
> Do you believe Jim's argument that two coherent EM
> waves of equal magnitudes and opposite phases traveling
> collinearly in the same direction in a transmission line
> can never be canceled? If Jim is right, we can toss the
> s-parameter analysis in the garbage can and join Roy in
> calling it gobbledigook (sic).

Cecil,

Never is a long time. And I am sure you would slip away from free space or a linear medium to provide some counter example as soon as I agreed.

I agree with Jim and Roy, and most of the rest of the world. Electromagnetic waves, or photons if you prefer, simply do not interact without the assistance of interfaces, discontinuities, or a non-linear medium. Interference is a result from linear superposition. No waves are harmed in the process.

At interfaces and discontinuities lots of things can happen. There are well-established techniques for analyzing those things. There is no law of "conservation of waves", however. There is also no law that says all of the individual component waves you may choose to create need to have some sort of detailed energy balance. I have explained several times how the conservation of energy law works, but you seem to disbelieve me. (Hint: I did not make this stuff up. I gave you direct quotes from very reliable sources.)

Since you keep bringing up s-parameters, with the implication that they provide some new truth, perhaps you might go back and re-read AN-95-1.

From page 7 of the slide version:

"If other independent and dependent variables had been chosen, the network would have been described, as before, by two linear equations similar to equations 1 and 2, except that the variables and the parameters describing their relationships would be different. However, all parameter sets contain the same information about a network, and it is always possible to calculate any set in terms of any other set."

The other variables described earlier in the note include voltage and current. Again, we come to my old standby, mathematical convenience. S-parameters are very useful, but they bring nothing new to the physical

reality.

73,
Gene
W4SZ

4541. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 14:51:56 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <ga5Vh.316757$5j1.267751@bgtnsc04-news.ops.worldnet.att.net>
Source record: 42789

```
Cecil Moore wrote:
> Cecil Moore wrote:
>> x
>> a1=10---->|
>> |---->s21(a1)=5 toward the load
>> s11(a1)=5<----|
>
> For those of you who are unfamiliar with the way s-parameter
> voltages are normalized, here are the *actual measured*
> voltages at the impedance discontinuity at t=0 + delta-t.
> All three voltages can easily be seen on an o'scope a
> short time after t=0. During the buildup to steady-
> state Vref1 goes from 50V to 0V. How that is possible
> without interaction is the question for ac6xg.
>
> x
> Vfor1=70.7V---->|
> |---->120.7V=Vfor2 toward the load
> Vref1=50V<----|
> rho1--> | <--tau2(Vref2)=0
>
> The corresponding equation used by RF engineers is:
>
> Vref1 = rho1(Vfor1) + tau2(Vref2)
>
> In this t=0 case, Vref2=0, so
>
> Vref1 = rho1(Vfor1) at t=0

Cecil,

I am impressed! That's a pretty fancy o'scope you got. Measurement of
voltages to four significant digits at t = 0 + delta-t is definitely
world-class. That 291.4 ohm line is pretty special as well.

Is there some non-standard definition of *actual measured* that we
should consider to help interpret your results?

8-)

73,
Gene
W4SZ
```

4542. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 15:04:52 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <om5Vh.17237$Um6.11164@newssvr12.news.prodigy.net>
Source record: 42790

Gene Fuller wrote:
> Changing the topic again? So soon?

No, just asking questions, Gene, like any grasshopper worshiping at the feet of a guru is supposed to. Please stop avoiding the questions with non-technical diversions.

Do Maxwell's laws abide by the superposition principle? It is a question with a simple yes/no answer. If they do abide by the superposition principle, the forward wave and reflected wave can be analyzed separately and then superposed. Every individual wave component, e.g. s11(a1), s12(a2), s21(a2), and s22(a2) can be analyzed separately and then superposed. What do you get when you apply Maxwell's equations to s11(a1)? Hopefully, the same voltage, current, and energy as any other valid analysis. If not, there's a distinct problem that needs to be solved.

> You made a claim about optical physicists. I pointed out that your claim
> is simply not correct.

And I asked you to explain why it is not correct and you very carefully avoided answering. One wonders why.

> I doubt that
> many here would expect different physical principles to apply to the two
> wavelength regimes.

My point exactly, Gene. The two fields should agree in every way (except lingo). If you switch from voltage and current to EM fields, nothing should change. But when you admit that, you are forced to admit that voltages and currents associated with EM waves are bound by a set of restrictions, one of them being that they must at all times, travel at c(VF) and cannot, by definition, stand still as long as they exist as EM waves.

Intensity, irradiance, and Poynting vectors are just different names for the same physical phenomenon. To assert that power density in a transmission line doesn't obey the same rules as light intensity is just nonsense. The energy content of component waves has been known for decades in the field of optics and it applies just as well to RF waves as it does to light waves.

> The physics does not change, but the mathematical convenience does
> change.

My point exactly! No matter what the mathematical convenience,
(except for the lingo) the two fields should agree in every way.
When they appear to disagree, there is a contradiction somewhere.
Seems to me, in the quest to fit EM waves into the voltage and
current mold, some have forgotten that EM waves are not DC.
--
73, Cecil http://www.w5dxp.com

4543. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 15:16:11 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <_w5Vh.96$ns5.61@newssvr17.news.prodigy.net>
Source record: 42791

Gene Fuller wrote:
> Never is a long time.

Waves never interact *is* a long time.

> I agree with Jim and Roy, and most of the rest of the world.
> Electromagnetic waves, or photons if you prefer, simply do not interact
> without the assistance of interfaces, discontinuities, or a non-linear
> medium. Interference is a result from linear superposition. No waves are
> harmed in the process.

"No waves are harmed in the process" implies that waves can
never be canceled. Yet, all the textbooks and all the web
pages say that when two coherent collinear waves of equal
magnitudes and opposite phases meet, they only appear to
be destroyed but their energy components are actually
"redistributed" in different directions.

That's exactly what happens to reflected waves toward the
source when a Z0-match is achieved. The energy components
in the reflected waves, s11(a1) and s12(a2), are redistributed
back toward the load. How does b1 ever go permanently to
zero without s11(a1) and s12(a2) canceling each other?

> There is also no law that says all
> of the individual component waves you may choose to create need to have
> some sort of detailed energy balance.

Yes, there is, Gene. It is called the conservation of
energy principle. You cannot create energy in one place,
have it destroyed in another place, and then argue that
everything is all right because the net energy balance
remains the same.

> "If other independent and dependent variables had been chosen, the
> network would have been described, as before, by two linear equations
> similar to equations 1 and 2, except that the variables and the
> parameters describing their relationships would be different. However,
> all parameter sets contain the same information about a network, and it
> is always possible to calculate any set in terms of any other set."
>
> The other variables described earlier in the note include voltage and
> current. Again, we come to my old standby, mathematical convenience.
> S-parameters are very useful, but they bring nothing new to the physical
> reality.

Then why are you so afraid to discuss an s-parameter
analysis? Please respond to my example posting. How
does s11(a1) go from 5 to 0 without interacting with
something?
--
73, Cecil http://www.w5dxp.com

4544. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 15:23:06 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1176823386.101614.107110@n76g2000hsh.googlegroups.com>
Source record: 42792

On Apr 16, 8:35 pm, Cecil Moore <nos...@w5dxp.com> wrote:
>
> > No they don't. If the waves themselves changed, then their resultant
> > superposition would also change. It's a completely unfounded notion,
>
> If what you say is true, then if we measure field strengths
> far enough away from an antenna to get outside the range
> of interference, then all antennas are isotropic.

"Outside the range of interference"? Yes, please call NASA and tell
them about that. :-)

ac6xg

4545. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 15:27:02 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <aH5Vh.17240$Um6.12953@newssvr12.news.prodigy.net>
Source record: 42793

Gene Fuller wrote:
> I am impressed! That's a pretty fancy o'scope you got. Measurement of
> voltages to four significant digits at t = 0 + delta-t is definitely
> world-class. That 291.4 ohm line is pretty special as well.

Your non-technical diversions are noted. How about discussing
the technical question that was posed?

The voltages can be viewed on an o'scope. Their magnitudes
agree with the above calculated magnitudes. Do you know
of any reason that those voltages would not obey the
rules of the reflection model? When does a reflection
coefficient of 0.707 not reflect 0.707 of the incident
voltage?

The 291.4 ohm line is chosen to make rho=s11=0.707. My "450"
ohm ladder-line measures to be actually 380 ohms. Nothing
special about 291.4 ohms except that:

(291.4-50)/(291.4+50) = 0.707

We could actually design a feedline with Z0 = 291.4 ohms.
Want me to show you how? :-)

If you don't like that value, use 300 ohms and 51.5 ohms
for the coax. I'm sure between the choices of 50 ohm
coax and 52 ohm coax, there must be a 51.5 ohm coax in
there somewhere.
--
73, Cecil http://www.w5dxp.com

4546. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 15:30:30 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <qK5Vh.17242$Um6.17196@newssvr12.news.prodigy.net>
Source record: 42795

Jim Kelley wrote:
> "Outside the range of interference"? Yes, please call NASA and tell
> them about that. :-)

You said that EM waves cannot be perfectly collinear.
Therefore, there has to exist a distance where they
diverge and stop interfering. Your words, not mine.
--
73, Cecil http://www.w5dxp.com

4547. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 15:30:41 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176823841.663582.156530@y80g2000hsf.googlegroups.com>
Source record: 42794

On Apr 17, 12:33 am, Richard Clark <kb7...@comcast.net> wrote:
> On 16 Apr 2007 17:50:10 -0700, "K7ITM" <k...@msn.com> wrote:
...
> >I still
> >don't have a reference that a fiber optic cable is a TEM transmission
> >line, though I have others that say that it's not.
>
> That example of the non-TEM fiber optic would be rare species indeed.
> I've seen them, but that hardly constitutes the sole species of the
> breed.

So give me a reference already. I find lots of references, including
ones that explain the propagation, that talk about TM, TE, hybrid, and
even quasi-TEM mode propagation in a fiber. What boundary conditions
are there in an optical fiber that give TEM mode?

>
> >I still don't have
> >information on whether a soliton wave can propagate in a linear
> >medium, though I have references that say it is a non-linear
> >phenomenon that occurs in non-linear media.
>
> Of course it can propagate in a linear medium. Solitons were first
> reported in linear media - water - something like one hundred seventy
> years ago.

> Solitons can induce non-linearity in otherwise linear
> media. Solitons also interact in collision with a phase shift
> afterwards. Solitons have been applied to data transmission in fiber
> optics for a dozen years or more.
>
> Your references are pretty sparse.

Yours seem non-existent. Mine at least did a good job explaining the
phenomena.

>From Wikipedia, for example, about solitons:
"The stability of solitons stems from the delicate balance of
"nonlinearity" and "dispersion" in the model equations. Nonlinearity
drives a solitary wave to concentrate further; dispersion is the
effect to spread such a localized wave. If one of these two competing
effects is lost, solitons become unstable and, eventually, cease to
exist. In this respect, solitons are completely different from "linear
waves" like sinusoidal waves. In fact, sinusoidal waves are rather
unstable in some model equations of soliton phenomena. Computer
simulations show that they soon break into a train of solitons."

There is specific mention of the Kerr effect--a nonlinearity in
optical media that support soliton transmission. One of the
references I saw specifically said that solitons are solutions to non-
linear differential equations. Since the equations governing the
behaviour of waves derive from the properties of the propagation
medium, I expect that any medium that can propagate a soliton is
nonlinear. Another reference specifically addressed the nonlinearity
of water as a transmission medium, as a necessary part of its being
able to propagate solitons.

>
> >If you can convince me
> >that a wavefront coming to a Magic T doesn't see it as an impedance
> >discontinuity, we could perhaps post more about that--or not.
>
> Consult Terman. He is quite compelling when it comes to describing
> microwave plumbing. This hardly constitutes more than 4 pages total
> reading, if you choose to move on beyond the first page of discussion.

I find nothing in the index of my "Radio Engineers' Handbook" by
Terman under either "Magic" or "Hybrid". Sorry. The three different
coaxial "Magic T" hybrid designs I DID find all do show an impedance
discontinuity: the junction of more than two lines of equal impedance
and/or impedance steps in through-lines. Sorry.

Time to move on.

Cheers,
Tom

4548. Re: Running low on suicide bombers, terrorist cannon fodder, etc.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 15:38:28 UTC
From: jawod <jawod@fuse.net>
Message-ID: <4624E9F4.30007@fuse.net>
Source record: 42796

John Smith I wrote:
> ibrahim wrote:
>
>> Hi there ...
>>
>> Thank you for reading this message .
>
> > ...
>
> Please respond and give us more supplies! <grin>
>
> JS
the guy's right, Islam is not what the media portrays

for that matter, neither is Christianity, Judaism, Bhuddism or any other

4549. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 15:55:20 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1176825320.183356.70170@y5g2000hsa.googlegroups.com>
Source record: 42797

On Apr 16, 9:20 pm, Cecil Moore <nos...@w5dxp.com> wrote:
>
> Do you believe Jim's argument that two coherent EM
> waves of equal magnitudes and opposite phases traveling
> collinearly in the same direction in a transmission line
> can never be canceled?

I asked you to show me the two waves of equal magnitude and opposite phase travelling in the same direction in a transmission line. Show me the waves, Cecil.

AC6XG

4550. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 16:46:21 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1176828381.038249.53240@l77g2000hsb.googlegroups.com>
Source record: 42798

On Apr 17, 8:30 am, Cecil Moore <nos...@w5dxp.com> wrote:

> You said that EM waves cannot be perfectly collinear.
> Therefore, there has to exist a distance where they
> diverge and stop interfering. Your words, not mine.

You are mistaken. In order to prevent errors of this sort in the
future, please quote the words you intend to refer to.

ac6xg

4551. RADIATION PATTERN OF A CYLINDRICAL HORN ANTENNA AND S-PARAMETERS (scattering matrix)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 17:48:20 UTC
From: skatsis@ee.duth.gr
Message-ID: <1176832100.928233.229300@l77g2000hsb.googlegroups.com>
Source record: 42799

Suppose that we have a cylindrical horn antenna with known dimensions.
Supposing that we know the generalized scattering matrix of this
cylindrical horn antenna in a given frequency. This would be a matrix
of dimensions (N+M)x(N+M) considering N modes as input and M modes as
output.
How can one extract the radiation pattern of this antenna in the given
frequency?

4552. Re: Acceptable Lightning Ground?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 17:53:22 UTC
From: Bud-- <remove.BudNews@isp.com>
Message-ID: <cf115$46250956$4213eb69$8960@DIALUPUSA.NET>
Source record: 42800

Jimmie D wrote:

> "Bud--" <remove.BudNews@isp.com> wrote in message
> news:7e97d$4623beaa$4213eb79$462@DIALUPUSA.NET...
>
>>Jimmie D wrote:
>>
>>>"Thomas Horne" <hornetd@mindspring.com> wrote in message
>>>news:4QNTh.397$j63.395@newsread2.news.pas.earthlink.net...
>>>
>>>>And my point is that your opinion does not jibe with the National
>>>>Electric Code.
>>>>--
>>>>Tom Horne
>>>
>>>
>>>Please Tom, tell me in what way that the grounding system should be
>>>sufficent on its own and not having to rely on the plumbing to provide
>>>grounding for an electrical system in violation of the NEC.
>>
>>In violation of the NEC?? Underground metal water pipe was a required
>>electrode in the oldest NEC I have, 1968, and I think it has been required
>>since shortly after Columbus ï¿½discovered Americaï¿½.
>>
>>
>>
>>>Also please tell me how you intend to prevent the scenario I discribed
>>>where the ground system was completely disconnected from the home when
>>>the well's metal plumbing was replaced with plastic.
>
>
> My point exactly, and who is going to replace the pipe, definately not an
> electrician that will make sure the ground system is maintained.
>

No one needs to replace the pipe. The system has a "supplemental"
electrode - that is why the "supplemental" electrode is REQUIRED. The
effectiveness of the grounding electrode system is reduced to what you
wanted without the water pipe. With ground rods for the "supplemental"
electrode that effectiveness is rather low. With a "concrete encased"
electrode now generally required, the effectiveness is pretty good.

--
bud--

>
>>For that very reason the NEC requires a ï¿½supplementalï¿½ electrode. As the
>>ï¿½NEC Handbookï¿½ makes clear, the supplemental electrode is not required
>>because metal water pipe is a bad electrode, only because it may be
>>replaced in the future by plastic.
>>
>>The supplemental electrode was commonly one or two ground rods. Rods are a
>>little better than nothing - a rod-to-earth resistance of 25 ohms is
>>considered acceptable, or install 2 and resistance doesnï¿½t matter. With a
>>supplemental rod, if an underground metal water pipe is replaced with
>>plastic a good grounding electrode system becomes a poor system.
>>
>>The 2005 NEC generally requires adding a ï¿½concrete encased electrodeï¿½ in
>>new construction . This is actually a decent electrode.
>>

4553. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 17:55:36 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <sS7Vh.53223$VU4.5264@bgtnsc05-news.ops.worldnet.att.net>
Source record: 42801

Cecil Moore wrote:
> Gene Fuller wrote:
>> I am impressed! That's a pretty fancy o'scope you got. Measurement of
>> voltages to four significant digits at t = 0 + delta-t is definitely
>> world-class. That 291.4 ohm line is pretty special as well.
>
> Your non-technical diversions are noted. How about discussing
> the technical question that was posed?
>
> The voltages can be viewed on an o'scope. Their magnitudes
> agree with the above calculated magnitudes. Do you know
> of any reason that those voltages would not obey the
> rules of the reflection model? When does a reflection
> coefficient of 0.707 not reflect 0.707 of the incident
> voltage?
>
> The 291.4 ohm line is chosen to make rho=s11=0.707. My "450"
> ohm ladder-line measures to be actually 380 ohms. Nothing
> special about 291.4 ohms except that:
>
> (291.4-50)/(291.4+50) = 0.707
>
> We could actually design a feedline with Z0 = 291.4 ohms.
> Want me to show you how? :-)
>
> If you don't like that value, use 300 ohms and 51.5 ohms
> for the coax. I'm sure between the choices of 50 ohm
> coax and 52 ohm coax, there must be a 51.5 ohm coax in
> there somewhere.

Cecil,

You rarely reply directly to anything, and this is no exception. I was commenting on the *actual measurement* that you claimed. You added the emphasis, not me. Perhaps it was a *virtual measurement* instead? Do you find that you can achieve the desired results more often with such measurements?

8-)

73,
Gene
W4SZ

4554. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 18:49:53 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f03508lpn1@news.service.uci.edu>
Source record: 42802

Cecil Moore wrote:

> Jim Kelley wrote:
>
>> Cecil Moore wrote:
>>
>>> Jim Kelley wrote:
>>>
>>>> I said it because waves do not, according to the definition of the
>>>> word, 'act upon one another'.
>>>
>>>
>>> But they can act upon one another, Jim. The Florida State web
>>> page says so. The Melles-Groit web page says so.
>>
>>
>> No they don't. If the waves themselves changed, then their resultant
>> superposition would also change. It's a completely unfounded notion,
>> Cecil.
>
>
> Here's an example of that "unfounded notion". Please
> point out my error.

The error is not in the superposition of waves. The error is in your beliefs about the superposition of waves.

Let's take the Florida State example that you like. If I recall correctly it illustrates how two waves traveling in the same direction combine and interfere. Now if one of the waves at its peak has an amplitude of 1.0, while at that same instant the other wave has a peak amplitude of -0.5, the resultant wave will have a peak amplitude of 0.5. I hope we agree so far. Now, according to you, this process effects a change on each of the individual waves. If that is so, then please describe each of the waves after they have superposed, and detail the process by which that change took place.

Only interactions with matter can alter the characteristics of waves. That's what Maxwells equations tell us. The argument for wave-wave "interaction" is the same as the argument for reflection from virtual impedance discontinuities.

ac6xg

4555. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 19:09:49 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0365l$mi4$1@news.service.uci.edu>
Source record: 42803

Richard Harrison wrote:

> At a short or an open on a line , it is the current or voltage the
> discontinuity generates which turns the wave around.

That is more or less true. But the claim being disputed here is the other way around; that voltages and currents generate discontinuities.

> If a virtual condition can generate the energy surge or
> escalation needed for a reversal in direction, it is as acceptable as a
> real discontinuity, in my opinion.

If it can do that it is acceptable as a miracle, in my opinion. :-)

73, Jim AC6XG

4556. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 19:51:18 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f038jdonc1@news.service.uci.edu>
Source record: 42806

Cecil Moore wrote:

> "No waves are harmed in the process" implies that waves can
> never be canceled.

No. The fact that waves do not have an effect on other waves does not mean that their fields don't superpose.

Superposition is a mathematical as well as physical operation. You maintain that the process of adding x to y must somehow change x and y. You insist that superposing x and y means that x effects change to y, and y effects change to x. But the process of superposing x and y does not have an effect on either x or y. The only effect is we now have the algebraic sum of x and y.

ac6xg

4557. Re: GAP Titan DX

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 19:57:52 UTC
From: franky <frankyb_doe_weg@sk>
Message-ID: <462526ca$0$13858$ba620e4c@news.skynet.be>
Source record: 42804

Hi Lamont,

Have the manual, but the faq sections is rather limited and doesn't
contain any tuning instructions.

thanks

Frank

The Shadow schreef:
> "franky" <frankyb_doe_weg@sk> wrote in message
> news:4623dcf8$0$13850$ba620e4c@news.skynet.be...
>> Hi,
>>
>> Have installad second hand gap titan DX.
>> Have problems to tune the antenna. If the antenna works fine voor 20 it
>> doesn't work for 15
>>
>> I have no dip at all on 40m.
>>
>> The dip voor 20 is rather high in (out) the band 14600
>>
>> Anyone info/tips/suggestions?
>>
>> thanks, ON7RU
>
> Do you have the manual?
> It is at URL:
> http://www.gapantenna.com/files/TitanSinglePage.pdf
>
> Lamont
>
>

4558. Re: GAP Titan DX

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 19:59:23 UTC
From: franky <frankyb_doe_weg@sk>
Message-ID: <46252725$0$13858$ba620e4c@news.skynet.be>
Source record: 42805

Hi Richard,

It's ground mounted today. Do you think the swr pattern will change if I
put it 8 feet off the ground?

thanks for your advice

frank , on7ru

Richard Clark schreef:
> On Mon, 16 Apr 2007 22:30:36 +0200, franky <frankyb_doe_weg@sk> wrote:
>> Have installad second hand gap titan DX.
>> Have problems to tune the antenna. If the antenna works fine voor 20 it
>> doesn't work for 15
>>
>> I have no dip at all on 40m.
>>
>> The dip voor 20 is rather high in (out) the band 14600
>
> Hi Franky,
>
> Is it ground mounted, or elevated?
>
> 73's
> Richard Clark, KB7QHC

4559. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 20:19:23 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176841163.817163.81130@p77g2000hsh.googlegroups.com>
Source record: 42807

On Apr 17, 12:09 pm, Jim Kelley <jwkel...@uci.edu> wrote:
> Richard Harrison wrote:
> > At a short or an open on a line , it is the current or voltage the
> > discontinuity generates which turns the wave around.
>
> That is more or less true. But the claim being disputed here is the
> other way around; that voltages and currents generate discontinuities.
>
> > If a virtual condition can generate the energy surge or
> > escalation needed for a reversal in direction, it is as acceptable as a
> > real discontinuity, in my opinion.
>
> If it can do that it is acceptable as a miracle, in my opinion. :-)
>
> 73, Jim AC6XG

Since it's easy in a lab to set up situations that clearly demonstrate that there is no echo of a transient off a "virtual short" or "virtual open", even if you could show me that miracle, it's not a miracle I could rely on. I'd forever know that I can demonstrate situations where the miracle does not occur.

Mind you, if you did show such a miracle, I'd very much want resolution between the line equations based on however far back you want to go toward Maxwell's equations (J. C. Maxwell in this case) and the "newly discovered phenomenon." In my opinion, which probably matches pretty closely with Jim's here, the fundamental line equations I know specifically disallow such a happening; at the very least we'd have to add a nonlinearity to the system. (Imagine a spark gap across the line, set off by voltage over a certain level...)

The fundamental line equations have always given me acceptable results when I deal with transmission lines. It's certainly possible that they are flawed, just as Newtonian physics is flawed. But just as we continue to use Newtonian physics in areas where we know we won't be running into, or even close to its "speed of light" or "tiny quanta of energy" limitations, I suspect we'll continue using the fundamental line equations to solve line problems in our real world. Since we have computers to handle the calculations for us easily, it seems to me there's not much reason to OVER-simplify the models we abstract from the real world problems we're trying to solve.

I see a lot of value to simplifications that let us visualize problems more clearly. I see a lot of value to modifying, or even throwing out, "classic" equations and models if we move to new ground and

discover those classic models fail. But I don't see any value in throwing out details that are easy to let a computer handle for me--in other words, in possibly simplifying a model until it is no longer accurate.

Cheers,
Tom

4560. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 21:57:11 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <lhaa231lr4fbvtg03tg49fgmhok89narai@4ax.com>
Source record: 42808

On 17 Apr 2007 08:30:41 -0700, K7ITM <k7itm@msn.com> wrote:

>On Apr 17, 12:33 am, Richard Clark <kb7...@comcast.net> wrote:
>> On 16 Apr 2007 17:50:10 -0700, "K7ITM" <k...@msn.com> wrote:
>...
>> >I still
>> >don't have a reference that a fiber optic cable is a TEM transmission
>> >line, though I have others that say that it's not.
>>
>> That example of the non-TEM fiber optic would be rare species indeed.
>> I've seen them, but that hardly constitutes the sole species of the
>> breed.
>
>So give me a reference already. I find lots of references, including
>ones that explain the propagation, that talk about TM, TE, hybrid, and
>even quasi-TEM mode propagation in a fiber. What boundary conditions
>are there in an optical fiber that give TEM mode?

Hi Tom,

This is curious request indeed. Can you name any example of light
that is not TEM? Let's see, wikipedia's entry for TEM includes Fiber
Optics as example (along with the sources and illustrations for many
modes). TEM00 is the principle mode of the ubiquitous "single mode"
fiber optic that is laid in the millions of miles every year.

One vendor of Fiber modeling software
http://www.zemax.com
specifically at
http://www.zemax.com/kb/articles/154/1/How-to-Get-Real-Waveguide-Mode-Data-Into-ZEMAX/Page1.html
offers:
"ZDC thanks Steve Dods of OptiWave Corporation for supplying the
SMF-28 fiber simulation data used in this article.

"In the article How to Model Coupling Between Single-Mode Fibers
SMF-28 single mode fiber is modeled using data from the
manufacturer's datasheet. The only data provided on the optical
radiation produced at 1.31 is the mode field diameter, which is
stated to be 9.2 ï¿½ 0.4 ï¿½m.

"As a result, the fiber mode of both launch and receiver fibers
was entered as a Gaussian (TEM0,0) mode of waist 4.6ï¿½. The
resulting fiber coupling calculation agrees well with experimental
measurement."

Corning SMF-28 has been in production for nearly 20 years.

>> >I still don't have
>> >information on whether a soliton wave can propagate in a linear
>> >medium, though I have references that say it is a non-linear
>> >phenomenon that occurs in non-linear media.
>>
>> Of course it can propagate in a linear medium. Solitons were first
>> reported in linear media - water - something like one hundred seventy
>> years ago.
>
>> Solitons can induce non-linearity in otherwise linear
>> media. Solitons also interact in collision with a phase shift
>> afterwards. Solitons have been applied to data transmission in fiber
>> optics for a dozen years or more.
>>
>> Your references are pretty sparse.
>
>Yours seem non-existent. Mine at least did a good job explaining the
>phenomena.

To which there is scant difference as nearly every point you recite
has already been anticipated in my earlier post (shown above). Your
rebuttal that water is non-linear is already answered in this same
quote. If this is basenote drift, we are now into the treble clef.

>> >If you can convince me
>> >that a wavefront coming to a Magic T doesn't see it as an impedance
>> >discontinuity, we could perhaps post more about that--or not.
>>
>> Consult Terman. He is quite compelling when it comes to describing
>> microwave plumbing. This hardly constitutes more than 4 pages total
>> reading, if you choose to move on beyond the first page of discussion.
>
>I find nothing in the index of my "Radio Engineers' Handbook" by
>Terman under either "Magic" or "Hybrid". Sorry. The three different
>coaxial "Magic T" hybrid designs I DID find all do show an impedance
>discontinuity: the junction of more than two lines of equal impedance
>and/or impedance steps in through-lines. Sorry.

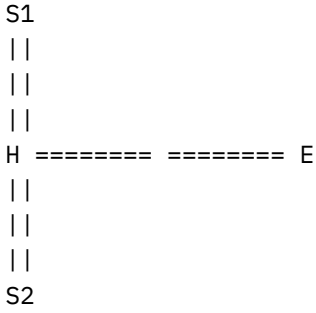
>Time to move on.

For others that are not moving on, but interested in the use and
issues of reflection to the source driving a Magic T, I quote work
from Q MEASUREMENTS FOR HIGH-Q CAVITIES
R. A. RAPUANO and J. HALPERN, MIT (1946):

"The heart of this equipment is the "magic T". This is an
eight-terminal network (Fig. 3) in waveguide or coax having
symmetry properties analogous to those of a "hybrid coil".
In the case of an ideal T, power entering the E aria is divided
equally between S1 and S2, both parts being out of phase; none
goes directly to H. Power entering the H arm is divided equally

between S1 and S2, with both parts now in phase; no power goes directly to E. Power reflected from the loads on S1 and S2, however, can be coupled from H to E, depending upon the magnitude and phase of the terminal impedances on S1 and S In the case of two short circuits the power going from H to E can be caused to vary from zero to the full amount depending on their position along the line. If a short circuit is placed on S1 and a resonant cavity is placed on S2, then the power going from H to E is a function of frequency. The power reflected back from H is the difference between the input and the loss due to transmission through E and absorption in the resonator."

Figure 3 (use fixed font):



where the interior blank space represents the plumbing too difficult to render here.

I would further offer that Walt is working on a fairly similar treatment employing the "Rat Race" (alluded to as a Hybrid Coil in the monograph extract above). The discussion above is germane in that sense and would be beneficial to those who eventually see his rebuttals to arguments pressed against him.

73's
Richard Clark, KB7QHC

4561. Re: GAP Titan DX

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 22:05:35 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <v4ha23tplv861skso8g1b34l0gkmdo39t9@4ax.com>
Source record: 42809

On Tue, 17 Apr 2007 21:59:23 +0200, franky <frankyb_doe_weg@sk> wrote:

>It's ground mounted today. Do you think the swr pattern will change if I
>put it 8 feet off the ground?

Hi Franky,

Yes.

73's
Richard Clark, KB7QHC

4562. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 22:10:56 UTC
From: richardharrison@webtv.net
Message-ID: <11430-462545F0-872@storefull-3253.bay.webtv.net>
Source record: 42810

Gene Fuller wrote:
"Interference is a result from linear superposition. No waves are harmed
in the process."

Yes. Thomas Young demonstrated the constructive and destructive
interference berween two slits of light in 1801. The rest is all
commentary.

Best regards, Richard Harrison, KB5WZI

4563. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-17 23:38:12 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176853092.062181.90190@b75g2000hsg.googlegroups.com>
Source record: 42811

On Apr 17, 2:57 pm, Richard Clark <kb7...@comcast.net> wrote:
...

Richard, it really doesn't much matter to me what modes fiber optic cable supports. If there are types that support true TEM mode, I'd be happy to hear about it. So far, though, I've followed links from over a dozen searches and found NO reference that claims that true TEM mode is supported by a fiber, be it single-mode or multi-mode. I've gone to the Wikipedia pages you suggested and other pages there, and found quite a bit of info about fiber optic cables and their modes. In all that, I have found no claim that true TEM mode is supported. I followed the link you provided to the simulation software provider, and found only that they modeled a particular cable as having TEM 0,0 mode; nowhere could I see a claim that the cable modeled actually propagates by true TEM mode. The way the article was worded sounded to me like the TEM entry was an approximation. In my research, the closest to a claim of true TEM mode I've found has been in one recent article that says TEM would be the ideal, but the best anyone's been able to do is quasi-TEM or TEM-like.

You're welcome to think it's true TEM if you wish, of course, but your saying it, over and over if you wish, isn't going to be nearly as convincing as if we can find one, even one, ligitimate reference that claims true TEM.

Cheers,
Tom

4564. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 00:38:38 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f03peb$8sr$1@news.service.uci.edu>
Source record: 42814

Alan Peake wrote:

> Hi Jim,
>
>> That is more or less true. But the claim being disputed here is the
>> other way around; that voltages and currents generate discontinuities.
>
>
>
> Actually, the claim was there is reflection from a virtual discontinuity.
> Almost the same thing?

Good point. Let's say it's virtually the same thing. ;-)

73, Jim AC6XG

4565. Re: Constructive interference in radiowave propagation

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 00:43:39 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3toa23dcg2qqksbqf2eod6seh14rmu18sq@4ax.com>
Source record: 42813

On 17 Apr 2007 16:38:12 -0700, K7ITM <k7itm@msn.com> wrote:

>You're welcome to think it's true TEM if you wish, of course, but your
>saying it, over and over if you wish, isn't going to be nearly as
>convincing as if we can find one, even one, ligitimate reference that
>claims true TEM.

Hi Tom,

What a hoot. "True" TEM? As distinct from virtual TEM? That is
about as funny as "ligitimate reference." Coining terms is a
wonderful thing if you can collect a royalty for their use.

These growing constraints have all the hallmarks of a shopping list of
suitor objections from the eternal spinster.

I reported TEM00 and offered supporting links. Just call me a liar so
I can regain my dignity. ;-)

73's
Richard Clark, KB7QHC

4566. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 00:49:07 UTC
From: Alan Peake <adpeake@killspam.internode.on.net>
Message-ID: <46256B03.7040804@killspam.internode.on.net>
Source record: 42812

Hi Jim,

> That is more or less true. But the claim being disputed here is the
> other way around; that voltages and currents generate discontinuities.

Actually, the claim was there is reflection from a virtual discontinuity.
Almost the same thing?
I agree that there isn't in the sense that an open 1/4 wave stub looks
like a short but the reflections which appear to have come the short
actually come from the open end, but how can you introduce a stub
without also introducing a physical discontinuity which will give a real
reflection (such reflection of course, not being that which would come
from a short)?
Alan

4567. Re: very important for your life...

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 00:54:30 UTC
From: Christopher Cox <chrisTOPHERcOX@coboxincORORATED.com>
Message-ID: <46256cb9$0$9901$4c368faf@roadrunner.com>
Source record: 42815

Darfur

4568. How to get a place not only for secrits but also for communication.

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 02:11:35 UTC
From: apple@toqm.com
Message-ID: <1176862295.678432.318930@q75g2000hsh.googlegroups.com>
Source record: 42817

If you have some questions to ask ,you may go to somewhere as Yahoo for a answer.Yes,maybe you can ask and can get someone's answer ,but you can't discuss freely with them if you don't agree ,can you ?
If you have something good and want to show or share it with eachother ,what would you do then?
Send it one by one ?It's so slow and boring that you will be tired and have no interested to do that again.The buoyant you will be lost,are you ?
If you want to upload or save your pictures or your log online ,you must need some place to put in.The best one is that you can done what you want on the space .You can have them be shared or not suit yourself,don't you?
http://support.forumgogo.com this is the place where can provide you all things and functions what you want.
The forum is free.It's a very good Platform for you to communicate with the other one ,upload things. As you like Beauty & Style、football or Pets，you can create a special topic such as Football Forum .
We can provide you a free、stable、high-speed 、Professional and technical Forum.So what are you waiting for? Come on !

4569. Velocity factor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 02:34:03 UTC
From: John Doe <hgorden@adelphia.net>
Message-ID: <t56dnb7dZriJ6LjbnZ2dnUVZ_syunZ2d@adelphia.com>
Source record: 42816

Does anybody have a velocity factor chart? I need the information for 13
gauge stranded plastic cover?
TIA
Howard W3CQH

4570. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 03:04:26 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176865466.434116.49950@y5g2000hsa.googlegroups.com>
Source record: 42818

If you get this twice, blame it on the strange behaviour of the
google groups UI.

On Apr 16, 8:18 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > So, out of curiosity, what do you think the outcome of my
> > experiment would be?
>
> With an IC-706? I don't know. Others have tried it with
> varying results.
>
> > Do 10 cent resistors ever work? Or is a circulator always needed
> > to prevent re-reflections?
>
> Your 10 cent resistor can be thought of as a low dB
> pad of sorts. It will attenuate but not eliminate
> re-reflection.

Remembering that this conversation was about realizing mistakes,
it would be highly valuable if you were to 'realize' that you
are in error about this. If the generator output impedance is the
same as the characteristic impedance of the line, then a wave
incident upon the generator is not reflected at all. Zero.

With regards to Icom equipment, there is no dispute of the above
fact, but rather, there is dispute about whether the output
impedance of the transmitter can be characterized.

Leaving transmitters aside, it is easy to characterize the output
impedance of a generator constructed as a voltage source in
series with a resistor. The output impedance is the value of
the resistor.

> Again, let me remind you of Ramo &
> Whinnery's warning not to attach importance to
> what is calculated to happen inside an equivalent
> source.

Ramo and Whinnery's warning must be taken seriously but applies
only with reference to an equivalent circuit. If the actual
circuit is as described, then the caution does not apply.

> There are models available for virtually
> any amplifier you might choose but I don't know
> how those models handle reflections.

It is well understood in all the literature how the generator described above handles reflections. If the output impedance is the same as the characteristic impedance, then there is no reflection.

This follows from the superposition principle and its application to generators. You have indicated some reluctance to accept this, but I get the feeling you are more convinced by measurement than by theory. So I propose we continue with the experiment so that you can 'realize' that for linear generators, superposition does apply and there is no reflection from a generator whose output impedance is the same as the characteristic impedance of the line.

But we need an experiment. I have a slightly better one than previously described that you can easily replicate to convince yourself. This way you do not need to take my word for the results.

Begin by creating two files in the same directory with the content included below my signature.

Then download and install LTspice from Linear Technology:
http://www.linear.com/designtools/software/switchercad.jsp

Double click on "TLsuperposition.asc", one of the files previously created.

You will see a schematic with 3 transmission lines.

The top transmission line, 'bidirectional', has two generators attached to it; one on the left and one on the right. The TL has a 50 Ohm characteristic impedance and the two generators have 50 Ohm output impedances, easily seen from the schematic. The source in the left generator creates a 5 V, 2 MHz sine wave. The source in the right generator creates a 7 V, 3 MHz sine wave. Thus two waves are sent towards each other across the transmission line.

The second transmission line is connected to a similar generator on the left but is terminated by a resistor on the right.

The third transmission line is connected to a similar generator on the right and terminated by a resistor on the left.

If superposition holds, the observed signals at the two ends of the 'bidirectional' line will be sums of the signals at the corresponding ends of the 'left-to-right' and 'right-to-left' line.

So click Run to get some observations. Some traces appear. The first 10 microseconds are recorded and displayed.

The top pane shows the outputs of the left and right sources.

The middle pane shows the signals at the left and right ends of the bidirectional transmission line as well as the sum

of the signals at the left end of the l-to-r and r-to-l lines,
and the sum of the signals at the right end of the l-to-r
and r-to-l lines. Since some of these traces are on top of
each other, click on the signal name to bring the desired
trace to the top. They are on top of each other because
they have the same values, as expected.

The third pane shows the difference between the left end of
the bidirectional line and the sum of the left end of the other
two lines, and the same for the right. Note that the maximum
difference is around 500 nanovolts. This is not bad. Theory
says it should be zero, but given the limitations of simulation
500 nV is close enough. If this experiment were conducted with
real parts, it would be impossible to get that close.

So we have run an experiment that demonstrates the results I
expected, but results that are not consistent with your
contention. So I claim superposition holds at generators as
well as loads. Reflections do not occur even when the source
is energized.

You may like to experiment. Try different frequencies. Try
different waveshapes. Try a different length of line. Try
different source and terminating resistors. (Just remember
that you have to change the appropriate items on both the
bidirectional line and the other two for the sums to be
correct).

So what is the probability that you now 'realize' you were
wrong and '10 cent' resistors actually do eliminate reflections.

I can not emphasize enough how important this result is to
you. It will allow you to use superposition to analyze the
behaviour at the generator end and a whole class of problems
which you could not previously solve will now be solvable.

...Keith

PS - Any questions? Just ask

---- Place the following data into "TLsuperposition.asc"
```
Version 4
SHEET 1 1276 756
WIRE -464 96 -512 96
WIRE 544 96 496 96
WIRE -336 112 -352 112
WIRE -112 112 -128 112
WIRE 128 112 112 112
WIRE 352 112 336 112
WIRE -464 144 -464 96
WIRE -352 144 -352 112
WIRE -352 144 -464 144
WIRE -256 144 -352 144
```

```
WIRE -128 144 -128 112
WIRE -128 144 -176 144
WIRE -16 144 -128 144
WIRE 112 144 112 112
WIRE 112 144 80 144
WIRE 224 144 112 144
WIRE 336 144 336 112
WIRE 336 144 304 144
WIRE 496 144 496 96
WIRE 496 144 336 144
WIRE -16 176 -512 176
WIRE 544 176 80 176
WIRE -512 192 -512 176
WIRE 544 192 544 176
WIRE -464 224 -512 224
WIRE -112 240 -128 240
WIRE 128 240 112 240
WIRE -464 272 -464 224
WIRE -256 272 -464 272
WIRE -128 272 -128 240
WIRE -128 272 -176 272
WIRE -16 272 -128 272
WIRE 112 272 112 240
WIRE 112 272 80 272
WIRE 224 272 112 272
WIRE 336 272 304 272
WIRE -16 304 -512 304
WIRE 336 304 336 272
WIRE 336 304 80 304
WIRE -512 320 -512 304
WIRE 336 320 336 304
WIRE 544 352 496 352
WIRE -112 368 -128 368
WIRE 128 368 112 368
WIRE -256 400 -288 400
WIRE -128 400 -128 368
WIRE -128 400 -176 400
WIRE -16 400 -128 400
WIRE 112 400 112 368
WIRE 112 400 80 400
WIRE 224 400 112 400
WIRE 496 400 496 352
WIRE 496 400 304 400
WIRE -288 432 -288 400
WIRE -16 432 -288 432
WIRE 544 432 80 432
WIRE -288 448 -288 432
WIRE 544 448 544 432
FLAG -512 192 0
FLAG -112 112 Vleft
```

```
FLAG 128 112 Vright
FLAG 352 112 VsrcR
FLAG -336 112 VsrcL
FLAG -288 448 0
FLAG -112 368 VloadR
FLAG -112 240 VgenL
FLAG 128 240 VloadL
FLAG 544 192 0
FLAG 336 320 0
FLAG 544 448 0
FLAG -512 320 0
FLAG 128 368 VgenR
SYMBOL voltage -512 80 R0
WINDOW 123 0 0 Left 0
WINDOW 39 0 0 Left 0
WINDOW 0 35 41 Left 0
WINDOW 3 24 115 Left 0
SYMATTR InstName VbidirL
SYMATTR Value SINE(0 5 2e6)
SYMBOL voltage 544 80 R0
WINDOW 123 0 0 Left 0
WINDOW 39 0 0 Left 0
WINDOW 0 36 55 Left 0
WINDOW 3 9 99 Left 0
SYMATTR InstName VbidirR
SYMATTR Value SINE(0 7 3e6)
SYMBOL tline 32 160 R0
WINDOW 0 -32 -35 Left 0
WINDOW 3 -78 34 Left 0
SYMATTR InstName Tbidir
SYMATTR Value Td=1.1e-6 Z0=50
SYMBOL res 320 128 R90
WINDOW 0 0 56 VBottom 0
WINDOW 3 19 86 VTop 0
SYMATTR InstName Rright
SYMATTR Value 50
SYMBOL res -272 160 R270
WINDOW 0 32 56 VTop 0
WINDOW 3 11 28 VBottom 0
SYMATTR InstName Rleft
SYMATTR Value 50
SYMBOL tline 32 288 R0
WINDOW 0 -23 -34 Left 0
WINDOW 3 -95 35 Left 0
SYMATTR InstName Tltor
SYMATTR Value Td=1.1e-6 Z0=50
SYMBOL tline 32 416 M0
WINDOW 0 -25 -36 Left 0
WINDOW 3 -92 38 Left 0
SYMATTR InstName Trtol
```

```
SYMATTR Value Td=1.1e-6 Z0=50
SYMBOL res -272 288 R270
WINDOW 0 32 56 VTop 0
WINDOW 3 12 26 VBottom 0
SYMATTR InstName RgenL
SYMATTR Value 50
SYMBOL res 320 384 R90
WINDOW 0 0 56 VBottom 0
WINDOW 3 18 86 VTop 0
SYMATTR InstName RgenR
SYMATTR Value 50
SYMBOL res 208 288 R270
WINDOW 0 32 56 VTop 0
WINDOW 3 12 25 VBottom 0
SYMATTR InstName RloadL
SYMATTR Value 50
SYMBOL res -160 384 R90
WINDOW 0 0 56 VBottom 0
WINDOW 3 19 83 VTop 0
SYMATTR InstName RloadR
SYMATTR Value 50
SYMBOL voltage 544 336 R0
WINDOW 123 0 0 Left 0
WINDOW 39 0 0 Left 0
WINDOW 0 36 55 Left 0
WINDOW 3 7 99 Left 0
SYMATTR InstName VsrcR
SYMATTR Value SINE(0 7 3e6)
SYMBOL voltage -512 208 R0
WINDOW 123 0 0 Left 0
WINDOW 39 0 0 Left 0
WINDOW 0 35 41 Left 0
WINDOW 3 24 115 Left 0
SYMATTR InstName VsrcL
SYMATTR Value SINE(0 5 2e6)
TEXT -496 416 Left 0 !.tran 10e-6
---- The above line was the last one to go into "TLsuperposition.asc"

---- Place the following data into "TLsuperposition.plt"
[Transient Analysis]
{
Npanes: 3
Active Pane: 2
{
traces: 2 {524296,0,"V(vleft)-(V(vgenl)+V(vloadr))"}
{524294,0,"V(vright)-(V(vgenr)+V(vloadl))"}
X: ('µ',0,0,1e-006,1e-005)
Y[0]: ('n',0,-5.4e-007,9e-008,4.5e-007)
Y[1]: ('_',0,1e+308,0,-1e+308)
Volts: ('n',0,0,0,-5.4e-007,9e-008,4.5e-007)
```

```
Log: 0 0 0
},
{
traces: 4 {268959756,0,"V(vleft)"} {268959751,0,"V(vright)"}
{524291,0,"V(vgenl)+V(vloadr)"} {524292,0,"V(vgenr)+V(vloadl)"}
X: ('µ',0,0,1e-006,1e-005)
Y[0]: (' ',0,-6,1,6)
Y[1]: ('n',0,1e+308,2e-009,-1e+308)
Volts: (' ',0,0,0,-6,1,6)
Log: 0 0 0
},
{
traces: 2 {524293,0,"V(vsrcl)"} {524290,0,"V(vsrcr)"}
X: ('µ',0,0,1e-006,1e-005)
Y[0]: (' ',0,-7,1,7)
Y[1]: ('_',0,1e+308,0,-1e+308)
Volts: (' ',0,0,0,-7,1,7)
Log: 0 0 0
}
}
---- The above line was the last one to go into "TLsuperposition.plt"
Now what is the chance that this makes it all through without
any carriage return and line feed issues? I suppose I get to try
when it comes back.
```

4571. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 03:33:31 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <da4b23hba8r3eep8il8t0tq1pdgd8o7moq@4ax.com>
Source record: 42819

On 17 Apr 2007 20:04:26 -0700, Keith Dysart <kd1@sympatico.ca> wrote:

>PS - Any questions? Just ask

SPICE Error:
Trtol: transmission line Z0 must be given

Circuit: * D:\Program
Files\LTC\SwCADIII\examples\newsgroup\TLsuperposition.asc

Error on line 4 : tbidir vleft 0 vright 0 td=3d1.1e-6 z0=3d50
Unknown parameter "-6"
Error on line 7 : tltor vgenl 0 vloadl 0 td=3d1.1e-6 z0=3d50
Unknown parameter "-6"
Error on line 8 : trtol vgenr 0 vloadr 0 td=3d1.1e-6 z0=3d50
Unknown parameter "-6"
Fatal Error: Trtol: transmission line Z0 must be given

73's
Richard Clark, KB7QHC

4572. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 03:57:43 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176868663.452505.23840@y80g2000hsf.googlegroups.com>
Source record: 42820

On Apr 17, 11:33 pm, Richard Clark <kb7...@comcast.net> wrote:
> On 17 Apr 2007 20:04:26 -0700, Keith Dysart <k...@sympatico.ca> wrote:
>
> >PS - Any questions? Just ask
>
> SPICE Error:
> Trtol: transmission line Z0 must be given
>
> Circuit: * D:\Program
> Files\LTC\SwCADIII\examples\newsgroup\TLsuperposition.asc
>
> Error on line 4 : tbidir vleft 0 vright 0 td=3d1.1e-6 z0=3d50
> Unknown parameter "-6"
> Error on line 7 : tltor vgenl 0 vloadl 0 td=3d1.1e-6 z0=3d50
> Unknown parameter "-6"
> Error on line 8 : trtol vgenr 0 vloadr 0 td=3d1.1e-6 z0=3d50
> Unknown parameter "-6"
> Fatal Error: Trtol: transmission line Z0 must be given
>
> 73's
> Richard Clark, KB7QHC

Ouch. In TLsuperposition.asc, there are three lines that define the
transmission lines:

SYMATTR Value Td=1.1e-6 Z0=50
SYMATTR Value Td=1.1e-6 Z0=50
SYMATTR Value Td=1.1e-6 Z0=50

Looks to me like whatever technique you used to save the file
substituted
'=3d' for '='. '3d' is the ascii encoding for '=' so maybe '=' is
treated specially.

Since these are the only '='s in the file, perhaps manually editting
the '3d's
out will fix the problem.

What tools did you use to recover and save the text?

...Keith

4573. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 05:08:13 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <1JhVh.7016$5e2.4868@newssvr11.news.prodigy.net>
Source record: 42821

Jim Kelley wrote:
> I asked you to show me the two waves of equal magnitude and opposite
> phase travelling in the same direction in a transmission line. Show
> me the waves, Cecil.

b1 = s11(a1) + s12(a2) = 0
--
73, Cecil http://www.w5dxp.com

4574. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 05:10:54 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <yLhVh.7019$5e2.832@newssvr11.news.prodigy.net>
Source record: 42822

Jim Kelley wrote:
> In order to prevent errors of this sort in the
> future, please quote the words you intend to refer to.

You have absolutely refused to extend that courtesy
to me so no, not until you do the same. If waves don't
diverge somewhere out there, your argument is wrong.
If they do diverge somewhere out there, they cease
to superpose. You cannot have it both ways.
--
73, Cecil http://www.w5dxp.com

4575. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 05:12:28 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <0NhVh.7020$5e2.572@newssvr11.news.prodigy.net>
Source record: 42823

Gene Fuller wrote:
> You rarely reply directly to anything, and this is no exception. I was
> commenting on the *actual measurement* that you claimed.

Uhhhh Gene, actual measurements are made to ascertain the
s-parameters. Shirley, you should know that.
--
73, Cecil http://www.w5dxp.com

4576. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 05:14:45 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <9PhVh.7021$5e2.6122@newssvr11.news.prodigy.net>
Source record: 42824

Jim Kelley wrote:
> Only interactions with matter can alter the characteristics of waves.

I'm not sure what that means. Are the reflections at an
impedance discontinuity "interactions with matter"? If
so, I don't disagree.
--
73, Cecil http://www.w5dxp.com

4577. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 05:20:23 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <rUhVh.7024$5e2.5344@newssvr11.news.prodigy.net>
Source record: 42825

Jim Kelley wrote:
> Superposition is a mathematical as well as physical operation. You
> maintain that the process of adding x to y must somehow change x and y.

Absolutely false, Jim. Please produce my posting that said
that superposition of x and Y *must* somehow change x and y.
I have said just the opposite.
--
73, Cecil http://www.w5dxp.com

4578. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 05:35:19 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <r6iVh.7027$5e2.452@newssvr11.news.prodigy.net>
Source record: 42826

Keith Dysart wrote:
> If the generator output impedance is the
> same as the characteristic impedance of the line, then a wave
> incident upon the generator is not reflected at all. Zero.

Sorry, that statement is theoretical and has been proved
untrue for real-world generators unless heroic measures
are taken, e.g. circulators.

> With regards to Icom equipment, there is no dispute of the above
> fact, but rather, there is dispute about whether the output
> impedance of the transmitter can be characterized.

Yes, real world generators have a habit of not abiding
by theory.

> Ramo and Whinnery's warning must be taken seriously but applies
> only with reference to an equivalent circuit. If the actual
> circuit is as described, then the caution does not apply.

But Keith, you have *never* described an actual circuit. All
you have described are equivalent circuits. What tube do
you use? What transistor do you use? What tank circuit do
you use? What load line do you use? Where the heck is your
schematic?

> It is well understood in all the literature how the generator
> described above handles reflections.

Please give us a schematic of the described generator.
--
73, Cecil http://www.w5dxp.com

4579. multiband vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 09:22:39 UTC
From: Andre & Sharon Walker <aswa73@bigpond.net.au>
Message-ID: <zrlVh.15257$M.7152@news-server.bigpond.net.au>
Source record: 42677

Hi all, I am just about to get my Foundation licence and am contemplating a multiband vertical. Many plan talks about "radials" being needed, now I just happen to have a house with a nice tin roof. Can I make use of the whole roof as a ground plain or do I need radials cut to resonance for each band?

Thank

Andre (vk3 - almost got it!!!)

4580. Re: multiband vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 09:35:51 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9916C75B5A1F1nonenowhere@61.9.191.5>
Source record: 42678

"Andre & Sharon Walker" <aswa73@bigpond.net.au> wrote in
news:zrlVh.15257$M.7152@news-server.bigpond.net.au:

> Hi all, I am just about to get my Foundation licence and am
> contemplating a multiband vertical. Many plan talks about "radials"
> being needed, now I just happen to have a house with a nice tin roof.
> Can I make use of the whole roof as a ground plain or do I need
> radials cut to resonance for each band?
>

Do you mean a trapped vertical or the like, or are you planning to use an unloaded vertical on multiple bands.

If it is a trapped vertical, it probably comes with instructions. For example, http://www.dxengineering.com/pdf/hustler_4btv5btv_instl.pdf details the installation instructions for the Huster verticals.

You could read the instructions / manual after it doesn't work properly, or you could read them beforehand.

Not all verticals require a substantial ground system, it depends on the design. The tin roof might well provide a sufficient counterpoise for some trapped verticals, depending on its size and location of the antenna.

Short verticals are invariably quite narrow band on low bands, often as little as 20kHz on 80m.

Also, keep in mind that verticals are relatively noisy in city environments.

You might be well served with a simple coax fed dipole for one band (40m) initially. Gain some experience, and note how many others are using trapped verticals or the like. Do try to resist the end fed long wire (though it is more correctly described as an end fed random length wire) that seems so popular with FLs.

Owen

4581. Re: multiband vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 09:45:39 UTC
From: Andre & Sharon Walker <aswa73@bigpond.net.au>
Message-ID: <7NlVh.15262$M.6974@news-server.bigpond.net.au>
Source record: 42679

I was hoping to get away from traps, but i dont think its possible :-(. I only have a smallish yard, with just 30m from the chimmny (brick) to the back of the yard, so i think a decent wire antenna is out...but i am open to suggestions. I guess the other considerstion is to keep "she inside" happy .

Andre
"Andre & Sharon Walker" <aswa73@bigpond.net.au> wrote in message news:zrlVh.15257$M.7152@news-server.bigpond.net.au...
> Hi all, I am just about to get my Foundation licence and am contemplating
> a multiband vertical. Many plan talks about "radials" being needed, now I
> just happen to have a house with a nice tin roof. Can I make use of the
> whole roof as a ground plain or do I need radials cut to resonance for
> each band?
>
> Thank
>
> Andre (vk3 - almost got it!!!)
>

4582. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 10:43:28 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176893008.556173.52960@y5g2000hsa.googlegroups.com>
Source record: 42680

On Apr 18, 1:35 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > If the generator output impedance is the
> > same as the characteristic impedance of the line, then a wave
> > incident upon the generator is not reflected at all. Zero.
>
> Sorry, that statement is theoretical and has been proved
> untrue for real-world generators unless heroic measures
> are taken, e.g. circulators.
>
> > With regards to Icom equipment, there is no dispute of the above
> > fact, but rather, there is dispute about whether the output
> > impedance of the transmitter can be characterized.
>
> Yes, real world generators have a habit of not abiding
> by theory.
>
> > Ramo and Whinnery's warning must be taken seriously but applies
> > only with reference to an equivalent circuit. If the actual
> > circuit is as described, then the caution does not apply.
>
> But Keith, you have *never* described an actual circuit. All
> you have described are equivalent circuits. What tube do
> you use? What transistor do you use? What tank circuit do
> you use? What load line do you use? Where the heck is your
> schematic?
>
> > It is well understood in all the literature how the generator
> > described above handles reflections.
>
> Please give us a schematic of the described generator.
> --
> 73, Cecil http://www.w5dxp.com

The person who desires to not realize can always build road blocks
to prevent realization.

So sad.

...Keith

4583. Re: multiband vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 12:39:11 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <PjoVh.11209$Kd3.10611@newssvr27.news.prodigy.net>
Source record: 42682

Owen Duffy wrote:
> You might be well served with a simple coax fed dipole for one band (40m)
> initially.

A similar antenna, but one step closer to multiband operation
would be a simple dipole for one band (40m) fed with a multiple
of 1/2 wavelengths of ladder-line. At the resonant frequency,
it is hard to tell from a coax-fed dipole and an antenna
tuner will allow coverage of the entire band. The bonus is
that such an antenna can be made to work well on all ham
frequencies above the design frequency. If one is willing
to vary the length of the ladder-line, one can get by
without a conventional antenna tuner. Info at:

http://www.w5dxp.com/notuner.htm
--
73, Cecil http://www.w5dxp.com

4584. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 12:40:02 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176900002.917544.268970@p77g2000hsh.googlegroups.com>
Source record: 42681

On Apr 17, 11:55 am, Jim Kelley <jwkel...@uci.edu> wrote:
> On Apr 16, 9:20 pm, Cecil Moore <nos...@w5dxp.com> wrote:
>
>
>
> > > Do you believe Jim's argument that two coherent EM
> > > waves of equal magnitudes and opposite phases traveling
> > > collinearly in the same direction in a transmission line
> > > can never be canceled?
>
> I asked you to show me the two waves of equal magnitude and opposite
> phase travelling in the same direction in a transmission line. Show
> me the waves, Cecil.

May I offer an example for Cecil.

Two signal generators, each with an output (source) impedance of 50
Ohms,
each connected to 0.25 wavelength of 50 Ohm line. Let us call them
North and
South with their output lines heading towards each other.

The two output lines are connected in parallel to a 3rd 50 Ohm line
heading
east that is 0.5 wavelengths long terminated in 50 Ohms.

The generators are constructed in the Thevenin style with a very low
impedance
voltage source connected in series with a 50 Ohm resistor.

Turn on the voltage source in the North generator. The wave leaves
the
generator, arriving at the joint 0.25 cycles later. Some of this wave
is
reflected and for the wave that goes through, half of it goes east
towards the load and reaches the load 0.5 cycles later, while the
other half
continues south towards the South generator which it reaches 0.25
cycles after
reaching the joint.

Since everything is terminated in 50 Ohms, there are no reflections
and the
system is in steady state 0.75 cycles after the North voltage source
is turned
on.

Turn on the South voltage source which, for interest, is 180 degrees out of
phase with the North. Heading towards the joint is a new wave which, when
it reaches the joint, some is reflected and the rest goes through splitting
between north and east. The east wave is 180 degrees out of phase with
the pre-existing wave from the North generator and cancels completely on
the East line. The other half of the wave from the South generator heads
north where it reaches the North generator after 0.25 cycles.

Again, since all lines are terminated in 50 Ohms, there are no
reflections.

0.75 cycles after the South source is turned on there is no energy left in
the East line. Where did it go? Drained by load, it was.

0.5 cycles after the South source is turned on, the North generator stops
supplying energy to the line because the voltage wave from the South is in
phase with output from the North and no current flows.

0.5 cycles after the South source is turned on, it stops supplying energy
to the line since the orignal wave from the north plus the reflection from
the joint is always equal to the source voltage so no current flows.

0.75 cycles after the South source is turned on, the system is in steady
state. The last thing that happens is that energy finishes draining from
the East line.

So it appears that two waves in the line going east are 180 degrees out
of phase and cancelling. Call this Explanation A.

Let us do the experiment in a slightly different order...

Connect only the lines going north and south, leave the line going
east disconnected.

Turn on the two sources and let the system stabilize. At the joint
between north and south will be voltage null where the voltage
is always 0. Now connect the east line to this voltage null.
Since there is 0 voltage here, there will be no waves sent down
the line so there can not be any cancellation. Call this Explanation
B.

It is important to note that the end state of the two experiments is exactly the same, and yet Explanation A has cancelling waves, while Explanation B does not.

So which explanation is CORRECT?

It is valuable to study the final state regardless of the explanation used.

In this steady state, the voltage at the joint is always 0.
This means that no energy is flowing across the joint in any direction.
(Remember energy flow is power which is volts times amps; no volts, no power).

There is no energy entering the East line. How can there be when the voltage
at the entrance is always 0.

There is no energy flowing from North to South or South to North across the
joint. (Remember P=VI and V is always 0).

There is no energy flowing out of either generator since their output currents are zero. (Remember P=VI).

There is no dissipation in either source resistor since the current through them is zero. (Remember P=VI).

Neither source is adding any energy to the system since the current from each source is zero. (Remember P=VI).

The voltage on the East line is 0 at all points.

There is a standing wave on the North-South line with a voltage null at the joint and a current null at each end.

But some will argue that there are two energy containing travelling waves going north and south despite it being clear that with a voltage of 0 in the middle of the line, no energy can be crossing this point.

Some will argue that there are two energetic waves in the east line which are cancelling despite it being clear that this depends on the order in which the connections are made.

The paradoxes. The paradoxes.

It is noted that this experiment does not use Icom transmitters, but it is believed that any wave behaviours holds for equipment other than Icom and so the experiment is still valid.

Some may argue that a perfect generator can not be constructed, but really that is a matter of cash; with enough cash one can construct a generator that is arbitrarily close to perfect. Of course the same holds for the ideal transmission lines and the terminators. The lack of absolute perfection does not obviate the value of the thought experiment for furthering understanding.

Note that the generators are fully specified so any cautions about using Thevenin or Norton equivalents do not apply since we are not dealing with equivalents.

...Keith

4585. Re: multiband vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 12:43:49 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <8ooVh.149$Ea5.73@newssvr19.news.prodigy.net>
Source record: 42683

Andre & Sharon Walker wrote:
> I was hoping to get away from traps, but i dont think its possible :-(. I
> only have a smallish yard, with just 30m from the chimmny (brick) to the
> back of the yard, so i think a decent wire antenna is out...but i am open to
> suggestions. I guess the other considerstion is to keep "she inside" happy .

A 1/2WL dipole is 20m on 40m and can be made to work on
all HF bands 40m-10m. That's probably what I would do
and then do something romantic to keep the XYL happy.
--
73, Cecil http://www.w5dxp.com

4586. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 12:45:35 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <NpoVh.150$Ea5.145@newssvr19.news.prodigy.net>
Source record: 42684

Keith Dysart wrote:
> The person who desires to not realize can always build road blocks
> to prevent realization.

e.g. like refusing to provide a schematic for the
source. :-)
--
73, Cecil http://www.w5dxp.com

4587. Re: multiband vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 12:49:51 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <tt3c2398uhu3pp8hn9v0glhnruv79qn3gs@4ax.com>
Source record: 42685

On Wed, 18 Apr 2007 09:45:39 GMT, "Andre & Sharon Walker"
<aswa73@bigpond.net.au> wrote:

>I was hoping to get away from traps, but i dont think its possible :-(. I
>only have a smallish yard, with just 30m from the chimmny (brick) to the
>back of the yard, so i think a decent wire antenna is out...but i am open to
>suggestions. I guess the other considerstion is to keep "she inside" happy .
>
>Andre

You can trust Owen's advice!

Here is some recommended reading on the subject from another reliable
source:

http://www.bencher.com/pdfs/00815ZZV.pdf
http://www.bencher.com/pdfs/00816ZZV.pdf

I have found Bencher's products to be a bit pricey but they are high
quality. They do have some low cost solutions.

Cushcraft is my favorite supplier because for a given type of antenna
they are the lowest cost solution. You must beware when dealing with
them that they are inclined to sell what is popular rather than what
is best for a given design.

The big problem with a multi band antenna is it is like a Swiss Army
knife. You can make it work but never as well as a single purpose
device. I find twenty meters to be the most active all-around band.

BTW, I spend more time tinkering with antennas than operating.

Congratulations on the new ticket! If you don't find what you want in
Amateur Radio you are not looking in the right place...

John Ferrell W8CCW
"Life is easier if you learn to
plow around the stumps"

4588. Re: multiband vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 12:55:00 UTC
From: "John, N9JG" <john@Xremove.MeYgotwals.com>
Message-ID: <EyoVh.26692$G23.3627@newsreading01.news.tds.net>
Source record: 42686

My antenna is similar to yours, but slightly longer. I have a 110 feet dipole running between my chimney and a tree at the back of the lot. The dipole is at a height of 30 feet and is fed with open-wire. I use an antenna tuner and the antenna works fairly well on all bands 80 through 10 meters.

John, N9JG

"Cecil Moore" <nospam@w5dxp.com> wrote in message news:8ooVh.149$Ea5.73@newssvr19.news.prodigy.net...
> Andre & Sharon Walker wrote:
>> I was hoping to get away from traps, but i dont think its possible :-(. I
>> only have a smallish yard, with just 30m from the chimmny (brick) to the
>> back of the yard, so i think a decent wire antenna is out...but i am open
>> to
>> suggestions. I guess the other considerstion is to keep "she inside"
>> happy .
>
> A 1/2WL dipole is 20m on 40m and can be made to work on
> all HF bands 40m-10m. That's probably what I would do
> and then do something romantic to keep the XYL happy.
> --
> 73, Cecil http://www.w5dxp.com

4589. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 12:57:31 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <%AoVh.11212$Kd3.4396@newssvr27.news.prodigy.net>
Source record: 42687

Keith Dysart wrote:
> Some may argue that a perfect generator can not be constructed, but
> really that is a matter of cash; with enough cash one can construct
> a generator that is arbitrarily close to perfect.

But bears no resemblance to the average amateur radio
transmitter. The *goal* is to explain what happens with
the average amateur radio transmitter. We already have
signal generators with circulator loads that will do
what you are trying to do. So why bother trying to
reinvent the wheel?
--
73, Cecil http://www.w5dxp.com

4590. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 13:02:44 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176901364.528516.89140@y5g2000hsa.googlegroups.com>
Source record: 42688

On Apr 18, 8:45 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > The person who desires to not realize can always build road blocks
> > to prevent realization.
>
> e.g. like refusing to provide a schematic for the
> source. :-)
> --
> 73, Cecil http://www.w5dxp.com

So sad Cecil. If you had just popped open LTspice, you would have seen
the schematic under consideration.

But when you don't want to take a chance on learning, you can refuse
to
jump over the bar no matter how low it is, claiming it is too high.

So sad.

...Keith

4591. Re: multiband vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 13:04:55 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <XHoVh.11213$Kd3.1777@newssvr27.news.prodigy.net>
Source record: 42689

John, N9JG wrote:
> My antenna is similar to yours, but slightly longer. I have a 110 feet
> dipole running between my chimney and a tree at the back of the lot. The
> dipole is at a height of 30 feet and is fed with open-wire. I use an antenna
> tuner and the antenna works fairly well on all bands 80 through 10 meters.

Your dipole is 8 feet longer than the G5RV length which
is a positive for 80m operation. For your favorite bands,
there is probably an optimum length of feedline. EZNEC
allows one to model different lengths of feedline. I
wrote a compiled BASIC DOS program that will estimate
the optimum lengths of feedline at:

http://www.w5dxp.com/imax.exe
--
73, Cecil http://www.w5dxp.com

4592. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 13:13:20 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <QPoVh.11214$Kd3.10883@newssvr27.news.prodigy.net>
Source record: 42690

Keith Dysart wrote:
> Cecil Moore <nos...@w5dxp.com> wrote:

>> Keith Dysart wrote:
>>> The person who desires to not realize can always build road blocks
>>> to prevent realization.

>> e.g. like refusing to provide a schematic for the
>> source. :-)
>
> So sad Cecil. If you had just popped open LTspice, you would have seen
> the schematic under consideration.

I may have missed it, but to the best of my knowledge,
this is the first time you have mentioned the LTspice
reference. I apologize but I'm retired without access
to spice. Is that schematic available anywhere on the
web? If not, how about emailing me a .jpg copy of it?
--
73, Cecil http://www.w5dxp.com

4593. Re: multiband vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 13:26:31 UTC
From: "John, N9JG" <john@Xremove.MeYgotwals.com>
Message-ID: <b0pVh.26695$G23.7748@newsreading01.news.tds.net>
Source record: 42692

What do you mean by optimum length since open-wire feedline has minimal loss? When I moved into this property last July, I just strung the longest wire that would fit into the lot, and reeled out the amount of feedline that would reach between the tuner and my shack on the second floor. I can not make the feedline appreciably shorter, and if I made it longer I would have to figure out how to support the additional feedline. I estimate the feedline has a length of 70 feet.

John, N9JG

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:XHoVh.11213$Kd3.1777@newssvr27.news.prodigy.net...
> John, N9JG wrote:
>> My antenna is similar to yours, but slightly longer. I have a 110 feet
>> dipole running between my chimney and a tree at the back of the lot. The
>> dipole is at a height of 30 feet and is fed with open-wire. I use an
>> antenna tuner and the antenna works fairly well on all bands 80 through
>> 10 meters.
>
> Your dipole is 8 feet longer than the G5RV length which
> is a positive for 80m operation. For your favorite bands,
> there is probably an optimum length of feedline. EZNEC
> allows one to model different lengths of feedline. I
> wrote a compiled BASIC DOS program that will estimate
> the optimum lengths of feedline at:
>
> http://www.w5dxp.com/imax.exe
> --
> 73, Cecil http://www.w5dxp.com

4594. Re: Velocity factor??

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 13:30:55 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <i4pVh.4588$H_5.4315@newssvr23.news.prodigy.net>
Source record: 42693

John Doe wrote:
> At the present time - my MFJ Antenna Analyser has it resonating at approx
> 10.5Mhz, and I am trying to get it to resonate at 1.8Mhz (160M).

What length and type of feedline are you using? If ladder-
line (or similar) your have a tuned-feeder system and the
resonance frequency may not be anywhere near the stand-
alone antenna resonant frequency.

What does the antenna analyzer say is the resonant
frequency closest to 1.8 MHz?

With the two above pieces of information, we can
estimate what needs to be adjusted to obtain a
system resonance of 1.8 MHz.
--
73, Cecil http://www.w5dxp.com

4595. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 13:40:51 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176903651.462752.193240@e65g2000hsc.googlegroups.com>
Source record: 42694

On Apr 18, 8:57 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Some may argue that a perfect generator can not be constructed, but
> > really that is a matter of cash; with enough cash one can construct
> > a generator that is arbitrarily close to perfect.
>
> But bears no resemblance to the average amateur radio
> transmitter. The *goal* is to explain what happens with
> the average amateur radio transmitter. We already have
> signal generators with circulator loads that will do
> what you are trying to do. So why bother trying to
> reinvent the wheel?

You give yourself the perfect out, don't you. You won't study
the simple circuits that can be understand (for which, by the
way a circulator is not required, thus indicating that you do not
yet understand them) because they are not complicated
enough to represent an average amateur radio transmitter, and
you can't study an average amateur radio transmitter because it
is too complicated to be understood.

Conclusion: No need to study. Life is good. No need to understand.

So sad.

...Keith

4596. Re: multiband vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 13:45:44 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <aipVh.4590$H_5.2420@newssvr23.news.prodigy.net>
Source record: 42695

John, N9JG wrote:
> What do you mean by optimum length since open-wire feedline has minimal
> loss?

By "optimum length", I mean the length where you can
switch your antenna tuner into bypass mode and obtain
a 50 ohm SWR of less than ~1.6:1. For any dipole that
is 1/2WL on the lowest frequency of operation, that
will be at an SWR current maximum point making the
antenna plus tuned feeder system resonant without a tuner.

On 20m, for example, if one can vary the ladder-line
length by plus or minus 15 feet, one can always locate
the SWR current maximum point and usually bypass the
antenna tuner. I have a 20m 1/2WL dipole that I use
on 20m, 17m, 15m, 12m, 10m, and 6m without a conventional
antenna tuner by simply varying the length of the
300 ohm ladder-line.
--
73, Cecil http://www.w5dxp.com

4597. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 13:52:56 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <WopVh.4591$H_5.1346@newssvr23.news.prodigy.net>
Source record: 42696

Keith Dysart wrote:
> You give yourself the perfect out, don't you. You won't study
> the simple circuits that can be understand (for which, by the
> way a circulator is not required, thus indicating that you do not
> yet understand them) because they are not complicated
> enough to represent an average amateur radio transmitter, and
> you can't study an average amateur radio transmitter because it
> is too complicated to be understood.

I'm willing to study them if you will only send me a
schematic. But I'm not going to waste a lot of time
on something that is of very limited usefulness. We
already have a model that will eliminate reflections,
i.e. a signal generator equipped with a circulator,
but we don't use such for amateur radio transmitters.
Why invent something else that we don't use for amateur
radio transmitters? Why not choose an actual amateur
radio transmitter to try to understand what happens
with amateur radio transmitters? That seems like a
no-brainer to me.
--
73, Cecil http://www.w5dxp.com

4598. Velocity factor??

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 14:20:11 UTC
From: John Doe <hgorden@adelphia.net>
Message-ID: <A7qdnU1kNLMOh7vbnZ2dnUVZ_gGdnZ2d@adelphia.com>
Source record: 42691

I have made a indoor/outdoor STEALTH of sorts, a Multiband HF LOOP Antenna, approximately 540ft long (from center connector back around to the other side of the connector). I am using 13 gauge - copper - stranded plastic cover - wire! Does anybody have a velocity factor chart?

At the present time - my MFJ Antenna Analyser has it resonating at approx 10.5Mhz, and I am trying to get it to resonate at 1.8Mhz (160M).

I need the info to try and figure out how much I need to reduce the overall circumfrence.

73's

Howard W3CQH

4599. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 14:53:44 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176908024.170114.97270@y5g2000hsa.googlegroups.com>
Source record: 42697

On Apr 18, 9:52 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > You give yourself the perfect out, don't you. You won't study
> > the simple circuits that can be understand (for which, by the
> > way a circulator is not required, thus indicating that you do not
> > yet understand them) because they are not complicated
> > enough to represent an average amateur radio transmitter, and
> > you can't study an average amateur radio transmitter because it
> > is too complicated to be understood.
>
> I'm willing to study them if you will only send me a
> schematic. But I'm not going to waste a lot of time
> on something that is of very limited usefulness. We
> already have a model that will eliminate reflections,
> i.e. a signal generator equipped with a circulator,
> but we don't use such for amateur radio transmitters.
> Why invent something else that we don't use for amateur
> radio transmitters? Why not choose an actual amateur
> radio transmitter to try to understand what happens
> with amateur radio transmitters? That seems like a
> no-brainer to me.

Why? You say. Because if one does not understand
how the simple circuits behave, there is no hope for
understanding how something as complex as an
amateur radio transmitter behaves.

Amateur transmitters do not have circulators. If you
don't have the tools to figure out what happens when
a wave is incident on the simplest of generators (an
ideal voltage source in series with a resistor), there
is no way you can figure it out for a more complicated
transmitter.

Start simple, then extend.

To learn what happens with the simplest of generators,
look in any textbook on the subject or google '"lattice
diagram" reflection'. The LTspice simulation I previously
offerred can be used to confirm the results of analysis.

...Keith

PS - The schematic for the generator is as described above.
They are connected to each end of a transmission line as
described in a previous post. Compute how much of the

incident wave is reflected at each end. Choose any
frequency, line length, voltage and waveshape you find
convenient for the generators.

4600. Re: multiband vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 15:05:49 UTC
From: "John, N9JG" <john@Xremove.MeYgotwals.com>
Message-ID: <htqVh.26699$G23.7433@newsreading01.news.tds.net>
Source record: 42698

Thanks for the explanation. What you have described would be more convenient from an operating standpoint since I would have one less thing to tune during a QSY.

"Cecil Moore" <nospam@w5dxp.com> wrote in message news:aipVh.4590$H_5.2420@newssvr23.news.prodigy.net...
> John, N9JG wrote:
>> What do you mean by optimum length since open-wire feedline has minimal
>> loss?
>
> By "optimum length", I mean the length where you can
> switch your antenna tuner into bypass mode and obtain
> a 50 ohm SWR of less than ~1.6:1. For any dipole that
> is 1/2WL on the lowest frequency of operation, that
> will be at an SWR current maximum point making the
> antenna plus tuned feeder system resonant without a tuner.
>
> On 20m, for example, if one can vary the ladder-line
> length by plus or minus 15 feet, one can always locate
> the SWR current maximum point and usually bypass the
> antenna tuner. I have a 20m 1/2WL dipole that I use
> on 20m, 17m, 15m, 12m, 10m, and 6m without a conventional
> antenna tuner by simply varying the length of the
> 300 ohm ladder-line.
> --
> 73, Cecil http://www.w5dxp.com

4601. Re: Velocity factor??

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 15:08:20 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1176908900.923908.225890@n59g2000hsh.googlegroups.com>
Source record: 42699

On 18 abr, 16:20, "John Doe" <hgor...@adelphia.net> wrote:
> I have made a indoor/outdoor STEALTH of sorts, a Multiband HF LOOP Antenna,
> approximately 540ft long (from center connector back around to the other
> side of the connector). I am using 13 gauge - copper - stranded plastic
> cover - wire! Does anybody have a velocity factor chart?
>
> At the present time - my MFJ Antenna Analyser has it resonating at approx
> 10.5Mhz, and I am trying to get it to resonate at 1.8Mhz (160M).
>
> I need the info to try and figure out how much I need to reduce the overall
> circumfrence.
>
> 73's
>
> Howard W3CQH

Hello, John,

The effect of a 1mm thick PVC coating on 1.8mm diameter of copper on
phase velocity is less then 2 percent below that of light. So c is
about 0.98...0.99*c0. This is without correction for capacitive fringing
at the ends of the wire and without correction for influence of
ground.

As your wire is about 1 wavelength for 1.8 MHz, your loop should have
a low impedance and therefore you should find a point of resonance
around 160 m band (assuming you did connect the wire directly to the
MJF). Maybe you should use a balun between your MFJ and 1WL loop.
You will get resonance at near multiples also.

Best Regards,

Wim
PA3DJS.

4602. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 15:27:15 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <nNqVh.7052$5e2.569@newssvr11.news.prodigy.net>
Source record: 42700

Keith Dysart wrote:
> Start simple, then extend.

I'm not stopping you from doing that. Please feel free
to post whatever you choose to post.
--
73, Cecil http://www.w5dxp.com

4603. Re: multiband vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 15:35:14 UTC
From: aRKay <REMOVEarkay@qsl.net>
Message-ID: <REMOVEarkay-85061C.10351418042007@newsclstr02.news.prodigy.com>
Source record: 42701

In article <zrlVh.15257$M.7152@news-server.bigpond.net.au>,
"Andre & Sharon Walker" <aswa73@bigpond.net.au> wrote:

> now I just
> happen to have a house with a nice tin roof. Can I make use of the whole
> roof as a ground plain or do I need radials cut to resonance for each band?

Andre,

Several years ago I had a tin roof and tried to use it as a ground
plain. It did NOT work. I gave up and cut some radials

4604. Re: multiband vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 16:15:16 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ourVh.17457$Um6.3374@newssvr12.news.prodigy.net>
Source record: 42702

aRKay wrote:
> Several years ago I had a tin roof and tried to use it as a ground
> plain. It did NOT work. I gave up and cut some radials

Did you lay the radials on the tin roof?
--
73, Cecil http://www.w5dxp.com

4605. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 16:54:20 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176915260.237472.134490@o5g2000hsb.googlegroups.com>
Source record: 42703

On Apr 18, 11:27 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Start simple, then extend.
>
> I'm not stopping you from doing that. Please feel free
> to post whatever you choose to post.

It is unfortunate, but you are back where you started;
choosing not to learn.

Opportunity squandered.

...Keith

PS - If you change your mind, do feel free to ask.

4606. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 16:59:08 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1176915547.915437.281630@b58g2000hsg.googlegroups.com>
Source record: 42704

On Apr 18, 5:40 am, Keith Dysart <k...@sympatico.ca> wrote:
,,,
> Of course the
> same holds for the ideal transmission lines and the terminators.
> The lack of absolute perfection does not obviate the value
> of the thought experiment for furthering understanding.

Actually, Keith, one of the beauties of your proposed experiment is that the line connecting the generators does NOT have to be lossless. It need only be uniform. The N-S section does not even have to be exactly 1/2 wave long; it just needs to be tapped in the center. The E-W section can be virtually any length, and it doesn't even have to have the same impedance or loss characteristics as the N-S section. The generators can be a far cry from perfect; they could just as well be ideal voltage sources, or ideal current sources, or even ICOM transmitters; they just need to be the same, and have some way to be driven out-of-phase. Using line with loss results in the sources having to deliver a small amount of power, of course, and having the N-S section differ slightly from 1/2 wavelength just means that the sources will see a slightly reactive load.

And of course, the value of your experiment is what goes on in the lines, and has nothing to do with the sources driving them. It's a beautifully simple experiment that can be produced easily on the bench, or in a simulator (like the free LTSpice or even RFSim99). Thanks for offering it, Keith.

Cheers,
Tom

Still waiting for someone to send me an ICOM 706 or whatever that was so I can measure the source impedance seen at the output terminals while it's delivering its nominally rated power to the recommended load...

4607. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 17:26:01 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <JwsVh.4573$2v1.2286@newssvr14.news.prodigy.net>
Source record: 42705

Keith Dysart wrote:
> It is unfortunate, but you are back where you started;
> choosing not to learn. Opportunity squandered.

Sorry Keith, From your already lengthy postings, I simply
don't perceive that you have anything new to offer, at
least not to me now in my 8th decade. But I could be wrong,
as could you, so please proceed.
--
73, Cecil http://www.w5dxp.com

4608. Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 18:20:21 UTC
From: JB MacDonald <k1jzp@comcast.net>
Message-ID: <yKednWZTxu3a_LvbnZ2dnUVZ_sCinZ2d@comcast.com>
Source record: 42706

I know how to find the center of a pipe, using a vee block, but my question is how do you scribe a line from one end to the other , so the first hole is in perfect alignment with the last hole .. take for example a 20 foot pipe , or tubing . If we had a 20 foot layout table fine , clamp pipe down and use a height gauge to scrib a line the length of the pipe. if you do not have a line you could get a twist(miss alignment) but what can a person due that does not have a 20 foot layout table . Maybe I am being to critical

4609. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 18:41:21 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <f05oml$u8i$1@nnrp.linuxfan.it>
Source record: 42707

JB MacDonald wrote:
> I know how to find the center of a pipe, using a vee block, but my
> question is how do you scribe a line from one end to the other , so the
> first hole is in perfect alignment with the last hole .. take for
> example a 20 foot pipe , or tubing . If we had a 20 foot layout table
> fine , clamp pipe down and use a height gauge to scrib a line the length
> of the pipe. if you do not have a line you could get a twist(miss
> alignment) but what can a person due that does not have a 20 foot layout
> table . Maybe I am being to critical

Two methods I have use:

1) "Chalk line", available at any hardware store. Stretch line tight
down the center of the top of the boom (as viewed from above) snap!

2) Lay a 20 ft board, which is 1/2 dia of boom, next to boom and scribe
line down the top of the board on the boom.

I am sure there are other ways ...

JS

4610. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 19:21:00 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1176924060.513491.128940@p77g2000hsh.googlegroups.com>
Source record: 42708

Cecil Moore wrote:
> Jim Kelley wrote:
> > Superposition is a mathematical as well as physical operation. You
> > maintain that the process of adding x to y must somehow change x and y.
>
> Absolutely false, Jim. Please produce my posting that said
> that superposition of x and Y *must* somehow change x and y.

I'm sorry. I must have misunderstood what you meant when you angrily insisted that waves interact. Must be one of those semantics things again. I know. Let's agree on a definition. How about the one in Merriam Websters Collegiate Dictionary, Tenth Edition:
interact: to act upon one another

> I have said just the opposite.

I must admit to not having seen that post. On the other hand I do recall seeing some where you ruthlessly insulted other people who maintained that position. I believe those are still on Google groups if you'd like to have a look back.

73, Jim AC6XG

4611. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 20:06:22 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <c0uc23p9itm89512qjobqkk39gla16159f@4ax.com>
Source record: 42709

On 18 Apr 2007 09:54:20 -0700, Keith Dysart <kd1@sympatico.ca> wrote:

>Opportunity squandered.

Hi Keith,

Was there any doubt about this eventual outcome? No one argues with a flat-earther except with the expectation of amusement - unless, of course, the flat-earther is the White House science advisor.

Write for those who read, not for those who squander your effort.

By the way, when I run your LTSpice example I get 10ï¿½S of black screen.

73's
Richard Clark, KB7QHC

4612. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 20:07:43 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1176926863.580228.168950@q75g2000hsh.googlegroups.com>
Source record: 42710

On 14 Mar, 12:40, "Tom Donaly" <dtdon...@sbcglobal.net> wrote:
> John E. Davis wrote:
> > On Wed, 14 Mar 2007 09:09:27 -0800, Tom Donaly <dtdon...@sbcglobal.net>
> > wrote:
> >> Different texts have Maxwell's equations in different order. What text
> >> did you get this from? Becker has it (in Gaussian CGS units) as
> >> div D = 4\pi\rho (where the backslash indicates multiplication, and D
> >> and rho have the usual meanings. You can add the 't' if you want to, but
> >> it's unnecessary. Also, since you're dealing in 3 dimensions, why not
> >> indicate them as in E(x,y,z), or E(x,y,z,t) (if the time means something
> >> to you)?
>
> > I tend to write equations in LaTeX form as most people I exchange
> > emails with mathematical equations use that for formatting mathematics.
> > Here, \pi represents the greek letter pi, and \rho is the greek letter
> > rho. I used x to represent a spatial 3-vector. I could have written
> > it as (x,y,z) but I did not think this shorthand would cause any
> > confusion given the context.
>
> > The difference between E and D is not important here. If you use D,
> > then \rho must be interpreted as the so-called "free" charge density.
> > However, the fundamental field is E, and if you use it the \rho must
> > be interpreted as the _full_ charge density. The relationship between
> > E and D can be very complex and may well depend upon the strength of
> > the applied field E. For simple materials a linear relationship is
> > usually assumed, e.g., D = \epsilon E, where \epsilon is the
> > dielectric constant of the medium. Also even here in this linear
> > relationship, \epsilon need not be a scalar (a number). It could be a
> > tensor (a 3x3 matrix), in which case D and E would not have the same
> > direction.
>
> > --John
>
> Thanks for explaining that, John. I am unfamiliar with the conventions
> of LaTex, obviously (I get my information from books that are generally
> older than I am, and I'm not young). I don't have any problem with
> Gauss' law being used in a non-static context. It applies, regardless.
> That's as far as I go in agreeing with Art, though, since I can't
> understand the rest of his theory, at all (but might if I could turn
> off the left side of my brain - maybe).
> 73,
> Tom Donaly, KA6RUH- Hide quoted text -
>
> - Show quoted text -

Tom
I was rereading this thread as to why people have a hard time in understanding Gauss's law
with respect to conservative fields and a transition to a non conservative field where with the addition of time one can consider what is outside the enclosed surface. Since you pursued the mathematical side of the subject to a minor conclusion (you stated you didn't understand what I was proposing) with John E Davis of M.I.T. I wish to share with you some notes on the Internet by David J Raymond called "a radically modern aproach"
which to me is the best I have seen on Radiation in it's entirety. Obviously there is a lot written that as hams it is not essential reading for hams but what it does do is explain in a very clear way the mechanics of radiation with specific applications with respect to the transition from conservative fields ala Gaussian law of statics to non conservative fields where at the cessation of time one can reconcile what is outside the enclosed surface with that which is inside the surface where what is inside the enclosure is in equilibrium and the enclosing surface is frictionless. As can obviously seen a Yagi inside the enclosed border cannot be considered since at the cessation of time interaction between elements is still taking place after the cessation of time. The notes are so well written that one not conversant
with upper math can still follow the implications of the discussion at hand and thus can be considered as recommended reading for all hams interested in antennas as a subject. It also gives a very clear mathematical progression from Gaussian law to the subject of non conservative fields can be formed with the activation of curl during a moment in time.
It is this progression that leads designers to design around cluster arrays that are in equilibrium regardless of orientation ie without continuing coupling effects after the cessation of time and is very well chronicalled in the above stated notes.
Best regards
Art

4613. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 20:36:59 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <i10d23d3nmejint3qruinevhd4sb4t8u0k@4ax.com>
Source record: 42711

On 18 Apr 2007 13:07:43 -0700, art <aunwin@insightbb.com> wrote:

>I was rereading this thread as to why people have a hard time in
>understanding Gauss's law
>with respect to conservative fields and a transition to a non
>conservative field where with the addition of time one can consider
>what is outside the enclosed surface.

Hi Art,

That single, obscure, and ponderously long sentence is a clue as to
why...

>since at the cessation of time interaction between elements is still
>taking place after the cessation of time.

One has to wonder what new meaning you have for the word "cessation."

How can there be any time (for anything to take place) when there is
no more time (for anything to take place).

73's
Richard Clark, KB7QHC

4614. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 20:37:32 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <P+Ss4RFMGoJGFAYK@ifwtech.co.uk>
Source record: 42712

JB MacDonald wrote:
>I know how to find the center of a pipe, using a vee block, but my
>question is how do you scribe a line from one end to the other , so the
>first hole is in perfect alignment with the last hole .. take for
>example a 20 foot pipe , or tubing . If we had a 20 foot layout table
>fine , clamp pipe down and use a height gauge to scrib a line the length
>of the pipe. if you do not have a line you could get a twist(miss
>alignment) but what can a person due that does not have a 20 foot
>layout table . Maybe I am being to critical

Forget the scribed line - what you really need is for all the holes
through the boom to be parallel. A spirit level clamped at 90deg to the
boom will achieve that.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

4615. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 20:52:03 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1176929523.671027.289040@b58g2000hsg.googlegroups.com>
Source record: 42713

On Apr 18, 2:21 pm, Jim Kelley <jwkel...@uci.edu> wrote:
> Cecil Moore wrote:
> > Jim Kelley wrote:
> > > Superposition is a mathematical as well as physical operation. You
> > > maintain that the process of adding x to y must somehow change x and y.
>
> > Absolutely false, Jim. Please produce my posting that said
> > that superposition of x and Y *must* somehow change x and y.
>
> I'm sorry. I must have misunderstood what you meant when you angrily
> insisted that waves interact.

You must have indeed (deliberately?) misunderstood. If you would quote
me, as you have demanded that I quote you, you would not be so quick
to obfuscate. The key word in your statement of what I said is "must".
I have NEVER said that two waves MUST interact. All I have ever said
is that it is possible for two waves to interact. If only two waves
out of 100 trillion waves interact, then everything I have said is
true and what you have said is false.

> > I have said just the opposite.

> I must admit to not having seen that post.

It's back there somewhere but I will repeat the concept here.

1. Billions of waves don't superpose, i.e. billions of waves don't
interact.

2. Billions of waves superpose without interference, i.e. billions of
waves
don't interact.

3. Billions of waves interfere without interaction.

4. Sometimes two waves interfere with interaction between the two
waves. The interaction results in permanent change. The two reflected
waves involved in the cancellation of reflections at the surface of a
thin film cannot be recovered.

Please stop refusing to produce my postings that you are quoting as
you have a pathologicao tendency to misquote me.
--
73, Cecil, w5dxp.com

4616. Re: multiband vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 20:53:24 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99174617739EFnonenowhere@61.9.191.5>
Source record: 42714

Cecil Moore <nospam@w5dxp.com> wrote in
news:8ooVh.149$Ea5.73@newssvr19.news.prodigy.net:

> Andre & Sharon Walker wrote:
>> I was hoping to get away from traps, but i dont think its possible
>> :-(. I only have a smallish yard, with just 30m from the chimmny
>> (brick) to the back of the yard, so i think a decent wire antenna is
>> out...but i am open to suggestions. I guess the other considerstion
>> is to keep "she inside" happy .
>
> A 1/2WL dipole is 20m on 40m and can be made to work on
> all HF bands 40m-10m. That's probably what I would do
> and then do something romantic to keep the XYL happy.

Cecil, Andre will not have access to most HF bands, just 80, 40, 15, and 10m.

It takes about 6 hours to train and assess a Foundation Licencee, so your tunerless concept is perhaps more complex than Andre's current knowledge base.

For example, I worked a FL chap a couple of days ago on 40m with a 80m half wave dipole fed with a long run of coax, and he was confident that his antenna worked real well, despite my expectation that it was likely that well less than 10% of his permitted 10W PEP was radiated. It was impossible to tell this chap that if he cut the dipole to half the length it would work better on 40m.

It is no good telling people that an antenna isn't likely to work real good, they will cite all the contacts that they have had with it, and as we know, anything "works", doesn't it. However, most people listen to the positive suggestion that with change, and antenna will work better (and in the above case, more than 10 times the EIRP).

Andre, keep it simple. A coax fed half wave dipole is easy to get going will limited knowledge and experience, and you should have a high confidence that you will be able to deliver a suitable load to your transmitter (ie it will deliver its rated power), and the antenna will be quite efficient (ie that most of your 10W PEP transmitter power is radiated). It will also work well on receive.

If you hear strong FL signals around, they have good antennas, and / or are flaunting the power limit. It is easy to do the latter, but if you get the antenna right, you still have the room for improvement when you upgrade to the higher power limit.

Owen

4617. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 20:54:19 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1176929659.334871.74030@n59g2000hsh.googlegroups.com>
Source record: 42715

On 18 Apr, 13:36, Richard Clark <kb7...@comcast.net> wrote:
> On 18 Apr 2007 13:07:43 -0700, art <aun...@insightbb.com> wrote:
>
> >I was rereading this thread as to why people have a hard time in
> >understanding Gauss's law
> >with respect to conservative fields and a transition to a non
> >conservative field where with the addition of time one can consider
> >what is outside the enclosed surface.
>
> Hi Art,
>
> That single, obscure, and ponderously long sentence is a clue as to
> why...
>
> >since at the cessation of time interaction between elements is still
> >taking place after the cessation of time.
>
> One has to wonder what new meaning you have for the word "cessation."
>
> How can there be any time (for anything to take place) when there is
> no more time (for anything to take place).
>
> 73's
> Richard Clark, KB7QHC

When power supply is stopped to an array inside an enclosed surface
kinetic energy is in evidence by radiation between elements PRIOR to
emerging from the enclosed surface.
You cannot have an equation with reference to time if equality is not
obtained at the cessation of the time under consideration.
You should read up on conservative and non conservative fields before
you succumb to temptation by replying while you still have your foot
in your mouth. I have responded to you this one time only to show
others how stupid you can be when you allow animosity to over ride
cfommon sense.

4618. Re: multiband vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 20:59:53 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9917473079C59nonenowhere@61.9.191.5>
Source record: 42716

"Andre & Sharon Walker" <aswa73@bigpond.net.au> wrote in
news:7NlVh.15262$M.6974@news-server.bigpond.net.au:

> I was hoping to get away from traps, but i dont think its possible
> :-(. I only have a smallish yard, with just 30m from the chimmny
> (brick) to the back of the yard, so i think a decent wire antenna is
> out...but i am open to suggestions. I guess the other considerstion is
> to keep "she inside" happy .

Andre,

There are other options than traps, including other multiband designs that
depend on other devices to deliver a nominal 50 ohm feedpoint.

An unloaded vertical with a tuner at the base is an option.

See my earlier comment about noise in urban areas.

Your yard is obviously bigger than many suburban yards. A 40m inverted V
needs about 8m horizontally each side of the support mast.

Owen

4619. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 21:01:41 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1176930101.405638.104330@y80g2000hsf.googlegroups.com>
Source record: 42717

On Apr 18, 11:54 am, Keith Dysart <k...@sympatico.ca> wrote:
> It is unfortunate, but you are back where you started;
> choosing not to learn. Opportunity squandered.

And BTW, so are you. You ignored my earlier posting which poked holes in your model so I am going to repeat it until you respond to it. We know exactly what happens to the reflected energy when a signal generator equipped with a circulator and load are used in the following experiment.

100W SGCL----50 ohm 1/4WL stub----short

A Bird wattmeter reads 100 watts forward and 100 watts reflected. The source sources 100 watts and the circulator resistor dissipates 100 watts which is all of the reflected power.

Keith's 70.7V/50 ohm source----50 ohm 1/4WL stub----short

A Bird wattmeter reads 100 watts forward and 100w reflected. The current in the source is zero. The source is not only not sourcing any forward power, it is also not sinking any reflected power. So much for Keith's source sinking all the reflected power because it's source impedance is equal to 50 ohms, the Z0 of the transmission line.

Please don't ignore this posting like you did last time.
--
73, Cecil, w5dxp.com

4620. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 21:03:23 UTC
From: john Wiener <jawod@fuse.net>
Message-ID: <65626$46268879$d844be45$16653@FUSE.NET>
Source record: 42718

art wrote:

>
> When power supply is stopped to an array inside an enclosed surface
> kinetic energy is in evidence by radiation between elements PRIOR to
> emerging from the enclosed surface.
> You cannot have an equation with reference to time if equality is not
> obtained at the cessation of the time under consideration.
> You should read up on conservative and non conservative fields before
> you succumb to temptation by replying while you still have your foot
> in your mouth. I have responded to you this one time only to show
> others how stupid you can be when you allow animosity to over ride
> cfommon sense.
>

Yes, and well-done

4621. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 21:17:27 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1176931047.762907.105670@p77g2000hsh.googlegroups.com>
Source record: 42719

snip

> Forget the scribed line - snip.

>
> --
>
> 73 from Ian GM3SEK 'In Practice' columnist for RadCom
(RSGB)http://www.ifwtech.co.uk/g3sek

What is so aweful about a scribed line that leads you give an
instruction to' forget it' ?
I've never seen a 'spirit level' being used in a tool room for
accuracy nor could I specify from what you said as to why it should be
used from now on instead of conventional means.

4622. Re: Best beam for WARC?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 21:25:18 UTC
From: Kenneth Grimm <kdgrimm@comcast.net>
Message-ID: <6i2d231sv0gcie8akuclqckv8eothlm025@4ax.com>
Source record: 42720

On Thu, 05 Apr 2007 21:22:53 GMT, Philip Nystrï¿½mer
<philip.nystromer@telia.com> wrote:

>Hi,
>
>I have used a Butternut HF-9VX vertical for many years. Now I am thinking of
>getting a HF beam antenna. I am not into contesting. Rather I enjoy
>memorable QSO's with hams that like to share thoughts and ideas. Since I
>have enjoyed "local" (i.e. mostly Europe) QSO's with my vertical, I would
>now like to reach as far as I can, i.e. real DX's. I am doing CW and SSB
>equally much.

DX rag-chewing is great fun and much better with a beam than with a
vertical!

>My interest profile leads me to optimize my beam for a warc band, on a
>higher frequency, e.g. 12m or 17meters. But how common is warc out there?
>If I got a 12 or 17meter mono bander, would I sit in vain to find the QSO's
>I want? Would it be more safe to just optimize for 20 meters?

For pleasant rag-chewing on 20 Mx, you not only need a superlative
antenna, but QRO is also recommended.

>Given the solar cycle I guess it would be wise to optimize for something in
>the "mid-range" wave lengths, like somewhere in the range of 17-20m, to be
>able to DX in the solar cycle dip as well. Is it a waist of money to get a
>beam for the higher frequencies, except during the high peaks in the solar
>cycle?

Now, you are talking! As the next sun spot cycle begins, the sun spot
numbers will advance rapidly and conditions will change dramatically
(fingers crossed) for the better. 17 and 15 Mx will be great
rag-chewing DX bands. At the peak of the cycle, 12 and 10 mx will be
great as well.

>I would appreciate if anyone could share experiences and ideas on this
>matter. Also if some one could recommend a really good, high quality beam
>for my interest profile.
>
>Tnx de SM5WVN /Phil

Without a question, I would recommend a SteppIR antenna. Expensive,
but with optimal coverage from 20 mx to 6 mx. The 3 element beam is
relatively light, small and very efficient. The 4 element SteppIR
yagi is larger, heavier, more expensive and only marginally better
from a gain perspective. If you wish to cover 40 and 30 mx, there is
a version that allows dipole coverage. If you want to go all the way,

there is the MonstIR. Quite expensive, very large, very heavy and
with great coverage from 40 - 6 mx.

73,

Ken K4XL
k4xl@arrl.net

*** BoatAnchor Manual Archive ***
On the web at http://bama.sbc.edu and http://bama.edebris.com
FTP site info: bama.sbc.edu login: anonymous p/w: youremailadr

4623. Re: multiband vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 22:11:01 UTC
From: Andre & Sharon Walker <aswa73@bigpond.net.au>
Message-ID: <VHwVh.15467$M.140@news-server.bigpond.net.au>
Source record: 42721

Wow..looks like I opened a can of worms here!
Thanks to all for the many links and advice..much food for thought. I think ill have to re assess I was considering end fed longwire also, but an inverted V might be a better option. Anyway, should be on the air within 4 weeks...the licence is the easy bit, diverting funds for the radio from the XYL is the tricky part!!! But ive been offered a FT101z , inc Yaseu Desk mix + spare set of finals (is too early to rember the number of the tubes off hand...just finished night shift), so ill have wind the wick WAY back to start with. I don't care what they say at the club...I like boat anchors!! (I'd love to replace the Murphy B40 I sold 10 years ago :-( )

Cheers

Andre
"Owen Duffy" <none@no.where> wrote in message
news:Xns99174617739EFnonenowhere@61.9.191.5...
> Cecil Moore <nospam@w5dxp.com> wrote in
> news:8ooVh.149$Ea5.73@newssvr19.news.prodigy.net:
>
>> Andre & Sharon Walker wrote:
>>> I was hoping to get away from traps, but i dont think its possible
>>> :-(. I only have a smallish yard, with just 30m from the chimmny
>>> (brick) to the back of the yard, so i think a decent wire antenna is
>>> out...but i am open to suggestions. I guess the other considerstion
>>> is to keep "she inside" happy .
>>
>> A 1/2WL dipole is 20m on 40m and can be made to work on
>> all HF bands 40m-10m. That's probably what I would do
>> and then do something romantic to keep the XYL happy.
>
> Cecil, Andre will not have access to most HF bands, just 80, 40, 15, and
> 10m.
>
> It takes about 6 hours to train and assess a Foundation Licencee, so your
> tunerless concept is perhaps more complex than Andre's current knowledge
> base.
>
> For example, I worked a FL chap a couple of days ago on 40m with a 80m
> half wave dipole fed with a long run of coax, and he was confident that
> his antenna worked real well, despite my expectation that it was likely
> that well less than 10% of his permitted 10W PEP was radiated. It was
> impossible to tell this chap that if he cut the dipole to half the length
> it would work better on 40m.
>
> It is no good telling people that an antenna isn't likely to work real

> good, they will cite all the contacts that they have had with it, and as
> we know, anything "works", doesn't it. However, most people listen to the
> positive suggestion that with change, and antenna will work better (and
> in the above case, more than 10 times the EIRP).
>
> Andre, keep it simple. A coax fed half wave dipole is easy to get going
> will limited knowledge and experience, and you should have a high
> confidence that you will be able to deliver a suitable load to your
> transmitter (ie it will deliver its rated power), and the antenna will be
> quite efficient (ie that most of your 10W PEP transmitter power is
> radiated). It will also work well on receive.
>
> If you hear strong FL signals around, they have good antennas, and / or
> are flaunting the power limit. It is easy to do the latter, but if you
> get the antenna right, you still have the room for improvement when you
> upgrade to the higher power limit.
>
> Owen

4624. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 22:18:01 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <iv5d2354o9vreog9prseqo54juij215kd3@4ax.com>
Source record: 42722

On 18 Apr 2007 13:54:19 -0700, art <aunwin@insightbb.com> wrote:

>When power supply is stopped to an array inside an enclosed surface
>kinetic energy is in evidence by radiation between elements PRIOR to
>emerging from the enclosed surface.
>You cannot have an equation with reference to time if equality is not
>obtained at the cessation of the time under consideration.

Hi Art,

Unless the enclosed surface is immense, all times (even for HF)
considered are on the scale of nanoseconds. At common excitations
considered for Amateur application would reveal power issues in the
microwatts. The ratio of scales (energy/time-volume) would be 9
orders of magnitude and well outside the accuracy of any modeler, and
vastly beyond the cares of useful theory.

73's
Richard Clark, KB7QHC

4625. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 22:26:39 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1176935199.948152.214000@b75g2000hsg.googlegroups.com>
Source record: 42723

Jim Kelley wrote:
> Cecil Moore wrote:
>
> > "No waves are harmed in the process" implies that waves can
> > never be canceled.
>
> No. The fact that waves do not have an effect on other waves does not
> mean that their fields don't superpose.
>
> Superposition is a mathematical as well as physical operation. You
> maintain that the process of adding x to y must somehow change x and
> y. You insist that superposing x and y means that x effects change to
> y, and y effects change to x. But the process of superposing x and y
> does not have an effect on either x or y. The only effect is we now
> have the algebraic sum of x and y.
>
> ac6xg

It has been pointed out to me that Cecil has never used the word
'must' in the context of the above discussion. I will now rewrite my
article deleting the controversial entry . Hopefully the idea that
'waves can interact' can be safely inferred from Cecil's strenuous
argument against the report that waves don't interact.

Cecil Moore wrote:

> "No waves are harmed in the process" implies that waves can
> never be canceled.

No. The fact that waves do not have an effect on other waves does
not
mean that their fields don't superpose. [i.e. Cecil infers
incorrectly.]

Superposition is a mathematical as well as physical operation.
Because of the fact that the word interact means 'to act upon one
another', your assertion that waves can interact means
x can effect change to y, and y can effect change to x.

Since you insist that waves can have an effect on other waves, then
you should at least be able to detail either mathematically or
phenomenalogically the effect y has on x, and x has on y as well as
provide some natural process that would cause this effect. Please
elaborate. Thanks.

ac6xg

4626. Re: Why S - Parameter at High frequencies?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 23:10:49 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <f068hq$6pp$1@nntp1.jpl.nasa.gov>
Source record: 42724

Cecil Moore wrote:
> Owen Duffy wrote:
>
>> So, what you are referring to with the term "virtual reflection
>> coefficient" is the magnitude the reflection coefficient (rho). or |(Z02-
>> Z01)/(Z02+Z01)| (Gamma).
>
>
> I believe the following web page is indicative of
> how Gamma has essentially been replaced by rho.
>
> http://www.ac6la.com/stss.html
>
> The ARRL Antenna Book implies that rho is used
> by amateur radio operators while Gamma is still
> used in some professional circles.

"still used"... I don't know that expressing reflection coefficient as gamma is an archaic notation. You see it a lot in performance specifications for RF test equipment like network analyzers. Where the magnitude is meant (and Gamma isn't real) you'd see it written with vertical bars on either side ||.

For instance, in the latest Agilent PNA manuals, they use capital Gamma.

here's an interesting interactive smith chart
http://www-ece.eng.uab.edu/JCaldwel/AgilentSmithChart/SChart.htm

lower case gamma is used for the complex propagation constant in transmission lines.

4627. Re: Why S - Parameter at High frequencies?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-18 23:11:44 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <f068jg$6pp$2@nntp1.jpl.nasa.gov>
Source record: 42725

Cecil Moore wrote:
>
> And from the "ARRL Antenna Book":
>
> "In some professional literature, Gamma is used in place of rho
> to represent the reflection coefficient."

I would say in *most* professional literature...

4628. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 00:03:40 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176941020.770204.219630@l77g2000hsb.googlegroups.com>
Source record: 42726

On Apr 18, 4:06 pm, Richard Clark <kb7...@comcast.net> wrote:
> On 18 Apr 2007 09:54:20 -0700, Keith Dysart <k...@sympatico.ca> wrote:
>
> >Opportunity squandered.
>
> Hi Keith,
>
> Was there any doubt about this eventual outcome? No one argues with a
> flat-earther except with the expectation of amusement - unless, of
> course, the flat-earther is the White House science advisor.
>
> Write for those who read, not for those who squander your effort.

The larger efforts are done for a few reasons:
- my learning. It helps to think out the problem and attempt to
articulate it. And I have started experimenting with Spice many years
after I last tried it. It is much more usable now.
- others. I hope that there are some lurkers and others who can learn
something from the musings.
- and perhaps Cecil will learn, which would help the larger community
by reducing the amount of incorrect information being promulgated.

> By the way, when I run your LTSpice example I get 10µS of black
> screen.

That usually occurs because LTSpice can not find the .plt file or it
has a syntax error. It needs to have the same name as the .asc file
and reside in the same directory. I tested by copying the content
from Google Groups. Perhaps that is a path to get the correct
content.

...Keith

4629. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 00:09:16 UTC
From: Danny Richardson <n_group@k6mhe.com>
Message-ID: <cgcd23pd4bccu1o2l82tsjohc5blmvu2g9@4ax.com>
Source record: 42627

On 18 Apr 2007 14:17:27 -0700, art <aunwin@insightbb.com> wrote:

>I've never seen a 'spirit level' being used in a tool room for
>accuracy nor could I specify from what you said as to why it should be
>used from now on instead of conventional means.

Well, I guess you haven't had much experience in the tool room.
Otherwise you would have been aware of how precession levels used to
set up machinery. They are used often. How do you think those long bed
lathes are adjusted so they are straight, level and parallel? Yes, my
poor misinformed person they use precession levels.

Danny, K6MHE

4630. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 00:16:33 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <20dd23tk0rafmv6m1b6b1sqdqj2sjl8lct@4ax.com>
Source record: 42628

On 18 Apr 2007 17:03:40 -0700, Keith Dysart <kd1@sympatico.ca> wrote:

>> By the way, when I run your LTSpice example I get 10=B5S of black
>> screen.
>
>That usually occurs because LTSpice can not find the .plt file or it
>has a syntax error. It needs to have the same name as the .asc file
>and reside in the same directory. I tested by copying the content
>from Google Groups. Perhaps that is a path to get the correct
>content.
>
>.=2E.Keith

Hi Keith,

From your post:
> X: ('=B5',0,0,1e-006,1e-005)
it was the occurence of an errant B5.

You may also note similar oddities preceding your closing signature
and the substitution of B5 in the first line above for the extended
character for micro.

Your newsreader is not fully ASCII compliant. I use agent which is
totally text oriented (it does not render HTML unless so ordered).

73's
Richard Clark, KB7QHC

4631. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 00:39:03 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176943143.607893.282730@e65g2000hsc.googlegroups.com>
Source record: 42629

On Apr 18, 5:01 pm, Cecil Moore <w...@hotmail.com> wrote:
> On Apr 18, 11:54 am, Keith Dysart <k...@sympatico.ca> wrote:
>
> > It is unfortunate, but you are back where you started;
> > choosing not to learn. Opportunity squandered.
>
> And BTW, so are you. You ignored my earlier posting which poked holes
> in your model so I am going to repeat it until you respond to it. We
> know exactly what happens to the reflected energy when a signal
> generator equipped with a circulator and load are used in the
> following experiment.

Well, we shall see. Let us call this Experiment A.

> 100W SGCL----50 ohm 1/4WL stub----short
>
> A Bird wattmeter reads 100 watts forward and 100 watts reflected. The
> source sources 100 watts and the circulator resistor dissipates 100
> watts which is all of the reflected power.

True, except for one quibble which I will detail near the end of this
post.

Let us call this next one Experiment B.

> Keith's 70.7V/50 ohm source----50 ohm 1/4WL stub----short
>
> A Bird wattmeter reads 100 watts forward and 100w reflected. The
> current in the source is zero. The source is not only not sourcing any
> forward power, it is also not sinking any reflected power. So much for
> Keith's source sinking all the reflected power because it's source
> impedance is equal to 50 ohms, the Z0 of the transmission line.

I have never claimed that the source in any way sank the 'reflected
power'.
I have stated that there is no re-reflection of the reflected wave at
the
source. Since the source is matched to the line, the reflection
coefficient is 0 and the wave just .... Well it must go into the
source
since tau is one. But at least it is not reflected when rho is zero.

As you observe for Experiment B, the current is zero so as you
say "The source is not only not sourcing any forward power, it is
also not sinking any reflected power."

Of course the current is also zero at the same point for
Experiment A, so there as well, the source is not only not sourcing
any forward power, it is also not sinking any reflected power.

A bit more analysis for Experiment A yields some more questions.
Terminate the line with a 50 Ohm resistor. The source is now
providing power to the line, there is no reflection on the line and
the circulator dissipates nothing.
Remove the resistor. The reflection returns. The circulator once
again dissipates 100 W. But as you said, in this condition,
"The source is not only not sourcing any forward power, it is also
not sinking any reflected power." So where did that 100 W being
dissipated in the circulator come from?

I suggest a further extension to both Experiment A and
Experiment B. Replace the 1/4 WL stub with a 1 and 1/4 WL
stub. Now, at each 1/4 WL along the line coming back from
the load, no energy is flowing because either the current is
0 or the voltage is 0. So this absence of energy flow happens
not just at the source but repeatedly along the line. This
makes it difficult to accomodate the thought that the
forward or reflected travelling waves are transporting energy
along the line (at least at the quarter wave points).

Now back to the quibble. You said: "The source sources 100 watts
and the circulator resistor dissipates 100 watts which is all of the
reflected power."

It would be more precise to say "The source sources 100 watts
and the circulator resistor dissipates 100 watts which is numerically
equal to the reflected power." I contend that it is this "numerical
equality" that has led many astray into believing that the
circulator is dissipating the "reflected power". But as we have seen,
no energy crosses the 0 current node into the generator so the
"reflected power" can not make it to the circulator (or the source
resistance, if the generator happens to have one).

> Please don't ignore this posting like you did last time.

As requested.

...Keith

4632. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 01:04:51 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <4626c02a$0$21260$39cecf19@news.twtelecom.net>
Source record: 42630

Richard Clark wrote:

> Was there any doubt about this eventual outcome? No one argues with a
> flat-earther except with the expectation of amusement - unless, of
> course, the flat-earther is the White House science advisor.
>
> Write for those who read, not for those who squander your effort.
>
> By the way, when I run your LTSpice example I get 10ï¿½S of black
> screen.
>
> 73's
> Richard Clark, KB7QHC

Oh come now Richard, the White House Science Advisor would never say that the earth is flat! Obviously our satellites and the shuttle orbit the earth. He would probably argue that it was only 4000 or so years old and that man coexisted with the dinosaurs however. And carbon dating is horribly inaccurate. And forget about all the other isotopes we use to date with, they are worthless, too.

Oh yeah, and global warming is not happening and weren't these stupid climate scientists claiming an ice age was upon us in the 70's? They just can't make up their minds and stick to it even when presented with new evidence.

tom
K0TAR

4633. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 01:14:11 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1176945251.673999.226290@b58g2000hsg.googlegroups.com>
Source record: 42631

On 18 Apr, 13:07, art <aun...@insightbb.com> wrote:
> On 14 Mar, 12:40, "Tom Donaly" <dtdon...@sbcglobal.net> wrote:
>
>
>
>
>
> > John E. Davis wrote:
> > > On Wed, 14 Mar 2007 09:09:27 -0800, Tom Donaly <dtdon...@sbcglobal.net>
> > > wrote:
> > >> Different texts have Maxwell's equations in different order. What text
> > >> did you get this from? Becker has it (in Gaussian CGS units) as
> > >> div D = 4\pi\rho (where the backslash indicates multiplication, and D
> > >> and rho have the usual meanings. You can add the 't' if you want to, but
> > >> it's unnecessary. Also, since you're dealing in 3 dimensions, why not
> > >> indicate them as in E(x,y,z), or E(x,y,z,t) (if the time means something
> > >> to you)?
>
> > > I tend to write equations in LaTeX form as most people I exchange
> > > emails with mathematical equations use that for formatting mathematics.
> > > Here, \pi represents the greek letter pi, and \rho is the greek letter
> > > rho. I used x to represent a spatial 3-vector. I could have written
> > > it as (x,y,z) but I did not think this shorthand would cause any
> > > confusion given the context.
>
> > > The difference between E and D is not important here. If you use D,
> > > then \rho must be interpreted as the so-called "free" charge density.
> > > However, the fundamental field is E, and if you use it the \rho must
> > > be interpreted as the _full_ charge density. The relationship between
> > > E and D can be very complex and may well depend upon the strength of
> > > the applied field E. For simple materials a linear relationship is
> > > usually assumed, e.g., D = \epsilon E, where \epsilon is the
> > > dielectric constant of the medium. Also even here in this linear
> > > relationship, \epsilon need not be a scalar (a number). It could be a
> > > tensor (a 3x3 matrix), in which case D and E would not have the same
> > > direction.
>
> > > --John
>
> > Thanks for explaining that, John. I am unfamiliar with the conventions
> > of LaTex, obviously (I get my information from books that are generally
> > older than I am, and I'm not young). I don't have any problem with
> > Gauss' law being used in a non-static context. It applies, regardless.
> > That's as far as I go in agreeing with Art, though, since I can't

> > understand the rest of his theory, at all (but might if I could turn
> > off the left side of my brain - maybe).
> > 73,
> > Tom Donaly, KA6RUH- Hide quoted text -
>
> > - Show quoted text -
>
> Tom
> I was rereading this thread as to why people have a hard time in
> understanding Gauss's law
> with respect to conservative fields and a transition to a non
> conservative field where with the addition of time one can consider
> what is outside the enclosed surface. Since you pursued the
> mathematical side of the subject to a minor conclusion (you stated
> you didn't understand what I was proposing) with John E Davis of
> M.I.T. I wish to share with you some notes on the Internet by David J
> Raymond called "a radically modern aproach"
> which to me is the best I have seen on Radiation in it's entirety.
> Obviously there is a lot written that as hams it is not essential
> reading for hams but what it does do is explain in a very clear way
> the mechanics of radiation with specific applications with respect to
> the transition from conservative fields ala Gaussian law of statics to
> non conservative fields where at the cessation of time one can
> reconcile what is outside the enclosed surface with that which is
> inside the surface where what is inside the enclosure is in
> equilibrium and the enclosing surface is frictionless. As can
> obviously seen a Yagi inside the enclosed border cannot be considered
> since at the cessation of time interaction between elements is still
> taking place after the cessation of time. The notes are so well
> written that one not conversant
> with upper math can still follow the implications of the discussion at
> hand and thus can be considered as recommended reading for all hams
> interested in antennas as a subject. It also gives a very clear
> mathematical progression from Gaussian law to the subject of non
> conservative fields can be formed with the activation of curl during a
> moment in time.
> It is this progression that leads designers to design around cluster
> arrays that are in equilibrium regardless of orientation ie without
> continuing coupling effects after the cessation of time and is very
> well chronicalled in the above stated notes.
> Best regards
> Art- Hide quoted text -
>
> - Show quoted text -

Tom,
I thought I would add the following as a former mechanical engineer.
I do believe that electrical students are taught that displacement
current is some sort of electrical current when it is no such thing.
If students were taught what they read as displacement current is

really the displacement of flux under time varying conditions there would not be a barrier inferred between statics and electromagnetics. If you review what is termed as displacement current in text books and view again it in terms of flux movement during a space of time all that I am espousing will become so much clearer and understandable. Ofcourse ,those who passed exams by memory alone instead of knoweledge of first principles will never be able to understand the underlying logic to which I am referring
Regards
Art

4634. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 01:25:29 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <dyzVh.324930$5j1.85276@bgtnsc04-news.ops.worldnet.att.net>
Source record: 42632

Richard Clark wrote:
> On 18 Apr 2007 17:03:40 -0700, Keith Dysart <kd1@sympatico.ca> wrote:
>
>>> By the way, when I run your LTSpice example I get 10=B5S of black
>>> screen.
>> That usually occurs because LTSpice can not find the .plt file or it
>> has a syntax error. It needs to have the same name as the .asc file
>> and reside in the same directory. I tested by copying the content
>>from Google Groups. Perhaps that is a path to get the correct
>> content.
>>
>> .=2E.Keith
>
> Hi Keith,
>
> From your post:
>> X: ('=B5',0,0,1e-006,1e-005)
> it was the occurence of an errant B5.
>
> You may also note similar oddities preceding your closing signature
> and the substitution of B5 in the first line above for the extended
> character for micro.
>
> Your newsreader is not fully ASCII compliant. I use agent which is
> totally text oriented (it does not render HTML unless so ordered).
>
> 73's
> Richard Clark, KB7QHC

Hi Richard,

Very interesting. I also use Agent for reading newsgroups. I copied and used Keith's long message without the slightest difficulty. Everything worked as he said it would.

Wonder what is different?

73,
Gene
W4SZ

4635. Re: RF/antennas hands-on book

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 01:26:04 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1176945964.908369.249320@b58g2000hsg.googlegroups.com>
Source record: 42633
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.misc

On 11 Apr, 15:40, Theo Markettos <theom+n...@chiark.greenend.org.uk>
wrote:
> I need to brush up my RF and antenna knowledge, which is always something
> that I've almost but not quite understood. I've got a few books on the
> subject (two by Kraus, Electromagnetics and Antennas, and another on RFIC
> design) but they're often dry academic tomes and it's hard to get a feel for
> the subject. I'd really like something along the lines of The Art of
> Electronics for RF. The AofE has a high-frequency chapter but it's a bit
> too brief (though I ought to go and reread it, it's been a while).
>
> Any recommendations for hands-on books that are relatively easy to read, to
> give an idea of practicalities as well as theory?
>
> Thanks
> Theo

Theo
On the thread "why" I have mentioned a reference to electromagnetics
and antennas,
you might want to check it out via google.
Art

4636. Re: RF/antennas hands-on book

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 01:29:27 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1176946167.402632.94680@o5g2000hsb.googlegroups.com>
Source record: 42634
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.misc

On 18 Apr, 18:26, art <aun...@insightbb.com> wrote:
> On 11 Apr, 15:40, Theo Markettos <theom+n...@chiark.greenend.org.uk>
> wrote:
>
> > I need to brush up my RF and antenna knowledge, which is always something
> > that I've almost but not quite understood. I've got a few books on the
> > subject (two by Kraus, Electromagnetics and Antennas, and another on RFIC
> > design) but they're often dry academic tomes and it's hard to get a feel for
> > the subject. I'd really like something along the lines of The Art of
> > Electronics for RF. The AofE has a high-frequency chapter but it's a bit
> > too brief (though I ought to go and reread it, it's been a while).
>
> > Any recommendations for hands-on books that are relatively easy to read, to
> > give an idea of practicalities as well as theory?
>
> > Thanks
> > Theo
>
> Theo
> On the thread "why" I have mentioned a reference to electromagnetics
> and antennas,
> you might want to check it out via google.
> Art

Oooops, I meant to state the Gaussian static law thread.
Art

4637. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 01:30:45 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1176946244.955236.315200@p77g2000hsh.googlegroups.com>
Source record: 42635

On Apr 18, 8:16 pm, Richard Clark <kb7...@comcast.net> wrote:
> Hi Keith,
>
> From your post:> X: ('=B5',0,0,1e-006,1e-005)
>
> it was the occurence of an errant B5.
>
> You may also note similar oddities preceding your closing signature
> and the substitution of B5 in the first line above for the extended
> character for micro.
>
> Your newsreader is not fully ASCII compliant. I use agent which is
> totally text oriented (it does not render HTML unless so ordered).

I am appalled that I am sending such junk, but my environment is
less than it once was. Where once I had Unix and direct feed, I
am now reduced to using WinXP, Internet Explorer and Google for
posting, though I can use Outlook Express to view. I was lulled into
a false sense of security since both render the posts perfectly, but
when I save the Outlook Express, it claims to have received
text/plain but some characters have been replaced. And Google
'show original' does the same. I suppose 3 dots must mean
something to someone so it substitutes the middle one.
Agghhh.

...Keith

4638. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 01:53:35 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <4626cb96$0$9878$4c368faf@roadrunner.com>
Source record: 42636

"JB MacDonald" <k1jzp@comcast.net> wrote in message
news:yKednWZTxu3a_LvbnZ2dnUVZ_sCinZ2d@comcast.com...
>I know how to find the center of a pipe, using a vee block, but my question
>is how do you scribe a line from one end to the other , so the first hole
>is in perfect alignment with the last hole .. take for example a 20 foot
>pipe , or tubing . If we had a 20 foot layout table fine , clamp pipe down
>and use a height gauge to scrib a line the length
> of the pipe. if you do not have a line you could get a twist(miss
> alignment) but what can a person due that does not have a 20 foot layout
> table . Maybe I am being to critical

Use a Loooong v block, a piece of angle or channel iron/aluminum.

4639. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 01:54:59 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <4626cbe9$0$21252$39cecf19@news.twtelecom.net>
Source record: 42637

JB MacDonald wrote:

> I know how to find the center of a pipe, using a vee block, but my
> question is how do you scribe a line from one end to the other , so the
> first hole is in perfect alignment with the last hole .. take for
> example a 20 foot pipe , or tubing . If we had a 20 foot layout table
> fine , clamp pipe down and use a height gauge to scrib a line the length
> of the pipe. if you do not have a line you could get a twist(miss
> alignment) but what can a person due that does not have a 20 foot layout
> table . Maybe I am being to critical

Assuming you have a drill press or drill guide that allows vertical drilling, and assuming that you have at least a few feet of table, there is a solution, for VHF and up anyway.

Take a small piece of plate or board and mount a rod the same diameter as the holes you are drilling vertically from it. The accuracy here is going to set your ultimate result. If you are off 1 degree and use the device as a reference 10 times during the drilling, you will have a 10 degree twist, although there is a simple way to reduce that error.

Drill your first hole. Now use the device and the new hole to hold the boom in place and slide along your table to position your drill at the next hole. Move the device to the latest hole drilled as you run out of table. To reduce errors from imperfect vertical on the device, rotate it 180 degrees between each move.

I have used this method to drill 39 element holes for a 31 foot 432 beam with almost perfect results on an 8 foot table and just a drill guide, not a drill press. It can be used across boom diameter boundaries, which it was in this case, with a bit of care.

tom
K0TAR

4640. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 02:07:05 UTC
From: John <groups5not@verizon.net>
Message-ID: <f06isb$v4c$1@aioe.org>
Source record: 42638

"Keith Dysart" <kd1@sympatico.ca> wrote in message
news:1176946244.955236.315200@p77g2000hsh.googlegroups.com...
> On Apr 18, 8:16 pm, Richard Clark <kb7...@comcast.net> wrote:
>> Hi Keith,
>>
>> From your post:> X: ('=B5',0,0,1e-006,1e-005)
>>
>> it was the occurence of an errant B5.
>>
>> You may also note similar oddities preceding your closing signature
>> and the substitution of B5 in the first line above for the extended
>> character for micro.
>>
>> Your newsreader is not fully ASCII compliant. I use agent which is
>> totally text oriented (it does not render HTML unless so ordered).
>
> I am appalled that I am sending such junk, but my environment is
> less than it once was. Where once I had Unix and direct feed, I
> am now reduced to using WinXP, Internet Explorer and Google for
> posting, though I can use Outlook Express to view. I was lulled into
> a false sense of security since both render the posts perfectly, but
> when I save the Outlook Express, it claims to have received
> text/plain but some characters have been replaced. And Google
> 'show original' does the same. I suppose 3 dots must mean
> something to someone so it substitutes the middle one.
> Agghhh.
>
> ...Keith

Keith -

I am using Outlook Express for my reader. I had no problems with your post
at all. The simulation ran without a hitch.

Just thought you would like to know.

John

4641. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 02:14:16 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132dk4523vd7qa0@corp.supernews.com>
Source record: 42639

Keith Dysart wrote:
> . . .
> I have never claimed that the source in any way sank the 'reflected
> power'.
> I have stated that there is no re-reflection of the reflected wave at
> the
> source. Since the source is matched to the line, the reflection
> coefficient is 0 and the wave just .... Well it must go into the
> source
> since tau is one. But at least it is not reflected when rho is zero.
> . . .

I'm sure you're talking about the electromagnetic wave of E and H fields and corresponding voltages and currents. But Cecil (and, I'm afraid, others) also see waves of average power and sometimes energy, which seem to follow different rules. Just saying "wave" leaves the opportunity for misinterpretation as a wave of average power, energy, or something else, and consequent misdirection.

Roy Lewallen, W7EL

4642. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 02:23:12 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <4626d287$0$21248$39cecf19@news.twtelecom.net>
Source record: 42640

Keith Dysart wrote:

>
> I am appalled that I am sending such junk, but my environment is
> less than it once was. Where once I had Unix and direct feed, I
> am now reduced to using WinXP, Internet Explorer and Google for
> posting, though I can use Outlook Express to view. I was lulled into
> a false sense of security since both render the posts perfectly, but
> when I save the Outlook Express, it claims to have received
> text/plain but some characters have been replaced. And Google
> 'show original' does the same. I suppose 3 dots must mean
> something to someone so it substitutes the middle one.
> Agghhh.
>
> ...Keith
>

You may want to look at cygwin, which gives you as much unix as you
would like under windows, all the way up to X.

When you can't have the real thing, it's not a bad substitute.

http://www.cygwin.com/

tom
K0TAR

4643. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 02:27:33 UTC
From: Wes <n7ws@yahoo.com>
Message-ID: <1176949653.130487.182950@e65g2000hsc.googlegroups.com>
Source record: 42641

On Apr 18, 2:17 pm, art <aun...@insightbb.com> wrote:
> snip
>
> > Forget the scribed line - snip.
>
> > --
>
> > 73 from Ian GM3SEK 'In Practice' columnist for RadCom
(RSGB)http://www.ifwtech.co.uk/g3sek
>
> What is so aweful about a scribed line that leads you give an
> instruction to' forget it' ?
> I've never seen a 'spirit level' being used in a tool room for
> accuracy nor could I specify from what you said as to why it should be
> used from now on instead of conventional means.

That's funny. My dad was a machinist before me and I still have one
of these in the tool chest he left me. (In the original box no less)

http://catalog.starrett.com/catalog/catalog/groups.asp?GroupID=487

4644. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 02:30:01 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1176949801.343730.120900@p77g2000hsh.googlegroups.com>
Source record: 42642

On 18 Apr, 17:09, Danny Richardson <n_gr...@k6mhe.com> wrote:
> On 18 Apr 2007 14:17:27 -0700, art <aun...@insightbb.com> wrote:
>
> >I've never seen a 'spirit level' being used in a tool room for
> >accuracy nor could I specify from what you said as to why it should be
> >used from now on instead of conventional means.
>
> Well, I guess you haven't had much experience in the tool room.
> Otherwise you would have been aware of how precession levels used to
> set up machinery. They are used often. How do you think those long bed
> lathes are adjusted so they are straight, level and parallel? Yes, my
> poor misinformed person they use precession levels.
>
> Danny, K6MHE

Danny,
don't be silly, you obviously have not spent a lot of time in a tool
room.
A tool room machine is not in any way used as a reference level. What
is used as a reference level is the machine slide with reference to
the cutting plane. An installation of a machine is subject to settling
but it does not affect the accuracy of the product.
Use of a spirit level over the use of a straight piece of angle as a
reference plane is rather stupid and impracticable.

4645. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 02:48:49 UTC
From: "Dr. Honeydew" <dr_b_honeydew@msn.com>
Message-ID: <1176950929.049612.277280@o5g2000hsb.googlegroups.com>
Source record: 42643

On Apr 18, 2:01 pm, Cecil Moore <w...@hotmail.com> wrote:

> Keith's 70.7V/50 ohm source----50 ohm 1/4WL stub----short
>
> A Bird wattmeter reads 100 watts forward and 100w reflected. The
> current in the source is zero. The source is not only not sourcing any
> forward power, it is also not sinking any reflected power.

What complete and utter Texas-size bullsh*t. It's obvious that the
source is sourcing the forward voltage wave, and it's sucking up
entire reverse voltage wave from the line.

>From the labs,
Bunsen

4646. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 02:55:34 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <4626da1f$0$5677$4c368faf@roadrunner.com>
Source record: 42644

"Jimmie D" <GFENDER@carolina.rr.com> wrote in message
news:4626cb96$0$9878$4c368faf@roadrunner.com...
>
> "JB MacDonald" <k1jzp@comcast.net> wrote in message
> news:yKednWZTxu3a_LvbnZ2dnUVZ_sCinZ2d@comcast.com...
>>I know how to find the center of a pipe, using a vee block, but my
>>question is how do you scribe a line from one end to the other , so the
>>first hole is in perfect alignment with the last hole .. take for example
>>a 20 foot pipe , or tubing . If we had a 20 foot layout table fine , clamp
>>pipe down and use a height gauge to scrib a line the length
>> of the pipe. if you do not have a line you could get a twist(miss
>> alignment) but what can a person due that does not have a 20 foot layout
>> table . Maybe I am being to critical
>
> Use a Loooong v block, a piece of angle or channel iron/aluminum.
>
OR use a couple of short one with a drill press. The last time I did this I
used a v bolck to dril a hole through the end of the boom the placed a 3 ft
piece of all thread through the boom and hung a 20lb weight on the other
end of the all thread. Gravity will now keep things in a straight line.

4647. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 03:07:07 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132dn785m2u4f24@corp.supernews.com>
Source record: 42645

Dr. Honeydew wrote:
> On Apr 18, 2:01 pm, Cecil Moore <w...@hotmail.com> wrote:
>
>> Keith's 70.7V/50 ohm source----50 ohm 1/4WL stub----short
>>
>> A Bird wattmeter reads 100 watts forward and 100w reflected. The
>> current in the source is zero. The source is not only not sourcing any
>> forward power, it is also not sinking any reflected power.
>
> What complete and utter Texas-size bullsh*t. It's obvious that the
> source is sourcing the forward voltage wave, and it's sucking up
> entire reverse voltage wave from the line.
>
>>From the labs,
> Bunsen

But the propagating waves of average power envisioned by Cecil and some others, which they measure with their Bird wattmeters, don't follow the same rules as voltage waves. Unlike voltage waves, which are very well known and subject to over a century of analysis using well established mathematics and physical principles, the waves of average power follow rules which constantly change to suit the needs of the moment. Watterson fans will recognize the rules for propagating power waves as closely resembling those of Calvinball.

Roy Lewallen, W7EL

4648. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 03:09:56 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1176952196.888417.142220@n59g2000hsh.googlegroups.com>
Source record: 42646

On 18 Apr, 19:27, Wes <n...@yahoo.com> wrote:
> On Apr 18, 2:17 pm, art <aun...@insightbb.com> wrote:
>
> > snip
>
> > > Forget the scribed line - snip.
>
> > > --
>
> > > 73 from Ian GM3SEK 'In Practice' columnist for RadCom
(RSGB)http://www.ifwtech.co.uk/g3sek
>
> > What is so aweful about a scribed line that leads you give an
> > instruction to' forget it' ?
> > I've never seen a 'spirit level' being used in a tool room for
> > accuracy nor could I specify from what you said as to why it should be
> > used from now on instead of conventional means.
>
> That's funny. My dad was a machinist before me and I still have one
> of these in the tool chest he left me. (In the original box no less)
>
> http://catalog.starrett.com/catalog/catalog/groups.asp?GroupID=487

It got me wondering about the advisability of buying stuff from the
west coast where the tool room machines are tested every day for
settlement for an final accuracy of plus or minus ten.
By the time they finish that review the day will be over only to start
all over again the next day.Can you imagine using a spirit level to
check for accuracy after milling a surface?
Art

4649. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 03:20:56 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <seBVh.11380$Kd3.2289@newssvr27.news.prodigy.net>
Source record: 42647

Jim Kelley wrote:
> Since you insist that waves can have an effect on other waves, then
> you should at least be able to detail either mathematically or
> phenomenalogically the effect y has on x, and x has on y as well as
> provide some natural process that would cause this effect. Please
> elaborate. Thanks.

In the s-parameter equation, b1 = s11(a1) + s12(a2) = 0,
the interaction of s11(a1) and s12(a2) results in wave
cancellation. The effect of each wave on the other is
to reverse the direction and momentum of both waves.

That is what happens at a Z0-match in a transmission
line. That is what happens at the surface of thin-
film when reflections are being canceled.

Again, the redistribution of the wave energy is certainly
an interaction that wouldn't exist with either wave alone.
--
73, Cecil http://www.w5dxp.com

4650. Re: Why S - Parameter at High frequencies?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 03:23:22 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <JgBVh.11381$Kd3.7096@newssvr27.news.prodigy.net>
Source record: 42648

Jim Lux wrote:
> Cecil Moore wrote:
>> "In some professional literature, Gamma is used in place of rho
>> to represent the reflection coefficient."
>
> I would say in *most* professional literature...

The above quote from the ARRL Antenna Book is from
the 1988 edition.
--
73, Cecil http://www.w5dxp.com

4651. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 03:26:26 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <CjBVh.11383$Kd3.2522@newssvr27.news.prodigy.net>
Source record: 42649

Keith Dysart wrote:
> - and perhaps Cecil will learn, which would help the larger community
> by reducing the amount of incorrect information being promulgated.

That's pretty arrogant of you, Keith - forgetting the
possibility that you are wrong. This group seems to
contain more omniscient gurus than I ever knew existed.
My other posting proves that your magic source doesn't
dissipate the reflected power.
--
73, Cecil http://www.w5dxp.com

4652. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 03:32:24 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <4626e2d3$0$17203$39cecf19@news.twtelecom.net>
Source record: 42650

Roy Lewallen wrote:

> rules which constantly change to suit the needs of the moment. Watterson
> fans will recognize the rules for propagating power waves as closely
> resembling those of Calvinball.
>
> Roy Lewallen, W7EL

Hopefully some of those here will get that. I would be surprised if
it's more than one in four.

tom
K0TAR

4653. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 04:02:43 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ARBVh.223$Ea5.65@newssvr19.news.prodigy.net>
Source record: 42651

Keith Dysart wrote:
> I have stated that there is no re-reflection of the reflected wave at
> the
> source. Since the source is matched to the line, the reflection
> coefficient is 0 and the wave just .... Well it must go into the
> source
> since tau is one. But at least it is not reflected when rho is zero.

But you are missing the point. You say the source is matched
to the line but the source is obviously re-reflecting 100% of the
reflected energy. Your special magic source is doing exactly
the opposite of what you claim it is doing. The calculated
physical reflection coefficient may be 0 but the virtual
reflection coefficient, SQRT(Pref/Pfor), is 1.0. This is
the point I have been making ever since you started posting.

> As you observe for Experiment B, the current is zero so as you
> say "The source is not only not sourcing any forward power, it is
> also not sinking any reflected power."
>
> Of course the current is also zero at the same point for
> Experiment A, so there as well, the source is not only not sourcing
> any forward power, it is also not sinking any reflected power.

That's again where you are wrong. In Experiment A, the circulator
load resistor is sinking 100W, i.e. 100% of the reflected power.
A bit of modulation will show that the power being sunk by the
circulator load resistor has made a round trip to the end of
the transmission line short and back.

> A bit more analysis for Experiment A yields some more questions.
> Terminate the line with a 50 Ohm resistor. The source is now
> providing power to the line, there is no reflection on the line and
> the circulator dissipates nothing.
> Remove the resistor. The reflection returns. The circulator once
> again dissipates 100 W. But as you said, in this condition,
> "The source is not only not sourcing any forward power, it is also
> not sinking any reflected power." So where did that 100 W being
> dissipated in the circulator come from?

In Experiment A, the source is sourcing 100 watts and the
circulator load resistor is sinking 100 watts after the
round trip delay to the end of the line and back. If the
source signal is modulated, the delay between the source
signal and the dissipated signal is obvious and can be
measured.

> I suggest a further extension to both Experiment A and
> Experiment B. Replace the 1/4 WL stub with a 1 and 1/4 WL
> stub. Now, at each 1/4 WL along the line coming back from
> the load, no energy is flowing because either the current is
> 0 or the voltage is 0. So this absence of energy flow happens
> not just at the source but repeatedly along the line. This
> makes it difficult to accomodate the thought that the
> forward or reflected travelling waves are transporting energy
> along the line (at least at the quarter wave points).

The "absence of energy flow" is an illusion. There is 100
joules/sec in the forward wave and 100 joules/sec in the
reflected wave. Since the waves are flowing in opposite
directions, you can argue that there is no *net* energy
flow, but the component wave energy flow is alive and well.

> Now back to the quibble. You said: "The source sources 100 watts
> and the circulator resistor dissipates 100 watts which is all of the
> reflected power."

Yes, in Experiment A but obviously not in Experiment B.
Your source has failed to perform the way you said it would.
As I said in the beginning, there will be re-reflections from
your source. In this case, there is 100% re-reflection.
Real world conditions are not as simple-minded as you say.

> It would be more precise to say "The source sources 100 watts
> and the circulator resistor dissipates 100 watts which is numerically
> equal to the reflected power." I contend that it is this "numerical
> equality" that has led many astray into believing that the
> circulator is dissipating the "reflected power".

No, modulation on the reflected wave proves that it has made
a round trip to the end of the line and back. There is no
getting around that fact. There is also no getting around
the fact that the energy content of the stub is identical
in both experiments. The number of joules in the stub, in
both cases, is exactly the magnitude needed to support the
100W forward wave and the 100W reflected wave. The energy
in the stub in Experiment A is obviously real. The energy
in the stub in Experiment B is identical to Experiment A.

> But as we have seen,
> no energy crosses the 0 current node into the generator so the
> "reflected power" can not make it to the circulator (or the source
> resistance, if the generator happens to have one).

Your "no energy crosses the 0 current node" is just an ignorant
illusion. The forward current and reflected current are alive
and well and simply superpose to a net current of zero at that
point. We are discussing EM wave energy and a boundary condition
for EM waves to exist is that they must travel at c(VF). If they
don't, they are no longer EM waves.

At a current node, forward current equals 1.414 amps at 0 deg.
Reflected current equals 1.414 amps at 180 deg. Of course, the
net current is zero but there is no physical impedance discontinuity
to cause any change in the forward and reflected waves at that
point.
--
73, Cecil http://www.w5dxp.com

4654. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 04:11:36 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <YZBVh.17705$Um6.1276@newssvr12.news.prodigy.net>
Source record: 42652

Tom Ring wrote:
> Oh yeah, and global warming is not happening ...

Global warming started ~18,000 years ago and peaked
~8000 years ago at two degrees above the average
temperature of today.

Global warming started ~130,000 years ago and peaked
~120,000 years ago at two degrees above the average
temperature of today.

We are already two degrees below the peak temperature
of ~8000 years ago. We are already ~8000 years into
the next ice age with about ~80,000 years to go until
the beginning of the next Global Warming period.
--
73, Cecil http://www.w5dxp.com

4655. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 04:14:56 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <41CVh.17706$Um6.14766@newssvr12.news.prodigy.net>
Source record: 42653

Roy Lewallen wrote:
> But Cecil (and, I'm afraid,
> others) also see waves of average power and sometimes energy, which seem
> to follow different rules.

Power and energy are scalars, Roy. Of course, scalars follow
different rules. Maybe the problem is that you are trying
to use phase math on power.
--
73, Cecil http://www.w5dxp.com

4656. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 04:19:33 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <p5CVh.17707$Um6.7718@newssvr12.news.prodigy.net>
Source record: 42654

Dr. Honeydew wrote:
> Cecil Moore <w...@hotmail.com> wrote:
>> A Bird wattmeter reads 100 watts forward and 100w reflected. The
>> current in the source is zero. The source is not only not sourcing any
>> forward power, it is also not sinking any reflected power.
>
> What complete and utter Texas-size bullsh*t. It's obvious that the
> source is sourcing the forward voltage wave, and it's sucking up
> entire reverse voltage wave from the line.

And doing it while magically expending zero energy.
Perpetual motion is possible, after all.

If zero power is being dissipated in the source, it cannot
be sourcing the forward voltage wave and it cannot be
sucking up the reverse voltage wave.
--
73, Cecil http://www.w5dxp.com

4657. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 04:23:03 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <H8CVh.17708$Um6.3111@newssvr12.news.prodigy.net>
Source record: 42655

Roy Lewallen wrote:
> Unlike voltage waves, which are very well
> known and subject to over a century of analysis using well established
> mathematics and physical principles, the waves of average power follow
> rules which constantly change to suit the needs of the moment.

The rules of waves of average power come from the
field of optics and they haven't changed in many
decades. You see, average power is all that light
physicists can measure. They call it intensity or
irradiance. To deny the body of physics embodied
in optics is ignorant and ridiculous.
--
73, Cecil http://www.w5dxp.com

4658. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 04:28:49 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <3eCVh.228$Ea5.155@newssvr19.news.prodigy.net>
Source record: 42656

Tom Ring wrote:
> Roy Lewallen wrote:
>> rules which constantly change to suit the needs of the moment.
>> Watterson fans will recognize the rules for propagating power waves as
>> closely resembling those of Calvinball.
>
> Hopefully some of those here will get that. I would be surprised if
> it's more than one in four.

The rules for propagating waves of EM energy have been
nailed down for generations. Optical physicists don't
have the luxury of measuring voltage and current. They
must necessarily measure average power density. They
are quite good at it and their average power density
equations are quite accurate and mature. They obviously
know a lot more about EM waves than most of the posters
here.
--
73, Cecil http://www.w5dxp.com

4659. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 04:39:05 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132dsjlovae466d@corp.supernews.com>
Source record: 42657

Tom Ring wrote:
> Roy Lewallen wrote:
>
>> rules which constantly change to suit the needs of the moment.
>> Watterson fans will recognize the rules for propagating power waves as
>> closely resembling those of Calvinball.
>>
>> Roy Lewallen, W7EL
>
> Hopefully some of those here will get that. I would be surprised if
> it's more than one in four.

Three out of four readers haven't yet figured out how to use Google?
That's pretty grim. "Calvinball" brought about 70,000 hits, or so the
results screen said.

Roy Lewallen, W7EL

4660. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 05:26:02 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <K3DVh.201031$7g3.12518@newsfe14.phx>
Source record: 42658

"JB MacDonald" <k1jzp@comcast.net> wrote in message
news:yKednWZTxu3a_LvbnZ2dnUVZ_sCinZ2d@comcast.com...
> I know how to find the center of a pipe, using a vee block, but my
> question is how do you scribe a line from one end to the other , so the
> first hole is in perfect alignment with the last hole .. take for
> example a 20 foot pipe , or tubing . If we had a 20 foot layout table
> fine , clamp pipe down and use a height gauge to scrib a line the length
> of the pipe. if you do not have a line you could get a twist(miss
> alignment) but what can a person due that does not have a 20 foot layout
> table . Maybe I am being to critical

Take two pipes and tape them together. Run a fat marker down the groove
between them.

Use the second pipe to make another antenna and give it to me.

73
Your pal, Sal

4661. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 05:45:28 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1176961528.094151.292200@y5g2000hsa.googlegroups.com>
Source record: 42659

On Apr 18, 8:20 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Jim Kelley wrote:
> > Since you insist that waves can have an effect on other waves, then
> > you should at least be able to detail either mathematically or
> > phenomenalogically the effect y has on x, and x has on y as well as
> > provide some natural process that would cause this effect. Please
> > elaborate. Thanks.
>
> In the s-parameter equation, b1 = s11(a1) + s12(a2) = 0,
> the interaction of s11(a1) and s12(a2) results in wave
> cancellation. The effect of each wave on the other is
> to reverse the direction and momentum of both waves.
>
> That is what happens at a Z0-match in a transmission
> line. That is what happens at the surface of thin-
> film when reflections are being canceled.
>
> Again, the redistribution of the wave energy is certainly
> an interaction that wouldn't exist with either wave alone.
> --
> 73, Cecil http://www.w5dxp.com

Redistribution is an interaction....interesting. But, you were
telling us about how waves interact with other waves. I'm interested
to know what effect x has on y, and vice versa? We have x + y making
z. So after that, tell us how have x and y changed as a result of
their "interaction"?

73, Jim AC6XG

4662. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 05:50:28 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9917A12979CC6nonenowhere@61.9.191.5>
Source record: 42660

Ian White GM3SEK <gm3sek@ifwtech.co.uk> wrote in
news:P+Ss4RFMGoJGFAYK@ifwtech.co.uk:
>
> Forget the scribed line - what you really need is for all the holes
> through the boom to be parallel. A spirit level clamped at 90deg to the
> boom will achieve that.

I have tried that, and it works fine... so long as the drill stand is
fixed.

The other thing that I use that works well is a rod which I clamp to the
round stock (it is actually part of a device for hanging camping lamps
from a tent pole) and I visually line the rod up with the drill while
adjusting the angle and tightening the vice in a drill stand. The
advantage of this is that I can see the rod at the end of even 6 metres
of boom from the drill, whereas I cant see a level at great distance and
need to walk back and forwards making small adjustments.

Another variation is to drill the first hole exactly the size of some rod
(I use some 1/8" brass or stainless which I usually have on hand), fit a
short length of rod and tape it in place, then proceed as above. Then, if
necessary, drill the first hole out to the final size.

We don't usually drill the holes for an interference fit, but rather a
small clearance, so you should expect to need to align the elements after
assembly.

Owen

4663. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 05:55:04 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <5tvd23tig4fd89jpqc240o1rjfpnk106v9@4ax.com>
Source record: 42661

On Thu, 19 Apr 2007 01:25:29 GMT, Gene Fuller <W4SZzzzzzz@att.net>
wrote:

>> On 18 Apr 2007 17:03:40 -0700, Keith Dysart <kd1@sympatico.ca> wrote:
>>> .=2E.Keith

>Hi Richard,
>
>Very interesting. I also use Agent for reading newsgroups. I copied and
>used Keith's long message without the slightest difficulty. Everything
>worked as he said it would.
>
>Wonder what is different?

Hi Gene,

Good question. It was just a couple of ripples in the time-space
continuum perhaps. I can't put my finger on any commonality,
especially for the quote above when it is distinctly outside of any
association with an equal symbol.

Having patched up the text files, the modeler works quite nicely. Nice
piece of work.

It puts the popular generic title of "____ for Dummies" to the test;
because if you fill in the blank with Analog, then there is still one
dummy beneath the waves at low tide.

73's
Richard Clark, KB7QHC

4664. Re: multiband vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 06:01:22 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9917A301F5E5Cnonenowhere@61.9.191.5>
Source record: 42662

"Andre & Sharon Walker" <aswa73@bigpond.net.au> wrote in
news:VHwVh.15467$M.140@news-server.bigpond.net.au:

> Wow..looks like I opened a can of worms here!

Not really Andre.

> Thanks to all for the many links and advice..much food for thought. I
> think ill have to re assess I was considering end fed longwire also,
> but an inverted V might be a better option. Anyway, should be on the
> air within 4 weeks...the licence is the easy bit, diverting funds for
> the radio from the XYL is the tricky part!!! But ive been offered a
> FT101z , inc Yaseu Desk mix + spare set of finals (is too early to
> rember the number of the tubes off hand...just finished night shift),
> so ill have wind the wick WAY back to start with. I don't care what
> they say at the club...I like boat anchors!! (I'd love to replace the
> Murphy B40 I sold 10 years ago :-( )

Ok, now that more detail unfolds, a 7MHz half wave dipole, cut to
formula, with a modest length of coax, even RG58 up to 20m in length,
will deliver most (>80%) of the transmitter power to the antenna to be
radiated, and the pi-coupled output in the '101Z will be tolerant of
the load presented to the transmitter. This is a pretty good way to
start, and you should be heard. You are about to be licenced to learn!

Unless you have an inline power meter specifically designed to measure
PEP, and that works properly, you can be assured that your PEP is less
than the maximum that the '101Z runs, which I think is close to 200W. The
tendency for FLs is to "talk it up to 10W" on an inline power meter that
doesn't respond to PEP, I call that 10 "Foundation Watts", they are not
PEP and they are not average watts, something else, but undefined since
most inline power meters don't give valid readings on anything but a
steady carrier.

If you would like to read some high level stuff about the PEP measurement
problem, see http://www.vk1od.net/VSWR/MeasureSSBTxPower.htm .

Catch you on air Andre.

Owen

4665. Re: multiband vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 06:04:29 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9917A389DA10Bnonenowhere@61.9.191.5>
Source record: 42663

"John, N9JG" <john@Xremove.MeYgotwals.com> wrote in
news:htqVh.26699$G23.7433@newsreading01.news.tds.net:

> Thanks for the explanation. What you have described would be more
> convenient from an operating standpoint since I would have one less
> thing to tune during a QSY.

You might have misunderstood Cecil. I think he is describing a system where the "optimal length" may be different on each band, so whilst you don't tune an ATU, you tune the feeder length.

Cecil will confirm or deny... Owen

4666. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 09:30:17 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <78de23lpviejkuru0k6m201ehtt1f893b0@4ax.com>
Source record: 42664

On Wed, 18 Apr 2007 14:20:21 -0400, JB MacDonald <k1jzp@comcast.net>
wrote:

>I know how to find the center of a pipe, using a vee block, but my
>question is how do you scribe a line from one end to the other , so the
>first hole is in perfect alignment with the last hole .. take for
>example a 20 foot pipe , or tubing . If we had a 20 foot layout table
>fine , clamp pipe down and use a height gauge to scrib a line the length
>of the pipe. if you do not have a line you could get a twist(miss
>alignment) but what can a person due that does not have a 20 foot layout
>table . Maybe I am being to critical

I responded to this in email, but here it is for the group.

If you are using a vee block, you can place a level on the vee block
and hold it level on top of one end of the pipe. Then move to the
other end and do the same thing. Assuming you haven't moved the pipe,
you should get the holes aligned.

I just recognized you are drilling holes for elements. the above idea
or the chalkline should do you well.

Another idea would be, if you are using a drill press or a drill with
a level on it....

create your vee block to lay the pipe in to drill it. Drill the first
hole and at one end support, use a dowel or peg to hold the pipe hole
vertical. As you move the pipe along, the end support will keep the
pipe in the same position so the drill press matches all the holes.

Good luck. Let us know what method you use.

Buck
N4PGW

--
73 for now
Buck, N4PGW
www.lumpuckeroo.com

4667. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 12:20:28 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <46275e82$0$21257$39cecf19@news.twtelecom.net>
Source record: 42665

Cecil Moore wrote:

> Tom Ring wrote:
>
>> Roy Lewallen wrote:
>>
>>> rules which constantly change to suit the needs of the moment.
>>> Watterson fans will recognize the rules for propagating power waves
>>> as closely resembling those of Calvinball.
>>
>>
>> Hopefully some of those here will get that. I would be surprised if
>> it's more than one in four.
>
>
> The rules for propagating waves of EM energy have been
> nailed down for generations. Optical physicists don't
> have the luxury of measuring voltage and current. They
> must necessarily measure average power density. They
> are quite good at it and their average power density
> equations are quite accurate and mature. They obviously
> know a lot more about EM waves than most of the posters
> here.

Well, that's one who doesn't. Too bad, since Calvinball was a wondrous
game. I miss it.

tom
K0TAR

4668. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 12:37:08 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <jJpwfqK0J2JGFAfY@ifwtech.co.uk>
Source record: 42666

art wrote:
>snip
>
>
>> Forget the scribed line - snip.
>
>> 73 from Ian GM3SEK 'In Practice' columnist for RadCom
>>(RSGB)http://www.ifwtech.co.uk/g3sek
>

>What is so aweful about a scribed line that leads you give an
>instruction to' forget it' ?
>I've never seen a 'spirit level' being used in a tool room for
>accuracy nor could I specify from what you said as to why it should be
>used from now on instead of conventional means.
>

You expect a reply to that? "Forget" it!

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

4669. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 13:10:34 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1176988234.400443.277110@e65g2000hsc.googlegroups.com>
Source record: 42667

On 19 Apr, 05:37, Ian White GM3SEK <gm3...@ifwtech.co.uk> wrote:
> art wrote:
> >snip
>
> >> Forget the scribed line - snip.
>
> >> 73 from Ian GM3SEK 'In Practice' columnist for RadCom
> >>(RSGB)http://www.ifwtech.co.uk/g3sek
>
> >What is so aweful about a scribed line that leads you give an
> >instruction to' forget it' ?
> >I've never seen a 'spirit level' being used in a tool room for
> >accuracy nor could I specify from what you said as to why it should be
> >used from now on instead of conventional means.
>
> You expect a reply to that? "Forget" it!
>
> --
>
> 73 from Ian GM3SEK 'In Practice' columnist for RadCom
(RSGB)http://www.ifwtech.co.uk/g3sek

Ian I remember now from the old days. Engineers came in to the tool
room with a slide rule in their hands and the shop inspector had a
spirit level. I must have had a senior moment
Ofcourse they may even have had a plumb line int their pockets for the
bigger jobs.

4670. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 13:12:41 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <dVJVh.17757$Um6.17078@newssvr12.news.prodigy.net>
Source record: 42668

Jim Kelley wrote:
> Redistribution is an interaction....interesting. But, you were
> telling us about how waves interact with other waves. I'm interested
> to know what effect x has on y, and vice versa? We have x + y making
> z. So after that, tell us how have x and y changed as a result of
> their "interaction"?

In a transmision line, when z=0, x and y are permanently
changed. Their energy components combine into one re-reflected
wave. The separate identities of x and y disappear at the
instant that z becomes zero.

In order to measure s11 and s12, a2 is turned off. The result is:

```
a1---->|
|---->s21(a2)
s11(a1)<----|
```

Note that s11(a1) has already reflected from the impedance
discontinuity and there are no other impedance discontinuities
between it and the source. Should be smooth sailing.

In order to measure s21 and s22, a1 is turned off. The result is:

```
|---->s22(a2)
s12(a2)<----|
|<----a2
```

Note that s12(a2) has already passed through the impedance
discontinuity and there are no other impedance discontinuities
between it and the source. Should be smooth sailing.

s11(a1) and s12(a2) are your two waves. They exist and are
so measurable that their measurements results in knowing
the value of s11 and s12.

For b1 = s11(a1) + s12(a2) = 0, s11(a1) and s12(a2) must
be of equal magnitude and opposite phase. That's exactly
what happens at a Z0-match.

s11(a1) and s12(a2) *never* encounter an impedance discontinuity.
They are effects of a1 and a2 encountering an impedance discontinuity.
The only thing s11(a1) and s12(a2) encounter are each other and that
interaction completely changes those two waves. The two waves cancel
and their energy components are re-distributed in the opposite
direction. s11(a1) and s12(a2) never encounter an impedance
discontinuity.

--
73, Cecil http://www.w5dxp.com

4671. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 13:16:10 UTC
From: Danny Richardson <n_group@k6mhe.com>
Message-ID: <90qe23pvjneajccbu0us2as8pmn5otei8h@4ax.com>
Source record: 42669

On 18 Apr 2007 19:30:01 -0700, art <aunwin@insightbb.com> wrote:

>On 18 Apr, 17:09, Danny Richardson <n_gr...@k6mhe.com> wrote:
>> On 18 Apr 2007 14:17:27 -0700, art <aun...@insightbb.com> wrote:
>>
>> >I've never seen a 'spirit level' being used in a tool room for
>> >accuracy nor could I specify from what you said as to why it should be
>> >used from now on instead of conventional means.
>>
>> Well, I guess you haven't had much experience in the tool room.
>> Otherwise you would have been aware of how precession levels used to
>> set up machinery. They are used often. How do you think those long bed
>> lathes are adjusted so they are straight, level and parallel? Yes, my
>> poor misinformed person they use precession levels.
>>
>> Danny, K6MHE
>
>Danny,
> don't be silly, you obviously have not spent a lot of time in a tool
>room.

Only forty years plus. In that time I've moved and/or installed many
lathes, mills, planners, surface plates and etc... Each time using a
precession level. Just as I had been taught by a master millwright
back in my apprentice days.

>A tool room machine is not in any way used as a reference level. What
>is used as a reference level is the machine slide with reference to
>the cutting plane. An installation of a machine is subject to settling
>but it does not affect the accuracy of the product.

Yea sure a twisted lathe bed does accurate work....BS

I see your knowledge of shop practices is exceeded only by your
knowledge of antenna theory.

Danny, K6MHE

4672. Re: multiband vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 13:18:13 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <n_JVh.4813$H_5.1754@newssvr23.news.prodigy.net>
Source record: 42670

Owen Duffy wrote:
> "John, N9JG" <john@Xremove.MeYgotwals.com> wrote in
> news:htqVh.26699$G23.7433@newsreading01.news.tds.net:
>
>> Thanks for the explanation. What you have described would be more
>> convenient from an operating standpoint since I would have one less
>> thing to tune during a QSY.
>
> You might have misunderstood Cecil. I think he is describing a system where
> the "optimal length" may be different on each band, so whilst you don't
> tune an ATU, you tune the feeder length.

Throwing a couple of knife switches is certainly an easier
and faster QSY than rotating a coil switch and twisting
two interacting capacitor knobs.
--
73, Cecil http://www.w5dxp.com

4673. Re: RF/antennas hands-on book

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 14:02:18 UTC
From: Theo Markettos <theom+news@chiark.greenend.org.uk>
Message-ID: <kBd*A2DIr@news.chiark.greenend.org.uk>
Source record: 42671
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.misc

Kevin G. Rhoads <kgrhoads@alum.mit.edu> wrote:
> http://www.pmillett.com/technical_books_online.htm

Oooh... lots to keep me occupied there. Thanks :)

Theo

4674. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 14:33:01 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <x4LVh.327997$5j1.229534@bgtnsc04-news.ops.worldnet.att.net>
Source record: 42672

Cecil Moore wrote:
> Jim Kelley wrote:
>> Since you insist that waves can have an effect on other waves, then
>> you should at least be able to detail either mathematically or
>> phenomenalogically the effect y has on x, and x has on y as well as
>> provide some natural process that would cause this effect. Please
>> elaborate. Thanks.
>
> In the s-parameter equation, b1 = s11(a1) + s12(a2) = 0,
> the interaction of s11(a1) and s12(a2) results in wave
> cancellation. The effect of each wave on the other is
> to reverse the direction and momentum of both waves.
>
> That is what happens at a Z0-match in a transmission
> line. That is what happens at the surface of thin-
> film when reflections are being canceled.
>
> Again, the redistribution of the wave energy is certainly
> an interaction that wouldn't exist with either wave alone.

Cecil,

Do you see the common factor in your response about "wave interaction"?
In all of your examples there is an interface or some sort of
discontinuity. Nobody argues that waves are forever unchanging. However,
those changes take place only through interaction with interfaces or
other discontinuities.

73,
Gene
W4SZ

4675. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 14:43:24 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <geLVh.58725$VU4.13655@bgtnsc05-news.ops.worldnet.att.net>
Source record: 42673

Cecil Moore wrote:

[snip]
>
> The "absence of energy flow" is an illusion. There is 100
> joules/sec in the forward wave and 100 joules/sec in the
> reflected wave. Since the waves are flowing in opposite
> directions, you can argue that there is no *net* energy
> flow, but the component wave energy flow is alive and well.
>

[snip]

Cecil,

You have made this claim about "component wave energy flow" or a similar claim on numerous occasions. However, only a few minutes after the message above, you wrote,

"Power and energy are scalars, Roy. Of course, scalars follow
different rules. Maybe the problem is that you are trying
to use phase math on power."

Help me out. How can we have scalars flowing in opposite directions? If the waves can interact, as you claim, why does the associated energy fail to interact and merely pass like ships in the night?

Conservation of energy does not really help the explanation in this case, as your recently discovered new reference, Principles of Optics by Born and Wolf, points out.

73,
Gene
W4SZ

4676. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 14:56:33 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <BqLVh.328096$5j1.26158@bgtnsc04-news.ops.worldnet.att.net>
Source record: 42674

Cecil Moore wrote:
> Tom Ring wrote:
>> Roy Lewallen wrote:
>>> rules which constantly change to suit the needs of the moment.
>>> Watterson fans will recognize the rules for propagating power waves
>>> as closely resembling those of Calvinball.
>>
>> Hopefully some of those here will get that. I would be surprised if
>> it's more than one in four.
>
> The rules for propagating waves of EM energy have been
> nailed down for generations. Optical physicists don't
> have the luxury of measuring voltage and current. They
> must necessarily measure average power density. They
> are quite good at it and their average power density
> equations are quite accurate and mature. They obviously
> know a lot more about EM waves than most of the posters
> here.

Cecil,

I guess you did not believe me when I said a day or two ago that optical physicists have advanced well beyond the limited capabilities you allow them. It is true that they don't measure "voltage and current". I don't even know what voltage and current mean in the standard context of optics. However, they do measure fields in many ways, and they do use extensive calculations based on fields.

The measurement tools used at optical frequencies are a bit different than the measurement tools used for RF, but they are no less capable.

Do you have any connection with "optical physicists" beyond your reading of Hecht and the Melles Griot website?

73,
Gene
W4SZ

4677. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 15:27:48 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <IRLVh.4838$H_5.196@newssvr23.news.prodigy.net>
Source record: 42675

Gene Fuller wrote:
> Do you see the common factor in your response about "wave interaction"?
> In all of your examples there is an interface or some sort of
> discontinuity. Nobody argues that waves are forever unchanging. However,
> those changes take place only through interaction with interfaces or
> other discontinuities.

I don't disagree and I have gone on record as saying that
reflections only occur at physical impedance discontinuities.
The interaction of s11(a1) and s12(a2) is caused by the
interaction of a1 and a2 with the impedance discontinuity.
There's no doubt about that.

a1 interacts with the impedance discontinuity to cause
s11(a1) and s21(a1). a2 interacts with the impedance
discontinuity to cause s12(a2) and s22(a2). s11(a1),
s12(a2), s21(a1), and s22(a2) are created as a result
(an effect) of the interaction of a1 and a2 with the
impedance discontinuity. I have *NEVER* said that
waves interact with each other in the absence of
an impedance discontinuity. Assertions to that effect
are obfuscations of what I have said.

But even you must realize that the wave component, s11(a1),
originates traveling *away from* the impedance discontinuity
as an *EFFECT* of the forward wave, a1, being incident upon
the impedance discontinuity. It is a1 that is incident upon
the impedance discontinuity, not s11(a1). s11(a1) *originates*
at the impedance discontinuity traveling *away from* it and is
never incident upon the impedance discontinuity. All s11(a1)
ever encounters is s12(a2) and is canceled on the spot if
s12(a2) is of equal magnitude and opposite phase.

The wave component, s12(a2), *originates* at the impedance
discontinuity traveling *away from* the impedance discontinuity
as an *EFFECT* of the reflected wave, a2, being incident upon
the impedance discontinuity. It is a2 that is incident upon
the impedance discontinuity, not s12(a2). s12(a2) *originates*
at the impedance discontinuity traveling *away from* it and
is *never* incident upon the impedance discontinuity. All it
ever encounters is s11(a1) and is canceled on the spot if
s11(a1) is of equal magnitude and opposite phase.

Arguing that s11(a1) and s12(a2) are incident upon the
impedance discontinuity is obviously false since they
originate traveling *away from* the impedance discontinuity.

It is impossible for signals that originate traveling away
from the impedance discontinuity, to ever be incident upon
the impedance discontinuity. The confusing of cause and effect
is obvious.

So how do you think that signals that originate traveling
away from the impedance discontinuity ever can be incident
upon the impedance discontinuity?
--
73, Cecil, w5dxp.com

4678. Re: Why S - Parameter at High frequencies?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 15:48:14 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <f082vv$d97$1@nntp1.jpl.nasa.gov>
Source record: 42577

Cecil Moore wrote:
> Jim Lux wrote:
>
>> Cecil Moore wrote:
>>
>>> "In some professional literature, Gamma is used in place of rho
>>> to represent the reflection coefficient."
>>
>>
>> I would say in *most* professional literature...
>
>
> The above quote from the ARRL Antenna Book is from
> the 1988 edition.

Hmm.. yes, well fashion does change in the professional literature over time, and your citation is almost 20 years old. However, while cleaning out a lab downstairs at work, I ran across a reprint of:
Kerns, David M., "Definitions of v,i, Z, Y, a, b, Gamma, and S", Proc. IEEE, v55 n6, June 1967, pp892-900

no rhos to be found.

In another useful paper, Dybdal,R.B., Ott,R.H., "Coherent RF Error Statistics", IEEE Trans MTT, vMTT-34,n12, Dec 86
(anyone doing precision measurements on RF systems with mismatches should read this paper, if you want to get a handle on measurement uncertainties..)
Gamma is used for the reflection coefficient, and rho is used for, of all things, the phase of the reflection.

That's not to say that there's not a paper around from the 70s that uses rho.. and certainly, if you go back to the 30s and 40s, one might find rho (as a magnitude of the reflection coefficient) more commonly used, reflecting (no pun intended) the use of instruments that didn't measure phase. Precision phase measurement of reflections is a relatively recent (last 30 years?) phenomena..

So, I'll revise and say in *most current* professional literature...

4679. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 15:52:17 UTC
From: richardharrison@webtv.net
Message-ID: <27778-46279031-221@storefull-3255.bay.webtv.net>
Source record: 42578

Cecil, W5DXP wrote:
"The number of joules in the stub, in both cases, is exactly the magnitude needed to support the 100W forward wave and the 100W reflected wave."

An energy source of frequency f feeds a 1/4-wave short-circuited stub. The feedpoint of the stub receives a reflection from the short an instant later which is practically equal in phase and magnitude to the energy source.

How much energy will re-enter the source? Practically none because there is no difference of potential between the reflection and the source.

How much energy will continue to enter the stub? Practically none because there is no difference of potential between the source and the reflection.

Best regards, Richard Harrison, KB5WZI

4680. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 16:01:49 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <NnMVh.1224$H_.291@newssvr21.news.prodigy.net>
Source record: 42676

Gene Fuller wrote:
> Help me out. How can we have scalars flowing in opposite directions? If
> the waves can interact, as you claim, why does the associated energy
> fail to interact and merely pass like ships in the night?

That is the nature of EM waves, Gene. EM waves flowing
in opposite directions do NOT interact. However, their
reflected and transmitted components traveling in the
same direction can and do interact at an impedance
discontinuity.

Let's take the following example using a signal generator
and 50 ohm circulator load. rho1 = s11 = 0.707

100W
SGCL---50 ohm line---+---1/2WL 291.4 ohm line---291.4 ohm load
Vfor1=70.7V--> Vfor2=120.7V-->
<--Vref1=50V <--Vref2=0V

Vref1 is the reflected wave that *originates* traveling toward
the source. Its power gets dissipated in the circulator load
resistor. It *NEVER* travels toward the impedance discontinuity.

Vref1 = 0.707(70.7V) = 50V This is the wave that we have
to cancel when we switch the load to 50 ohms. This wave
gets canceled without ever encountering an impedance
discontinuity.

Would you please explain how a wave that originates traveling
away from the impedance discontinuity ever encounters the
impedance discontinuity?
--
73, Cecil, w5dxp.com

4681. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 16:06:49 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <tsMVh.1225$H_.75@newssvr21.news.prodigy.net>
Source record: 42579

Gene Fuller wrote:
> I guess you did not believe me when I said a day or two ago that optical
> physicists have advanced well beyond the limited capabilities you allow
> them.

I know that, Gene. What I have been describing is a history
of the physics of optics. When the theories were first being
developed, all optical physicists could so was measure the
average power density of the light waves. The theories
based on those average power density measurements are
still good today so they must have known what they were
doing. However, if you would like to discredit those great
optical physicists, based on the better measurement
techniques available today, be my guest.
--
73, Cecil, w5dxp.com

4682. Re: multiband vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 16:24:52 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <462797cc$0$24743$4c368faf@roadrunner.com>
Source record: 42580

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:n_JVh.4813$H_5.1754@newssvr23.news.prodigy.net...
> Owen Duffy wrote:
>> "John, N9JG" <john@Xremove.MeYgotwals.com> wrote in
>> news:htqVh.26699$G23.7433@newsreading01.news.tds.net:
>>> Thanks for the explanation. What you have described would be more
>>> convenient from an operating standpoint since I would have one less
>>> thing to tune during a QSY.
>>
>> You might have misunderstood Cecil. I think he is describing a system
>> where the "optimal length" may be different on each band, so whilst you
>> don't tune an ATU, you tune the feeder length.
>
> Throwing a couple of knife switches is certainly an easier
> and faster QSY than rotating a coil switch and twisting
> two interacting capacitor knobs.
> --
> 73, Cecil http://www.w5dxp.com

Cecil, I was thinking of trying your no= tune antenna and the 16 ft piece
may not be doable at my QTH, I have to keep it all hidden behind the bushes.
Could this piece be replaced with a circuit using lumped LC values.

Jimmie

4683. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 16:25:24 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f085ac$1lj$1@news.service.uci.edu>
Source record: 42582

Cecil Moore wrote:
> Jim Kelley wrote:
>
>> Redistribution is an interaction....interesting. But, you were
>> telling us about how waves interact with other waves. I'm interested
>> to know what effect x has on y, and vice versa? We have x + y making
>> z. So after that, tell us how have x and y changed as a result of
>> their "interaction"?
>
>
> In a transmision line, when z=0, x and y are permanently
> changed. Their energy components combine into one re-reflected
> wave. The separate identities of x and y disappear at the
> instant that z becomes zero.
>
> In order to measure s11 and s12, a2 is turned off. The result is:
>
> a1---->|
> |---->s21(a2)
> s11(a1)<----|
>
> Note that s11(a1) has already reflected from the impedance
> discontinuity and there are no other impedance discontinuities
> between it and the source. Should be smooth sailing.
>
> In order to measure s21 and s22, a1 is turned off. The result is:
>
> |---->s22(a2)
> s12(a2)<----|
> |<----a2
>
> Note that s12(a2) has already passed through the impedance
> discontinuity and there are no other impedance discontinuities
> between it and the source. Should be smooth sailing.
>
> s11(a1) and s12(a2) are your two waves. They exist and are
> so measurable that their measurements results in knowing
> the value of s11 and s12.
>
> For b1 = s11(a1) + s12(a2) = 0, s11(a1) and s12(a2) must
> be of equal magnitude and opposite phase. That's exactly
> what happens at a Z0-match.
>
> s11(a1) and s12(a2) *never* encounter an impedance discontinuity.

> They are effects of a1 and a2 encountering an impedance discontinuity.
> The only thing s11(a1) and s12(a2) encounter are each other and that
> interaction completely changes those two waves. The two waves cancel
> and their energy components are re-distributed in the opposite
> direction. s11(a1) and s12(a2) never encounter an impedance
> discontinuity.

It certainly is an interesting way of looking at things, Cecil. It's certainly true that equal and opposite fields cancel. When that's the case though it becomes problematic arguing that there are waves there. Did you ever see the movie "A Brilliant Mind" by any chance?

73, ac6xg

4684. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 16:27:59 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ZJMVh.262$Ea5.0@newssvr19.news.prodigy.net>
Source record: 42581

Richard Harrison wrote:
> How much energy will re-enter the source? Practically none because there
> is no difference of potential between the reflection and the source.

Yes, the reflected wave from 50 ohm coax trying to enter Keith's
50 ohm transmitter will be 100% re-reflected in a lossless stub
in complete violation of his assertions which proves that the
reflected wave doesn't see the source impedance and instead sees
the source load-line impedance.

> How much energy will continue to enter the stub? Practically none
> because there is no difference of potential between the source and the
> reflection.

In a lossless stub, zero energy will continue to enter the stub.
In fact, in a lossless stub, the source can theoretically be
completely disconnected and everything remains the same
including 100% re-reflection of reflected waves by the new
open circuit.

Of course, if the stub is real, the losses will take everything
to zero if the stub is disconnected because the source is
supplying the small amount of power lost to dissipation in
a real-world stub which doesn't have an infinite impedance.
--
73, Cecil, w5dxp.com

4685. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 16:28:56 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f085h0$1lj$2@news.service.uci.edu>
Source record: 42586

Correction: "A Beautiful Mind". Mine is neither beautiful nor
brilliant this morning I'm afraid.

jk

Jim Kelley wrote:
>
> It certainly is an interesting way of looking at things, Cecil. It's
> certainly true that equal and opposite fields cancel. When that's the
> case though it becomes problematic arguing that there are waves there.
> Did you ever see the movie "A Brilliant Mind" by any chance?
>
> 73, ac6xg
>
>
>
>
>
>
>

4686. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 16:33:30 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <9d6f23llf3td1u9eccqlrfndldhpt86p8o@4ax.com>
Source record: 42583

On Thu, 19 Apr 2007 14:56:33 GMT, Gene Fuller <W4SZzzzzzz@att.net>
wrote:

>Do you have any connection with "optical physicists" beyond your reading
>of Hecht and the Melles Griot website?

Hi Gene,

Aside from the number of us that have experience in the practice?

73's
Richard Clark, KB7QHC

4687. Re: multiband vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 16:37:10 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <1h6f23dal2a61qvkbkj4jbkqbvqhkcf1r2@4ax.com>
Source record: 42584

On Thu, 19 Apr 2007 12:24:52 -0400, "Jimmie D"
<GFENDER@carolina.rr.com> wrote:

>Cecil, I was thinking of trying your no= tune antenna and the 16 ft piece
>may not be doable at my QTH, I have to keep it all hidden behind the bushes.
>Could this piece be replaced with a circuit using lumped LC values.

Hi Jimmie,

I've been doing it with a binary switched coax matcher for 15 years.
It occupies about half a cubic foot and tunes in increments of 1, 2,
4, 8, and 16 feet.

73's
Richard Clark, KB7QHC

4688. Re: multiband vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 16:40:31 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <JVMVh.263$Ea5.204@newssvr19.news.prodigy.net>
Source record: 42585

Jimmie D wrote:
> Cecil, I was thinking of trying your no= tune antenna and the 16 ft piece
> may not be doable at my QTH, I have to keep it all hidden behind the bushes.
> Could this piece be replaced with a circuit using lumped LC values.

That would work at one frequency but not others. What I do with
the 16 foot length is coil it into a spiral of 4 turns. The
diameter of the spiral is about 16 inches and the overall
length of the spiral is about 24 inches. That should fit
"behind the bushes". I use a piece of fiberglass rod to
which to tiewrap the coils.

There's nothing magic about the 16 foot length. It is only
necessary if you need to vary your length from 0 to 31 feet.
In actual practice with my 130 foot dipole, I only needed
to vary the length from 0 to 23 feet so I made the "16 ft"
section just another 8 foot section. The 16 foot section
was required from 3.5-3.6 MHz and I never use those frequencies.
That's why I could get away with replacing the 16 ft section
with another 8 ft section.
--
73, Cecil, w5dxp.com

4689. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 16:47:56 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <G0NVh.266$Ea5.21@newssvr19.news.prodigy.net>
Source record: 42587

Jim Kelley wrote:
> It certainly is an interesting way of looking at things, Cecil. It's
> certainly true that equal and opposite fields cancel. When that's the
> case though it becomes problematic arguing that there are waves there.

The waves are certainly there and are measured in
the process of determining the values of the
s-parameters. That's enough proof of their
existence for me. If you deny their existence,
you are denying that the s-parameter measurement
procedure is valid.

Jim, what happens to the ExB power density in the
equal and opposite fields that cancel?
--
73, Cecil, w5dxp.com

4690. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 16:54:02 UTC
From: "Dr. Honeydew" <dr_b_honeydew@msn.com>
Message-ID: <1177001642.746332.37550@l77g2000hsb.googlegroups.com>
Source record: 42588

On Apr 18, 9:19 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Dr. Honeydew wrote:
> > Cecil Moore <w...@hotmail.com> wrote:
> >> A Bird wattmeter reads 100 watts forward and 100w reflected. The
> >> current in the source is zero. The source is not only not sourcing any
> >> forward power, it is also not sinking any reflected power.
>
> > What complete and utter Texas-size bullsh*t. It's obvious that the
> > source is sourcing the forward voltage wave, and it's sucking up
> > entire reverse voltage wave from the line.
>
> And doing it while magically expending zero energy.
> Perpetual motion is possible, after all.
>
> If zero power is being dissipated in the source, it cannot
> be sourcing the forward voltage wave and it cannot be
> sucking up the reverse voltage wave.
> --
> 73, Cecil http://www.w5dxp.com

Ah, I can see you didn't take me seriously. But I was dead serious.
It is absolutely not necessary for the source to be dissipating the
reverse wave it sucks up as heat.

A challenge: given a linear system consisting of a source of
impedance Z1, connected to a line (any length you want; any loss you
want) of impedance Z2, and the far end of the line connected to a load
of impedance Z3, or even to a different source of impedance Z3
(possibly different frequency, phase, and/or amplitude from the first
source). Give us one example, even one, that's not accurately
described by source Z1 launching waves into impedance Z2 in the
"forward" direction, plus whatever "reverse" wave is on the line doing
exactly the expected things at the Z2:Z1 boundary. In other words,
viewed from both sides, show us even one instance where the system is
not correctly analyzed with your S11--S12 equations for the Z1--Z2
interface. Show us even one instance where those equations will not
tell you exactly what happens to waves coming into that interface from
either direction, and in fact from both directions at once.

What the source does with the incoming wave is another matter,
independent of the Z1--Z2 interface. Whether it causes increased or
decreased dissipation of heat in the source depends on how the source
is made, and the characteristics (phase, amplitude, frequency, ...) of
the incoming wave.

>From the labs,

Bunsen

4691. A good RF ground

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 16:55:03 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <58pl6nF2h9fn1U1@mid.individual.net>
Source record: 42589

I want to put up a "long wire" with the feedpoint at one of the back end corners of the garden. I need a good RF ground.

If I got a length of 6 foot wide copper sheet and made out of it a cylinder, say 6 feet in diameter, and then placed that cylinder in an upwards position in the ground, the top level with the surface, would that be a good idea for trying to acheive a decent RF ground? Also, is there anything I could place around the cylinder to better the conduction between the cyinder and the earth around it? Should I drill holes in the cylinder so I can pour water into the cylinder to keep the ground around it moist?

Would I still benefit from some radials in the ground?

My garden's about 33 foot long, 21 foot wide. Ground gets rather rocky and a bit sandyish at about 9 inches or so from the surface.TIA.

4692. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 16:56:45 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177001805.737393.311900@n59g2000hsh.googlegroups.com>
Source record: 42590

On 9 Mar, 07:49, Gene Fuller <W4SZzzz...@att.net> wrote:
> art wrote:
>
> > But Jimmie my friend, now you have an understanding of Gaussian law
> > what is preventing you adding the metric of time or a length of time
> > to the statics law?
>
> Art,
>
> Adding the "metric of time" is exactly what J.C. Maxwell did, in 1865.
> The detailed hard work surrounding Maxwell's Equations, as we know them
> today, was probably more attributable to Oliver Heaviside. However,
> Maxwell gets the credit for adding the time contribution.
>
> 73,
> Gene
> W4SZ

Yes, but he never made it in terms of reference to antennas. By using
the conservative field transition to a non conservative field as a
follow up example the equation now has more meaning than just
mathematics in that it provides a datum for maximum efficiency.
I don't believe anybody evoked Gaussian law to express a situation for
maximum efficiency
of radiation by specifying an array of resonant radiators which also
was never included in Maxwells laws. Science is improved by what is
seen to many as minor steps that apparently everybody was aware of but
did not know how to take advantage of that knoweledge to provide a
fresh data base for the state of the art. The World was aware of
adding the time contribution but no one, no college, no scientist, no
author, just nobody
provided a kernel of knoweledge regarding equilibrium in connection to
efficient electromagnetic radiation. Knoweledge of a relationship is
one thing , puting that knoweledge to use is required for the
advancement otherwise it plays dead for centuries.
In life everybody claims that an invention is nothing but only one
gets off the couch.
When the application is published you and others have the right to
petition the PTO showing prior publication or prior knoweledge with
respect to the state of the art. This ofcourse requires more than just
words such as spouted off from this newsgroup .You really have to walk
the walk and if you don't understand the underpinnings of what I term
a Gaussian antenna or challege it as a sample of nonsense then it is
you that must provide the facts that make it so and this thread shows

your inadequacy to do so. Only one person came forward to
acknoweledged the presence of conclusive mathematical support supplied
by
John Davis and where the rest of this long thread are in denial,
occupied by empty words of denial without proof. Seems like most
threads are reaching the hundred mark on this group because of
collective confusion of what is really tought at teaching institutions
and the effects of time that make these teachings all different.
Art

4693. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 17:07:38 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f087pj$3ls$1@news.service.uci.edu>
Source record: 42592

Cecil Moore wrote:

> Gene Fuller wrote:
>
>> Do you see the common factor in your response about "wave
>> interaction"? In all of your examples there is an interface or some
>> sort of discontinuity. Nobody argues that waves are forever
>> unchanging. However, those changes take place only through interaction
>> with interfaces or other discontinuities.
>
>
> I don't disagree and I have gone on record as saying that
> reflections only occur at physical impedance discontinuities.

You have also gone on record as saying is this:

4/19/07 6:12 AM
"The only thing s11(a1) and s12(a2) encounter are each other and that
interaction completely changes those two waves. The two waves cancel
and their energy components are re-distributed in the opposite
direction. s11(a1) and s12(a2) never encounter an impedance
discontinuity."

73, ac6xg

4694. Re: multiband vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 17:13:21 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <RqNVh.16942$JZ3.1322@newssvr13.news.prodigy.net>
Source record: 42591

Richard Clark wrote:
> I've been doing it with a binary switched coax matcher for 15 years.
> It occupies about half a cubic foot and tunes in increments of 1, 2,
> 4, 8, and 16 feet.

Are you using 50 ohm coax to try to match to 50 ohms
or just using it to vary the virtual impedance?
--
73, Cecil, w5dxp.com

4695. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 17:16:32 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f088a9$436$1@news.service.uci.edu>
Source record: 42593

Cecil Moore wrote:

> Jim, what happens to the ExB power density in the
> equal and opposite fields that cancel?

Let's see E=0, and B=0; what power density, Cecil?

73, Jim AC6XG

4696. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 17:33:37 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f089ab$515$1@news.service.uci.edu>
Source record: 42594

Cecil Moore wrote:

> That is the nature of EM waves, Gene. EM waves flowing
> in opposite directions do NOT interact. However, their
> reflected and transmitted components traveling in the
> same direction can and do interact at an impedance
> discontinuity.

Actually it's even more straightforward than that. They do interact
with a physical impedance discontinuity, and don't interact with each
other no matter which way they are traveling.

73, Jim AC6XG

4697. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 17:44:22 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <WTNVh.328783$5j1.112522@bgtnsc04-news.ops.worldnet.att.net>
Source record: 42595

Richard Clark wrote:
> On Thu, 19 Apr 2007 14:56:33 GMT, Gene Fuller <W4SZzzzzzz@att.net>
> wrote:
>
>> Do you have any connection with "optical physicists" beyond your reading
>> of Hecht and the Melles Griot website?
>
> Hi Gene,
>
> Aside from the number of us that have experience in the practice?
>
> 73's
> Richard Clark, KB7QHC

Hi Richard,

I have not seen an optical physicist since I looked in the mirror this
morning.

8-)

73,
Gene
W4SZ

4698. Re: A good RF ground

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 17:44:37 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <f089q6glv1@nntp1.jpl.nasa.gov>
Source record: 42600

Richard wrote:
> I want to put up a "long wire" with the feedpoint at one of the back end
> corners of the garden. I need a good RF ground.
>
> If I got a length of 6 foot wide copper sheet and made out of it a
> cylinder,
> say 6 feet in diameter, and then placed that cylinder in an upwards
> position
> in the ground, the top level with the surface, would that be a good idea
> for
> trying to acheive a decent RF ground? Also, is there anything I could place
> around the cylinder to better the conduction between the cyinder and the
> earth around it? Should I drill holes in the cylinder so I can pour water
> into the cylinder to keep the ground around it moist?
>
> Would I still benefit from some radials in the ground?
>
> My garden's about 33 foot long, 21 foot wide. Ground gets rather rocky
> and a bit sandyish at about 9 inches or so from the surface.TIA.
>
That might be overkill.. Why not spend the money on a spool of copper
wire and lay radials. For RF purposes, large area of coverage is more
important than low impedance at a particular point. You want to improve
the apparent conductivity of the soil over as much volume as you can.
Think of your grounding system as (partially) a big leaky capacitor to
"the earth".. you want to spread the RF current out over as large an
area as possible, and radials are probably the easiest way to do it.
There's nothing special about how you lay the radials or their length
(they're in dirt, so they're not tuned or resonant.. just wires).

4699. Re: A good RF ground

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 17:56:15 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <5maf239c4djb6vunatadajak7ts0ribj74@4ax.com>
Source record: 42596

On Thu, 19 Apr 2007 17:55:03 +0100, "Richard"
<nearlynews_email@ntlworld.com> wrote:

>If I got a length of 6 foot wide copper sheet and made out of it a cylinder,
>say 6 feet in diameter, and then placed that cylinder in an upwards position
>in the ground, the top level with the surface, would that be a good idea for
>trying to acheive a decent RF ground?

Hi Richard,

Not particularly.

>Also, is there anything I could place
>around the cylinder to better the conduction between the cyinder and the
>earth around it?

You could slit the cylinder lengthwise and lay it on or beneath the
soil.

>Should I drill holes in the cylinder so I can pour water
>into the cylinder to keep the ground around it moist?

This a bromide from the late 20s and 30s. Yes, it would keep the
ground moist, encourage moss, and increase the density of earthworms.

>Would I still benefit from some radials in the ground?

Always, first, and foremost.

>My garden's about 33 foot long, 21 foot wide. Ground gets rather rocky and a
>bit sandyish at about 9 inches or so from the surface.TIA.

Lay out a fan of radials as far as you can go. Make it about a dozen
to sixteen. Move on because there is small chance of significant
improvement beyond that.

73's
Richard Clark, KB7QHC

4700. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 17:58:14 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <4627adab$0$17161$4c368faf@roadrunner.com>
Source record: 42597

"art" <aunwin@insightbb.com> wrote in message
news:1176949801.343730.120900@p77g2000hsh.googlegroups.com...
> On 18 Apr, 17:09, Danny Richardson <n_gr...@k6mhe.com> wrote:
>> On 18 Apr 2007 14:17:27 -0700, art <aun...@insightbb.com> wrote:
>>
>> >I've never seen a 'spirit level' being used in a tool room for
>> >accuracy nor could I specify from what you said as to why it should be
>> >used from now on instead of conventional means.
>>
>> Well, I guess you haven't had much experience in the tool room.
>> Otherwise you would have been aware of how precession levels used to
>> set up machinery. They are used often. How do you think those long bed
>> lathes are adjusted so they are straight, level and parallel? Yes, my
>> poor misinformed person they use precession levels.
>>
>> Danny, K6MHE
>
> Danny,
> don't be silly, you obviously have not spent a lot of time in a tool
> room.
> A tool room machine is not in any way used as a reference level. What
> is used as a reference level is the machine slide with reference to
> the cutting plane. An installation of a machine is subject to settling
> but it does not affect the accuracy of the product.
> Use of a spirit level over the use of a straight piece of angle as a
> reference plane is rather stupid and impracticable.
>

What a pompous jerk. You have finally stooped so low to try to make your
ownself sound intelligent as to insult others.

4701. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 17:59:39 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ebbf23tr97si4mupkus575q7okd8s68ms8@4ax.com>
Source record: 42599

On 19 Apr 2007 09:56:45 -0700, art <aunwin@insightbb.com> wrote:

>Only one person came forward to
>acknoweledged the presence of conclusive mathematical support supplied
>by
>John Davis

Hi Art,

He confirmed it was Maxwell's (Heavisides actually) equations. I provided the actual quotes. If you wish, you can consult the same reference we BOTH used: "The Feynman Lectures on Physics," or I can rummage up that material again.

73's
Richard Clark, KB7QHC

4702. Re: multiband vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 17:59:49 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177005589.215883.192990@n76g2000hsh.googlegroups.com>
Source record: 42598

On 18 Apr, 15:11, "Andre & Sharon Walker" <asw...@bigpond.net.au>
wrote:
> Wow..looks like I opened a can of worms here!
> Thanks to all for the many links and advice..much food for thought. I think
> ill have to re assess I was considering end fed longwire also, but an
> inverted V might be a better option. Anyway, should be on the air within 4
> weeks...the licence is the easy bit, diverting funds for the radio from the
> XYL is the tricky part!!! But ive been offered a FT101z , inc Yaseu Desk mix
> + spare set of finals (is too early to rember the number of the tubes off
> hand...just finished night shift), so ill have wind the wick WAY back to
> start with. I don't care what they say at the club...I like boat anchors!!
> (I'd love to replace the Murphy B40 I sold 10 years ago :-( )
>
> Cheers
>
> Andre"Owen Duffy" <n...@no.where> wrote in message
>
> news:Xns99174617739EFnonenowhere@61.9.191.5...
>
>
>
> > Cecil Moore <nos...@w5dxp.com> wrote in
> >news:8ooVh.149$Ea5.73@newssvr19.news.prodigy.net:
>
> >> Andre & Sharon Walker wrote:
> >>> I was hoping to get away from traps, but i dont think its possible
> >>> :-(. I only have a smallish yard, with just 30m from the chimmny
> >>> (brick) to the back of the yard, so i think a decent wire antenna is
> >>> out...but i am open to suggestions. I guess the other considerstion
> >>> is to keep "she inside" happy .
>
> >> A 1/2WL dipole is 20m on 40m and can be made to work on
> >> all HF bands 40m-10m. That's probably what I would do
> >> and then do something romantic to keep the XYL happy.
>
> > Cecil, Andre will not have access to most HF bands, just 80, 40, 15, and
> > 10m.
>
> > It takes about 6 hours to train and assess a Foundation Licencee, so your
> > tunerless concept is perhaps more complex than Andre's current knowledge
> > base.
>
> > For example, I worked a FL chap a couple of days ago on 40m with a 80m
> > half wave dipole fed with a long run of coax, and he was confident that

> > his antenna worked real well, despite my expectation that it was likely
> > that well less than 10% of his permitted 10W PEP was radiated. It was
> > impossible to tell this chap that if he cut the dipole to half the length
> > it would work better on 40m.
>
> > It is no good telling people that an antenna isn't likely to work real
> > good, they will cite all the contacts that they have had with it, and as
> > we know, anything "works", doesn't it. However, most people listen to the
> > positive suggestion that with change, and antenna will work better (and
> > in the above case, more than 10 times the EIRP).
>
> > Andre, keep it simple. A coax fed half wave dipole is easy to get going
> > will limited knowledge and experience, and you should have a high
> > confidence that you will be able to deliver a suitable load to your
> > transmitter (ie it will deliver its rated power), and the antenna will be
> > quite efficient (ie that most of your 10W PEP transmitter power is
> > radiated). It will also work well on receive.
>
> > If you hear strong FL signals around, they have good antennas, and / or
> > are flaunting the power limit. It is easy to do the latter, but if you
> > get the antenna right, you still have the room for improvement when you
> > upgrade to the higher power limit.
>
> > Owen- Hide quoted text -
>
> - Show quoted text -

Andre you did indeed open a can of worms!, A vertical antenna is the
most complicated thing in the world that even a newsgroup full of
antenna experts are having difficulty in solving.
It is quite possible that this thread will top a hundred replies
before you arrive at the right question that they can answer.
Cheers and beers
Art

4703. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 18:06:37 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <NcOVh.328874$5j1.22484@bgtnsc04-news.ops.worldnet.att.net>
Source record: 42601

Cecil Moore wrote:
> Gene Fuller wrote:
>> Help me out. How can we have scalars flowing in opposite directions?
>> If the waves can interact, as you claim, why does the associated
>> energy fail to interact and merely pass like ships in the night?
>
> That is the nature of EM waves, Gene. EM waves flowing
> in opposite directions do NOT interact. However, their
> reflected and transmitted components traveling in the
> same direction can and do interact at an impedance
> discontinuity.
>

Cecil,

Progress!

All we need now is that you also understand that waves flowing in the SAME direction do NOT interact unless there is an interface or other discontinuity.

All sorts of things can happen at discontinuities. The detailed physical mechanisms and the models are well understood.

73,
Gene
W4SZ

4704. Re: A good RF ground

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 18:10:18 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <4627b080$0$24756$4c368faf@roadrunner.com>
Source record: 42602

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:5maf239c4djb6vunatadajak7ts0ribj74@4ax.com...
> On Thu, 19 Apr 2007 17:55:03 +0100, "Richard"
> <nearlynews_email@ntlworld.com> wrote:
>
>>If I got a length of 6 foot wide copper sheet and made out of it a
>>cylinder,
>>say 6 feet in diameter, and then placed that cylinder in an upwards
>>position
>>in the ground, the top level with the surface, would that be a good idea
>>for
>>trying to acheive a decent RF ground?
>
> Hi Richard,
>
> Not particularly.
>
>>Also, is there anything I could place
>>around the cylinder to better the conduction between the cyinder and the
>>earth around it?
>
> You could slit the cylinder lengthwise and lay it on or beneath the
> soil.
>
>>Should I drill holes in the cylinder so I can pour water
>>into the cylinder to keep the ground around it moist?
>
> This a bromide from the late 20s and 30s. Yes, it would keep the
> ground moist, encourage moss, and increase the density of earthworms.
>
>>Would I still benefit from some radials in the ground?
>
> Always, first, and foremost.
>
>>My garden's about 33 foot long, 21 foot wide. Ground gets rather rocky and
>>a
>>bit sandyish at about 9 inches or so from the surface.TIA.
>
> Lay out a fan of radials as far as you can go. Make it about a dozen
> to sixteen. Move on because there is small chance of significant
> improvement beyond that.
>
> 73's
> Richard Clark, KB7QHC

Good 60Hs ground doesnt mean its a good RF ground. The casing of an abandoned well gives me about a 4 ohm 60 hz ground but about 25 ohms ground on 20 meters.

Jimmie

4705. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 18:22:52 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <0sOVh.59234$VU4.32336@bgtnsc05-news.ops.worldnet.att.net>
Source record: 42603

art wrote:
> On 9 Mar, 07:49, Gene Fuller <W4SZzzz...@att.net> wrote:
>> art wrote:
>>
>>> But Jimmie my friend, now you have an understanding of Gaussian law
>>> what is preventing you adding the metric of time or a length of time
>>> to the statics law?
>> Art,
>>
>> Adding the "metric of time" is exactly what J.C. Maxwell did, in 1865.
>> The detailed hard work surrounding Maxwell's Equations, as we know them
>> today, was probably more attributable to Oliver Heaviside. However,
>> Maxwell gets the credit for adding the time contribution.
>>
>> 73,
>> Gene
>> W4SZ
>
> Yes, but he never made it in terms of reference to antennas. By using
> the conservative field transition to a non conservative field as a
> follow up example the equation now has more meaning than just
> mathematics in that it provides a datum for maximum efficiency.
> I don't believe anybody evoked Gaussian law to express a situation for
> maximum efficiency
> of radiation by specifying an array of resonant radiators which also
> was never included in Maxwells laws. Science is improved by what is
> seen to many as minor steps that apparently everybody was aware of but
> did not know how to take advantage of that knoweledge to provide a
> fresh data base for the state of the art. The World was aware of
> adding the time contribution but no one, no college, no scientist, no
> author, just nobody
> provided a kernel of knoweledge regarding equilibrium in connection to
> efficient electromagnetic radiation. Knoweledge of a relationship is
> one thing , puting that knoweledge to use is required for the
> advancement otherwise it plays dead for centuries.
> In life everybody claims that an invention is nothing but only one
> gets off the couch.
> When the application is published you and others have the right to
> petition the PTO showing prior publication or prior knoweledge with
> respect to the state of the art. This ofcourse requires more than just
> words such as spouted off from this newsgroup .You really have to walk
> the walk and if you don't understand the underpinnings of what I term
> a Gaussian antenna or challege it as a sample of nonsense then it is
> you that must provide the facts that make it so and this thread shows

> your inadequacy to do so. Only one person came forward to
> acknoweledged the presence of conclusive mathematical support supplied
> by
> John Davis and where the rest of this long thread are in denial,
> occupied by empty words of denial without proof. Seems like most
> threads are reaching the hundred mark on this group because of
> collective confusion of what is really tought at teaching institutions
> and the effects of time that make these teachings all different.
> Art
>

Art,

All I can say is that Dr. Davis is a lot smarter than the rest of us. He quickly recognized pure BS and bailed out from this discussion in a hurry.

73,
Gene
W4SZ

4706. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 18:24:21 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <bscf231ib9nv0sd83apar10p7fjl69dnk6@4ax.com>
Source record: 42604

On Wed, 18 Apr 2007 22:26:02 -0700, "Sal M. Onella"
<salmonella@food.poisoning.org> wrote:

>
>"JB MacDonald" <k1jzp@comcast.net> wrote in message
>news:yKednWZTxu3a_LvbnZ2dnUVZ_sCinZ2d@comcast.com...
>> I know how to find the center of a pipe, using a vee block, but my
>> question is how do you scribe a line from one end to the other , so the
>> first hole is in perfect alignment with the last hole .. take for
>> example a 20 foot pipe , or tubing . If we had a 20 foot layout table
>> fine , clamp pipe down and use a height gauge to scrib a line the length
>> of the pipe. if you do not have a line you could get a twist(miss
>> alignment) but what can a person due that does not have a 20 foot layout
>> table . Maybe I am being to critical
>
>Take two pipes and tape them together. Run a fat marker down the groove
>between them.
>
>Use the second pipe to make another antenna and give it to me.
>
>73
>Your pal, Sal
>
The best answer yet! No special tools involved...
The problem encountered using a level is that you first have to learn
to use a level.

I used to work on a high speed laser printer that was on the 33rd.
floor of a building. Some of the adjustments required the use of a
machinists level. Usually the bubble would wander around a bit. On a
windy day it was down right eerie...

John Ferrell W8CCW
"Life is easier if you learn to
plow around the stumps"

4707. W9INN Antenna Designs

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 18:46:18 UTC
From: "Dick, AA5VU" <aa5vuNOSPAM@arrl.net>
Message-ID: <aa5vuNOSPAM-3C4D1A.13461719042007@newsclstr02.news.prodigy.com>
Source record: 42605

Many of us miss Bill, W9INN, and have had years of enjoyment from his FB antennas. When I purchased my antenna from Bill in 1977 or 1978 he provided excellent documentation that I have lost.

Did anyone take the time to scan Bill's documents or have they been saved in a library somewhere?

I would like to get the specifications on his 40/80 reactor (his term for a trap) so mine can be rebuilt.

What started out life as a 40/80 dipole from W9INN was modified by me to add extra sets of wires for 10 MHz and 18 MHz and I got lucky the whole mess works FB on 24 MHz as well as 50 MHz. The antenna has been up for 25++ years and still works great.

W9INN you are missed!

73, Dick AA5V

4708. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 18:48:18 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177008498.720227.231920@b75g2000hsg.googlegroups.com>
Source record: 42606

On 19 Apr, 10:58, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
> "art" <aun...@insightbb.com> wrote in message
>
> news:1176949801.343730.120900@p77g2000hsh.googlegroups.com...
>
>
>
>
>
> > On 18 Apr, 17:09, Danny Richardson <n_gr...@k6mhe.com> wrote:
> >> On 18 Apr 2007 14:17:27 -0700, art <aun...@insightbb.com> wrote:
>
> >> >I've never seen a 'spirit level' being used in a tool room for
> >> >accuracy nor could I specify from what you said as to why it should be
> >> >used from now on instead of conventional means.
>
> >> Well, I guess you haven't had much experience in the tool room.
> >> Otherwise you would have been aware of how precession levels used to
> >> set up machinery. They are used often. How do you think those long bed
> >> lathes are adjusted so they are straight, level and parallel? Yes, my
> >> poor misinformed person they use precession levels.
>
> >> Danny, K6MHE
>
> > Danny,
> > don't be silly, you obviously have not spent a lot of time in a tool
> > room.
> > A tool room machine is not in any way used as a reference level. What
> > is used as a reference level is the machine slide with reference to
> > the cutting plane. An installation of a machine is subject to settling
> > but it does not affect the accuracy of the product.
> > Use of a spirit level over the use of a straight piece of angle as a
> > reference plane is rather stupid and impracticable.
>
> What a pompous jerk. You have finally stooped so low to try to make your
> ownself sound intelligent as to insult others.- Hide quoted text -
>
> - Show quoted text -

No, he insulted every body elses intelligence.Actually your idea
regarding the piece of angle
as a reference guide for the scribe seemed to be the most practicable.
As yet I have not found the tolerance range for a spirit level whether
it be angular or otherwise. As for insults to ones intelligence I get

them all the time from idiots who do not have the knoweledge to even understand the subject let alone give proof of errors stated that they are trying to challenge.
Look around you Jimmy, here we are in the company of antenna experts, lots of them. Simple questions are posed by newbies and each expert writes something different such that an answer is never arrived at. There is not one expert here that can give a single response that can satisfy all posters which really gives meaning to don't just ask one expert, ask a dozen experts and then punt. I often get comments that my statements are not clear
but check out some of the threads that have over 100 or 200 responses, obviously I am not the only one that is not clear in my writings. Just imagine all the insults floating around on things imaginary or things that are virtual or even simple things such a SWR and then some body suggests to a newbie that he throw all his measuring instruments, scribers, micrometers but keep only ,yes only, the spirit level when dealing with the building of antennas ! Maybe it is time to give up my subscription to RADCOM if this is what I have been paying for. Jimmie you are one of many that hang apon my tail with the pretense of being an expert and sooner or later you will look back on this thread wondering how I could have been so dumb to follow the other naysayers when I see so much use of Gaussian antennas being made. Some asked for mathematical proof and when they got it from an indepedent source they are so much in denial that they keep on digging a hole for themselves but cannot come up with anything that faults the mathematics and thus resort to silly talk or flowery language that just shows up as a bunch of weeds. Jimmie give me something of substance we can talk about to separate us from multi posters who seem to be doing their utmost in talking about other things other than antennas and opting for theoretical talk that emboldens those to post likewise in coat tail fashion.
Art.....See you at Dayton, I'll be on the look out

4709. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 19:03:31 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177009411.358842.27370@y80g2000hsf.googlegroups.com>
Source record: 42607

On Apr 19, 12:27 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Richard Harrison wrote:
> > How much energy will continue to enter the stub? Practically none
> > because there is no difference of potential between the source and the
> > reflection.
>
> In a lossless stub, zero energy will continue to enter the stub.
> In fact, in a lossless stub, the source can theoretically be
> completely disconnected and everything remains the same
> including 100% re-reflection of reflected waves by the new
> open circuit.

I've always liked this example. By extension, on a line multiple
quarter wavelengths long, you can disconnect the line at ANY
of the voltage maxima and see exactly the same result as you
describe above. Are those travelling waves really crossing the
voltage maxima? Or are they being reflected? Or are they just
reflected at the maxima that actually occur at a discontinuity?
But there is no discontinuity at the source, so why would they
be reflected there? But if they are reflected at the
non-discontinuity at the source, then they should be reflected
at the non-discontinuities in the line as well. But wait, those
non-discontinuities are virtual opens and shorts, so maybe
they reflect at virtual ones as well. But no, it has been agreed
that reflections only happen at physical discontinuities.

And what if the stub is not a quarter (or multiple) wavelength
long? Then where does the reflection at the source occur?
At the last maximum or minimum along the line? Inside the
generator? It works for any length of line. Somehow the
generator knows exactly what reactance to supply?

It is definitely best to recognize that when the source impedance
is equal to the line impedance, there is no reflection at the
source. And it does not matter if the source impedance is
achieved with a circulator, a resistor, a multiplicity of resistors,
feedback, or what have you; there is no reflection if the
impedance is the same as the line. No discontinuity, no
reflection. A simple rule. Works at a load. Works at a
generator. Works along the line. Always works.

...Keith

4710. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 19:15:29 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177010129.879760.125110@d57g2000hsg.googlegroups.com>
Source record: 42608

On 19 Apr, 11:22, Gene Fuller <W4SZzzz...@att.net> wrote:
> art wrote:
> > On 9 Mar, 07:49, Gene Fuller <W4SZzzz...@att.net> wrote:
> >> art wrote:
>
> >>> But Jimmie my friend, now you have an understanding of Gaussian law
> >>> what is preventing you adding the metric of time or a length of time
> >>> to the statics law?
> >> Art,
>
> >> Adding the "metric of time" is exactly what J.C. Maxwell did, in 1865.
> >> The detailed hard work surrounding Maxwell's Equations, as we know them
> >> today, was probably more attributable to Oliver Heaviside. However,
> >> Maxwell gets the credit for adding the time contribution.
>
> >> 73,
> >> Gene
> >> W4SZ
>
> > Yes, but he never made it in terms of reference to antennas. By using
> > the conservative field transition to a non conservative field as a
> > follow up example the equation now has more meaning than just
> > mathematics in that it provides a datum for maximum efficiency.
> > I don't believe anybody evoked Gaussian law to express a situation for
> > maximum efficiency
> > of radiation by specifying an array of resonant radiators which also
> > was never included in Maxwells laws. Science is improved by what is
> > seen to many as minor steps that apparently everybody was aware of but
> > did not know how to take advantage of that knoweledge to provide a
> > fresh data base for the state of the art. The World was aware of
> > adding the time contribution but no one, no college, no scientist, no
> > author, just nobody
> > provided a kernel of knoweledge regarding equilibrium in connection to
> > efficient electromagnetic radiation. Knoweledge of a relationship is
> > one thing , puting that knoweledge to use is required for the
> > advancement otherwise it plays dead for centuries.
> > In life everybody claims that an invention is nothing but only one
> > gets off the couch.
> > When the application is published you and others have the right to
> > petition the PTO showing prior publication or prior knoweledge with
> > respect to the state of the art. This ofcourse requires more than just
> > words such as spouted off from this newsgroup .You really have to walk
> > the walk and if you don't understand the underpinnings of what I term
> > a Gaussian antenna or challege it as a sample of nonsense then it is

> > you that must provide the facts that make it so and this thread shows
> > your inadequacy to do so. Only one person came forward to
> > acknoweledged the presence of conclusive mathematical support supplied
> > by
> > John Davis and where the rest of this long thread are in denial,
> > occupied by empty words of denial without proof. Seems like most
> > threads are reaching the hundred mark on this group because of
> > collective confusion of what is really tought at teaching institutions
> > and the effects of time that make these teachings all different.
> > Art
>
> Art,
>
> All I can say is that Dr. Davis is a lot smarter than the rest of us. He
> quickly recognized pure BS and bailed out from this discussion in a hurry.
>
> 73,
> Gene
> W4SZ- Hide quoted text -
>
> - Show quoted text -

Well Gene you have admitted in the past to having an extensive
background in physics, three
educational degrees no less, are you still in denial with respect to
the authenticity of the mathematics provided by Dr Davis? You never
have enunciated a change from your prior comments regarding that
subject.
Also you have pointed out that all is known by you yet you keep
stating that the Gaussian connection with respect to static fields
have no connection academically with radiation but never with any
proof. You and many of the other naysayers can point to an example of
radiation that stems from Gaussian law. Many have even stated that
there is no connection
between Gaussian law of statics and radiation even in the face of
irrifutable mathematics evidence provided. On the other side of the
coin people state it WAS already known in total opposition to other
posts that they have made. Ofcourse every body knew it they all read
it somewhere where the subject was discussed but memories appear to be
to hazy to recall exactly where it was discussed, used or totally
trashed. Now we have moved to Feynman and his series of teachings, did
he have a volume on the subject that was stolen at the outset? Gene
you have been given mathematical backing to what I have stated did you
get all those degrees without studying math? With all those degrees
you have you should be able to understand not only the math supplied
but also give a scientific analysis as to why
conservative fields and non conservative fields can prove or disprove
a continuum between statics and electromagnetism in a legible form
that enphasises your background knoweledge that you claim. Only once
in a while does a person get a real chance to show the value of his

wisdom and knoweledge to his peers and it should not be seen as
digging a hole for himself to hide in but sharing the benefits
obtained by obtaining many degrees in physics.You don't need to refer
to any books that discuss the subject you can teach it in your own
right, I for one is all ears for evidence gained from your many years
used to attain your honors that you talk about
Art

4711. Multi-band dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 19:17:00 UTC
From: mm58@earthlink.net
Message-ID: <1177010220.123560.292830@p77g2000hsh.googlegroups.com>
Source record: 42609

Hello,

Just joined the group and I have a question about constructing a multi-
band dipole.

I plan to construct a 80/40/20/15 band multi-element dipole using
separate dipole wires for each band,
but a single feedpoint. My question is: how important is the spacing
BETWEEN the
individual band wires. I understand that they can't/shouldn't touch,
but is there any distance
that is optimal? or is just keeping them from touching enough?

Thanks,

Mike
KD7VRG

4712. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 19:32:25 UTC
From: tnom@mucks.net
Message-ID: <sqgf23tv3udt525lctdjeuiaj7sh438bpb@4ax.com>
Source record: 42610

> To reduce errors from imperfect vertical on the device, rotate
>it 180 degrees between each move.

^ Best advice ^

4713. Re: Multi-band dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 19:35:17 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <2qgf23d7i16nm758v0064pu9lkrvij06qj@4ax.com>
Source record: 42611

On 19 Apr 2007 12:17:00 -0700, mm58@earthlink.net wrote:

>Hello,
>
>Just joined the group and I have a question about constructing a multi-
>band dipole.
>
>I plan to construct a 80/40/20/15 band multi-element dipole using
>separate dipole wires for each band,
>but a single feedpoint. My question is: how important is the spacing
>BETWEEN the
>individual band wires. I understand that they can't/shouldn't touch,
>but is there any distance
>that is optimal? or is just keeping them from touching enough?
>
>Thanks,
>
>Mike
>KD7VRG

I have used those antennas most of my life. I call mine a
parallel-fan dipole. I usually use 4" spacing for convenience. I use
PVC pipes with holes drilled in them the same diameter of the wire for
spacers.
However, there is a little secret to the parallel-fan. If the spacing
is pretty close to 8 inches apart, then you can setup the 75/80 meter
element and reverse engineer the length to the frequency. THen
substitute the new formula for the 468/f formula and you won't do so
much trimming on the other elements.

The advantage to the 4" spacing is that on 80 & 40 meters, you get a
broader bandwidth.

I really don't know of any better dipole arrangement when there is
room enough for this one.

Buck
N4PGW

--
73 for now
Buck, N4PGW
www.lumpuckeroo.com

4714. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 19:44:12 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <gEPVh.11863$Kd3.7662@newssvr27.news.prodigy.net>
Source record: 42612

Dr. Honeydew wrote:
> Ah, I can see you didn't take me seriously. But I was dead serious.
> It is absolutely not necessary for the source to be dissipating the
> reverse wave it sucks up as heat.

Can a wave exist without energy? Where does the energy in the
sucked up wave go since it doesn't go into the source.

> In other words,
> viewed from both sides, show us even one instance where the system is
> not correctly analyzed with your S11--S12 equations for the Z1--Z2
> interface. Show us even one instance where those equations will not
> tell you exactly what happens to waves coming into that interface from
> either direction, and in fact from both directions at once.

You must have me confused with someone else. I'm a supporter
of the s-parameter analysis. It's others who have called
it "Gobbledegook" (sic).
--
73, Cecil, w5dxp.com

4715. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 19:48:58 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177012138.614727.72350@b75g2000hsg.googlegroups.com>
Source record: 42613

On 19 Apr, 10:59, Richard Clark <kb7...@comcast.net> wrote:
> On 19 Apr 2007 09:56:45 -0700, art <aun...@insightbb.com> wrote:
>
> >Only one person came forward to
> >acknoweledged the presence of conclusive mathematical support supplied
> >by
> >John Davis
>
> Hi Art,
>
> He confirmed it was Maxwell's (Heavisides actually) equations. I
> provided the actual quotes. If you wish, you can consult the same
> reference we BOTH used: "The Feynman Lectures on Physics," or I can
> rummage up that material again.
>
> 73's
> Richard Clark, KB7QHC

It was only AFTER the intervention did you aknoweledged the undeniable
truth of what
Dr Davis presented. Before then the debate was about the legitamacy of
adding time to both sides to the Gaussian law on statics. You posted
often in that debate as did all the other experts all in total denial
of the veracity of what I stated. True many of your posts are clounded
with flowery language to emphasis your position but never did a
specific point make it thru to any sort of objective. At any time you
or anybody could have turned around in your thinking and point your
spear in the ground alongside me but none did. Even after the
intervention of Dr Davis only one person followed thru until personal
satisfaction was obtained
regarding the mathematics. I seem to remember an obscure posting that
you made towards
Dr Davis that seemed to have undertones of disagreement but ithe prose
was difficult to understand so there is no personal credit you can
steal for your self, you had posted so many times prior to that time
in dissent. In years to come this thread will be read time and time
again as evidence of the multi pseudo experts who lived on this
newsgroup that argued without any grounds whatso ever about science
and Gaussian antennas and I will cherish that time as the so called
experts are finally exposed for what they are to the amateur radio
fraternity. Ofcourse you could re write all of your posts such that
true scientific data could penetrate the maze place in the way to
prove your position one way or another or even point to the chapter
that you were first to disclose to the world the veracity of what I

had to say but then you can't because it doesn't exist, many have spoken of this proof but none have been able to deliver and neither can you. Richard you are a fraud.

4716. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 19:52:48 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <kMPVh.11865$Kd3.692@newssvr27.news.prodigy.net>
Source record: 42614

Jim Kelley wrote:
>
>
> Cecil Moore wrote:
>> ... I have gone on record as saying that
>> reflections only occur at physical impedance discontinuities.
>
> You have also gone on record as saying is this:
>
> 4/19/07 6:12 AM
> "The only thing s11(a1) and s12(a2) encounter are each other and that
> interaction completely changes those two waves. The two waves cancel
> and their energy components are re-distributed in the opposite
> direction. s11(a1) and s12(a2) never encounter an impedance
> discontinuity."

There's no conflict between those two statements. s11(a1) and
s12(a2) indeed *NEVER* encounter an impedance discontinuity
since they originate already flowing *away from* the impedance
discontinuity. Any interference between two coherent collinear
EM waves traveling in the same path is a permanent interaction.
--
73, Cecil, w5dxp.com

4717. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 20:02:29 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <pVPVh.11866$Kd3.3543@newssvr27.news.prodigy.net>
Source record: 42615

Jim Kelley wrote:
>
> Cecil Moore wrote:
>> Jim, what happens to the ExB power density in the
>> equal and opposite fields that cancel?
>
> Let's see E=0, and B=0; what power density, Cecil?

Play your silly word games if you will. Fields cannot cancel unless those fields first exist. Assume E1xB1 joules/sec associated with the first field and E2xB2 joules/sec associated with the second field. The fields cancel. What happens to the E1xB1 joules/sec and the E2xB2 joules/sec? Hint: Their energy components are redistributed in a direction that allows constructive interference. In a transmission line, there is only one other direction available.
--
73, Cecil, w5dxp.com

4718. Re: Multi-band dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 20:06:50 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132fiv7kbs9r386@corp.supernews.com>
Source record: 42616

mm58@earthlink.net wrote:
> Hello,
>
> Just joined the group and I have a question about constructing a multi-
> band dipole.
>
> I plan to construct a 80/40/20/15 band multi-element dipole using
> separate dipole wires for each band,
> but a single feedpoint. My question is: how important is the spacing
> BETWEEN the
> individual band wires. I understand that they can't/shouldn't touch,
> but is there any distance
> that is optimal? or is just keeping them from touching enough?

That's a good question, and here's the answer:

If you fan them apart at a fairly large angle, they don't interact much, so on each band the antenna acts pretty much like the other elements aren't there. But as you decrease the spacing, the interaction increases, with several noticeable consequences. First, the resonant length of each element is affected by all others. Mostly, the long elements affect shorter ones. So tuning the antenna requires adjusting the longest element first, then the next shorter one, and so forth. The lengths you end up with are somewhat different than you would if the elements were independent. Second, the antenna becomes more narrowbanded on each band, except perhaps the lowest frequency band which uses the longest element. Third, the feedpoint impedance at resonant frequencies will be somewhat different than it would for an independent dipole. All these effects increase as the spacing between elements decreases. I haven't done a study, but believe that coupling will alter the patterns of the higher frequency antennas somewhat when spacing is close. Efficiency should be just fine for any spacing, though, so you'll be radiating essentially all power you feed it.

Having 15 and 40 meter elements in the same antenna might make things more difficult, because on 15 meters, the 40 meter element will be near resonance and will get a fair amount of the power. It'll still radiate, but you might find an unusual feedpoint impedance. You might consider using the 40 meter element for both 40 and 15 -- you can probably tune it to be reasonably close to resonance on both bands. On 15 you'll get a cloverleaf pattern, but if you bend the two wires each 30 degrees in the same direction to make a vee with 120 degree included angle, you'll get a fairly narrow bidirectional pattern.

Roy Lewallen, W7EL

4719. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 20:16:56 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <Y6QVh.11869$Kd3.2470@newssvr27.news.prodigy.net>
Source record: 42617

Jim Kelley wrote:
> Cecil Moore wrote:
>> That is the nature of EM waves, Gene. EM waves flowing
>> in opposite directions do NOT interact. However, their
>> reflected and transmitted components traveling in the
>> same direction can and do interact at an impedance
>> discontinuity.
>
> Actually it's even more straightforward than that. They do interact
> with a physical impedance discontinuity, and don't interact with each
> other no matter which way they are traveling.

Sorry Jim, the s11(a1) wave and s12(a2) wave are *NEVER*
incident upon an impedance discontinuity yet they cancel.
How do two waves cancel without interacting?
--
73, Cecil, w5dxp.com

4720. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 20:20:00 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177014000.284324.234820@n59g2000hsh.googlegroups.com>
Source record: 42618

On Apr 19, 3:44 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Dr. Honeydew wrote:
> > Ah, I can see you didn't take me seriously. But I was dead serious.
> > It is absolutely not necessary for the source to be dissipating the
> > reverse wave it sucks up as heat.
>
> Can a wave exist without energy? Where does the energy in the
> sucked up wave go since it doesn't go into the source.

You are getting close to the truth. Yes, the forward and reverse
travelling waves are not necessarily moving energy. The Bird
wattmeter, despite its name, is computing a number with the
dimension of watts, but which does not necessarily represent
energy flowing (it represents flowing energy when the indicated
value is 0 in one direction or the other).

This will probably (I understate) be hard to accept but is the
only reasonable conclusion after examining a large number
of experiments and trying to rationalize the answer
to "Where does the energy in the reflected wave go?" Once
it becomes clear that there is no good answer to that
question, the only possible conclusion is that the question
is invalid and the roots of its invalidity lie in the assumption
of energy in the reflected wave.

...Keith

4721. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 20:37:53 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <BqQVh.11874$Kd3.7781@newssvr27.news.prodigy.net>
Source record: 42619

Gene Fuller wrote:
> All we need now is that you also understand that waves flowing in the
> SAME direction do NOT interact unless there is an interface or other
> discontinuity.

Please stop implying things that I have never said. When I
asserted that reflections only happen at a physical impedance
discontinuity, that implies that interaction can only happen
at a physical impedance discontinuity. It is impossible to
get two coherent waves flowing in the same direction except
at a physical impedance discontinuity.

Assume b1 = s11(a1) + a12(s2) = 0

What I have said is that s11(a1) and s12(a2) are wave components
that cancel without ever being incident upon an impedance discontinuity.
Those two wave components originate at the impedance discontinuity
flowing *AWAY FROM* the impedance discontinuity. They are canceled
in a delta-t, i.e. a very short time. Those two waves are the result
of interaction at the impedance discontinuity but neither of them
ever interacted with the impedance discontinuity because they
originated at the impedance discontinuity.
--
73, Cecil, w5dxp.com

4722. Re: Multi-band dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 20:39:52 UTC
From: mm58@earthlink.net
Message-ID: <1177015192.045770.310960@o5g2000hsb.googlegroups.com>
Source record: 42620

Wow! Thanks for so many replies so quickly. I think I will go with a
"fan" design rather than parallel.
Another question though. What balun should I use? 1:1? 2:1? 4:1?
How do I know which?
Or can I just do the "coil the coax" thing...?

Thanks

Mike
KD7VRG

4723. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 20:47:14 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <0xQVh.396$im2.306@newssvr22.news.prodigy.net>
Source record: 42621

Keith Dysart wrote:
> Are those travelling waves really crossing the
> voltage maxima? Or are they being reflected?

There is no impedance discontinuity - therefore no
reflections.

> But there is no discontinuity at the source, ...

You are still making the same mistake as you have from
the beginning. There is a discontinuity at the source.
In your example, it is called the load-line. The load-
line in the previous example is source voltage divided
by zero, i.e. infinity. That's what the reflected wave
sees.

> It is definitely best to recognize that when the source impedance
> is equal to the line impedance, there is no reflection at the
> source.

You have been asserting that since your first posting and it
is a *FALSE STATEMENT* as proved by the latest example.
--
73, Cecil, w5dxp.com

4724. Re: Multi-band dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 20:49:44 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <mzQVh.397$im2.348@newssvr22.news.prodigy.net>
Source record: 42622

mm58@earthlink.net wrote:
> I plan to construct a 80/40/20/15 band multi-element dipole using
> separate dipole wires for each band,

Side issue - you can get by using the 40m dipole for 15m.
40m dipoles and 15m dipoles interfere with each other
on 15m.
--
73, Cecil, w5dxp.com

4725. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 20:52:49 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f08kvu$e6l$1@news.service.uci.edu>
Source record: 42624

Cecil Moore wrote:

> Fields cannot
> cancel unless those fields first exist.

Please clarify for us the distinction between canceled fields, and
fields which don't exist.

There is no energy traveling in the direction of fields that cancel;
E1xB1 and E2xB2 in this example.

> Assume E1xB1
> joules/sec associated with the first field and E2xB2
> joules/sec associated with the second field. The fields
> cancel. What happens to the E1xB1 joules/sec and the
> E2xB2 joules/sec?

Since the fields cancel, and energy does not travel in the company of
nonexistent fields, there is no energy here with which to concern
ourselves.

> Hint: Their energy components are
> redistributed in a direction that allows constructive
> interference. In a transmission line, there is only
> one other direction available.

Producing a result which can only occur when there is no energy
traveling in the direction of E1xB1 and E2xB2.

73, Jim AC6XG

4726. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 20:59:46 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <6LQVh.11882$Kd3.9945@newssvr27.news.prodigy.net>
Source record: 42623

Keith Dysart wrote:
> You are getting close to the truth. Yes, the forward and reverse
> travelling waves are not necessarily moving energy.

How in the world is EM traveling waves existing without
energy getting close to the truth? Seems it is getting
closer to fantasy than anything else.

> The Bird
> wattmeter, despite its name, is computing a number with the
> dimension of watts, but which does not necessarily represent
> energy flowing (it represents flowing energy when the indicated
> value is 0 in one direction or the other).

If the Bird is properly used, it indicates joules flowing
past a point in one second in the environment for which it
is calibrated. If EM energy waves ever stop flowing, they
cease to be EM waves. The boundary conditions for EM waves
will not permit them to travel at any other speed than
d(VF) nor exist devoid of energy.

> This will probably (I understate) be hard to accept but is the
> only reasonable conclusion after examining a large number
> of experiments and trying to rationalize the answer
> to "Where does the energy in the reflected wave go?" Once
> it becomes clear that there is no good answer to that
> question, the only possible conclusion is that the question
> is invalid and the roots of its invalidity lie in the assumption
> of energy in the reflected wave.

False, false, and false. *Every* EM wave is associated with ExB
joules/sec. The energy supporting a reflected EM wave is either
reflected or transmitted or dissipated. Those EM waves do not
care a whit if you never figure them out.
--
73, Cecil, w5dxp.com

4727. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 21:11:21 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f08m2m$f5a$1@news.service.uci.edu>
Source record: 42626

Cecil Moore wrote:

> How do two waves cancel without interacting?

No interaction is required in order for fields to cancel. Only that they occupy the same space at the same time and be of the correct amplitude and phase.

73, Jim AC6XG

4728. Re: Multi-band dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 21:18:20 UTC
From: mm58@earthlink.net
Message-ID: <1177017500.582735.73850@n76g2000hsh.googlegroups.com>
Source record: 42625

So would a 80/40/20 be the thing to make? For whats it's worth, I
don't have a tuner right now.
I just want to cut each for the middle of the band for General phone,
and accept whatever bandwidth
I get.

Mike
KD7VRG

4729. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 21:31:32 UTC
From: jawod <jawod@fuse.net>
Message-ID: <4627DFB4.2080201@fuse.net>
Source record: 42478

art wrote:
> On 19 Apr, 10:59, Richard Clark <kb7...@comcast.net> wrote:
>
>>On 19 Apr 2007 09:56:45 -0700, art <aun...@insightbb.com> wrote:
>>
>>
>>>Only one person came forward to
>>>acknoweledged the presence of conclusive mathematical support supplied
>>>by
>>>John Davis
>>
>>Hi Art,
>>
>>He confirmed it was Maxwell's (Heavisides actually) equations. I
>>provided the actual quotes. If you wish, you can consult the same
>>reference we BOTH used: "The Feynman Lectures on Physics," or I can
>>rummage up that material again.
>>
>>73's
>>Richard Clark, KB7QHC
>
>
> It was only AFTER the intervention did you aknoweledged the undeniable
> truth of what
> Dr Davis presented. Before then the debate was about the legitamacy of
> adding time to both sides to the Gaussian law on statics. You posted
> often in that debate as did all the other experts all in total denial
> of the veracity of what I stated. True many of your posts are clounded
> with flowery language to emphasis your position but never did a
> specific point make it thru to any sort of objective. At any time you
> or anybody could have turned around in your thinking and point your
> spear in the ground alongside me but none did. Even after the
> intervention of Dr Davis only one person followed thru until personal
> satisfaction was obtained
> regarding the mathematics. I seem to remember an obscure posting that
> you made towards
> Dr Davis that seemed to have undertones of disagreement but ithe prose
> was difficult to understand so there is no personal credit you can
> steal for your self, you had posted so many times prior to that time
> in dissent. In years to come this thread will be read time and time
> again as evidence of the multi pseudo experts who lived on this
> newsgroup that argued without any grounds whatso ever about science
> and Gaussian antennas and I will cherish that time as the so called
> experts are finally exposed for what they are to the amateur radio

> fraternity. Ofcourse you could re write all of your posts such that
> true scientific data could penetrate the maze place in the way to
> prove your position one way or another or even point to the chapter
> that you were first to disclose to the world the veracity of what I
> had to say but then you can't because it doesn't exist, many have
> spoken of this proof but none have been able to deliver and neither
> can you. Richard you are a fraud.
>
This is just SO absurd. I no longer know who needs to just get a life
and who needs a significant change in medication. I've seen this
behavior in other groups and, for a while, it is mildly entertaining.
Now it is annoying. Antennas, remember?

4730. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 21:32:43 UTC
From: "Dr. Honeydew" <dr_b_honeydew@msn.com>
Message-ID: <1177018363.025681.312090@p77g2000hsh.googlegroups.com>
Source record: 42477

On Apr 19, 12:44 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Dr. Honeydew wrote:

> > In other words,
> > viewed from both sides, show us even one instance where the system is
> > not correctly analyzed with your S11--S12 equations for the Z1--Z2
> > interface. Show us even one instance where those equations will not
> > tell you exactly what happens to waves coming into that interface from
> > either direction, and in fact from both directions at once.
>
> You must have me confused with someone else. I'm a supporter
> of the s-parameter analysis. It's others who have called
> it "Gobbledegook" (sic).
> --
> 73, Cecil, w5dxp.com

Ah, thank you. Then it follows directly from that, that when you
wrote,
> A Bird wattmeter reads 100 watts forward and 100w reflected. The
> current in the source is zero. The source is not only not sourcing any
> forward power, it is also not sinking any reflected power.
you were not disallowing the fact that the source, which is matched to
the line, sucks up the entire reverse wave from the line. I'm happy
to see we agree on that little point after all.

Fallacies of the, "if the source absorbs the reverse wave, it must be
dissipated as heat," school: Start with a source which is a voltage
generator, 141.4Vrms sinewave, in series with a 50 ohm resistor.
Connect it to a 50 ohm load, and you have 100 watts dissipated inside
the source and 100 watts dissipated in the load. Put a 50 ohm
lossless line between the source and the load. We now have a
70.71Vrms wave from the source to the load, and no reflected. Assume
the line is 1/4 wave long; replace the load with a short. A moment
later, steady state is reached and the dissipation in the source's 50
ohm resistor dropped from 100W to 0W. We may be tempted to say that
source did not absorb the return wave and is no longer supplying the
forward wave. But that requires complete reflection of the return
wave at the interface between the source and the line. Ah, but there
is an infinite set of conditions under which the same should be
true. What if we make the line 1/2 wave long, still shorted at the
far end? In steady state, the source is still apparently delivering
no power to the line, but now, instead of it dissipating NO power,
it's suddenly dissipating 400 watts! In the line, though, we still
see 100 watts of forward power, and 100 watts of reverse power.

Ooops. The "if the source absorbs the reverse wave, it must be dissipated as heat" school ... better go back to school. Or to the lab. Or SOMEwhere else, till they get it figured out. It didn't hold water when Dr. Slick (remember him?) tried to push it on us, and it doesn't hold water now.

More fun: the guts of my source are now a 282.8V source and the 50 ohm resistor, feeding a fairly long piece of 50 ohm transmission line to the front panel connector. The line has 6.02dB loss. Now back to the original situation with 1/4 wave of 50 ohm line, shorted at the far end, connected to the generator's output connector. NOW are you going to say that the reverse wave on the 1/4 wave line stops when it gets back to the generator? What if I put even a couple inches of line between the guts of the source and the front panel connector, does the reverse wave on the external line stop when it gets to the front panel connector?

I repeat: [In the case of a line connected to a source, with the impedance of the two matched--not conjugate] It's obvious that the source is sourcing the forward voltage wave, and it's sucking up the entire reverse voltage wave from the line.

What happens to that reverse voltage wave inside the source depends on what's in the guts of the source.

From the lab,

Bunsen

4731. Flexible/Durable FM Antenna for Jeep?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 21:42:21 UTC
From: info@jinenkanseigi.com
Message-ID: <1177018941.245305.327510@e65g2000hsc.googlegroups.com>
Source record: 42479

I have destroyed several stock antennae on my Jeep during trail rides when they get snagged by brush and easily bent. I went to a short (maybe 1' long)flexible type, but my reception absolutely sucks now. Can anyone suggest a car-type antenna that will have good reception, but can take a hit? I'd prefer to use it in the original place as I already have a hole in the body, but one of the amplified -inside-the-winshield type might be an option if it is worth anything.

4732. Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 21:42:43 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99184E734F2D7nonenowhere@61.9.191.5>
Source record: 42480

There has been much discussion about wave cancellation, anihalation, interaction etc. The discussion was initially about waves confined to a transmission line (but would apply also to a waveguide in a sense) and then progressed to radiation in free space.

Let me initially explore the case of radiation in free space. I am talking about radio waves and the radiation far field.

If we have two widely separated antennas radiating coherent radio waves don't they each radiate waves that travel independently through space. (I have specified wide separation so as to make the effect of one antenna on the other insignificant.

If we were to place a receiving antenna at a point in space to couple energy from the waves, the amount of energy available from the antenna is the superposition of the response of the antenna to the wave from each source. This is quite different to saying that the electric field (or the magnetic field) at that point is the superposition of the field resulting from each antenna as is demonstrated by considering the response of another recieving antenna with different directivity (relative to the two sources) to the first receiving antenna.

A practical example of this is that an omni directional receiving antenna may be located at a point where a direct wave and a reflected wave result in very low received power at the antenna, whereas a directional antenna that favours one or other of the waves will result in higher received power. This indicates that both waves are independent and available to the receiving antenna, the waves do not cancel in space, but rather the superposition occurs in the antenna.

Though we frequently visualise nodes and antinodes in space, or talk of nulls in space (eg have you ever noticed that when you stop a car at traffic lights, you are smack in the middle of a null), whereas it seems to me that the realisation of a null involves the response of the receiving antenna.

This explanation IMHO is more consistent with the way antennas behave than the concept that waves superpose in space, it allows waves to radiate outwards from a source, passing through each other without affecting each other. Whilst we routinely look at plots of the directivity of an antenna, and assume that the plotted directivity is merely a function of polar angle, we overlook that the plotted pattern assumes an isotropic probe at a distance very large compared to the dimensions of the antenna (array). Tracing the position of a pattern minimum in towards the array may well yield a curved path rather than a straight line, and a curved path is inconsistent with waves anihalating

each other or redistributing energy near the antenna and radiating outwards in true radial direction from some virtual antenna centre.

So, it seems to me that coherent waves from separated sources travel independently, and the response of the probe used to observe the waves is the superposition of the probe's response to each wave. (A further complication is that the probe (a receiving antenna) will "re-radiate" energy based on its (net) response to the incoming waves.)

Now, considering transmission lines, do the same principles apply?

A significant difference with uniform TEM transmission lines is that waves are constrained to travel in only two different directions.

Considering the steady state:

If at some point two or more coherent waves travelling a one direction, those waves will undergo the same phase change and attenuation with distance as each other and they must continue in the same direction (relative to the line), and the combined response in some circuit element on which they are incident where superposition is valid (eg a circuit node) will always be as if the two waves had been superposed... but the response is not due to wave superposition but superposition of the responses of the circuit element to the waves. It is however convenient, if not strictly correct to think of the waves as having superposed.

That convenience extends to ignoring independent coherent waves that would net to a zero response. For example, if we were to consider a single stub matching scheme, though one there might consider that multiple reflected waves arrive at the source, if they net to zero response, then it is convenient to regard that in the steady state there are no reflected waves, the source response is as if there were no reflected waves. An alternative view of that configuration is that superposition in the circuit node that joins the stub, the line to the load and the line to the source results in conditions at that end of the source line that do not require a reflected wave to satisfy boundary conditions at that point, and there really is no reflected wave.

Steady state analysis is sufficiently accurate and appropriate to analysis of many scenarios, and the convenience extends to simplified mathematics. It seems that the loose superposition of waves is part of that convenience, but it is important to remember the underlying principles and to consciously assess the validity of model approximations.

Comments?

Owen

4733. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 21:59:55 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <f3pf23hdj9v94vu6kka50ng6f2eg1cfmg2@4ax.com>
Source record: 42481

On Thu, 19 Apr 2007 14:11:21 -0700, Jim Kelley <jwkelley@uci.edu>
wrote:

>Cecil Moore wrote:
>
>> How do two waves cancel without interacting?
>
>No interaction is required in order for fields to cancel. Only that
>they occupy the same space at the same time and be of the correct
>amplitude and phase.

And are put into a load.

As waves are completely independant, then they never interact. A load
is required to reveal the cancellation. No load, and any issue of
cancelling fields is strictly limited to what goes on between the
ears.

73's
Richard Clark, KB7QHC

4734. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 22:11:10 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <LmrK0iW+j+JGFAYI@ifwtech.co.uk>
Source record: 42482

art wrote:
>Just imagine all the insults floating around on things imaginary or
>things that are virtual or even simple things such a SWR and then some
>body suggests to a newbie that he throw all his measuring instruments,
>scribers, micrometers but keep only ,yes only, the spirit level when
>dealing with the building of antennas !

You took 4 words of mine, stripped off all the context and common-sense,
and then made up your own fantasy about it.

Fortunately everybody else can see that.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

4735. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 22:21:31 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <17qf235ll3lb0uvhu2jakcomprdn7uli6q@4ax.com>
Source record: 42483

On 19 Apr 2007 12:48:58 -0700, art <aunwin@insightbb.com> wrote:

>It was only AFTER the intervention did you aknoweledged the undeniable
>truth of what
>Dr Davis presented.

Hi Art,

Well, in fact it was Dr. Davis (who came into the discussion rather late) who had to agree in the end with those who presented the simple connection between Maxwell (actually Heaviside) with his time variant magnetic fields and Gauss with his time invariant magnetic fields. Every antenna modeler on the market employs the time variant magnetic fields' math described by Maxwell (actually Heaviside).

Maxwell is about dynamics, which means time variant; and Gauss is about statics, which means time invariant (or constant, never changing). If you inject a "cessation of time" you are already in the dynamics side of magnetics = Maxwell.

Are you declining the invitation to review Feynman? He is pretty accessible, not much math - except for what really counts.

73's
Richard Clark, KB7QHC

4736. Re: Flexible/Durable FM Antenna for Jeep?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 22:22:59 UTC
From: Lushy <david.lush@bigpond.com>
Message-ID: <7ZRVh.16584$M.9230@news-server.bigpond.net.au>
Source record: 42484

info@jinenkanseigi.com wrote:
> I have destroyed several stock antennae on my Jeep during trail rides
> when they get snagged by brush and easily bent. I went to a short
> (maybe 1' long)flexible type, but my reception absolutely sucks now.
> Can anyone suggest a car-type antenna that will have good reception,
> but can take a hit? I'd prefer to use it in the original place as I
> already have a hole in the body, but one of the amplified -inside-the-
> winshield type might be an option if it is worth anything.

Not a TJ is it - there antennas are pretty tough
Lushy

4737. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 22:24:48 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <Q_RVh.17840$Um6.14175@newssvr12.news.prodigy.net>
Source record: 42485

Jim Kelley wrote:
> Cecil Moore wrote:
>
>> How do two waves cancel without interacting?
>
> No interaction is required in order for fields to cancel. Only that
> they occupy the same space at the same time and be of the correct
> amplitude and phase.

Interaction is certainly required for them to cancel forever.
Otherwise, we have all these energyless phantom ghost waves
existing forever.
--
73, Cecil http://www.w5dxp.com

4738. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 22:25:41 UTC
From: "Dr. Honeydew" <dr_b_honeydew@msn.com>
Message-ID: <1177021541.694021.127190@b75g2000hsg.googlegroups.com>
Source record: 42486

On Apr 19, 2:59 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Thu, 19 Apr 2007 14:11:21 -0700, Jim Kelley <jwkel...@uci.edu>
> wrote:
>
> >Cecil Moore wrote:
>
> >> How do two waves cancel without interacting?
>
> >No interaction is required in order for fields to cancel. Only that
> >they occupy the same space at the same time and be of the correct
> >amplitude and phase.
>
> And are put into a load.
>
> As waves are completely independant, then they never interact. A load
> is required to reveal the cancellation. No load, and any issue of
> cancelling fields is strictly limited to what goes on between the
> ears.
>
> 73's
> Richard Clark, KB7QHC

If nobody is there to hear it, does a tree that falls in the middle of the forest (or anywhere else) make a noise? If there's a field and nobody is there to measure it, is it there? If there's a summation to zero and there's nobody there to verify that the summation really occured, did it occur? Wheeee! Where will this take us next? Beaker is soooo excited by the possibilities.

From the labs,
Bunsen

4739. Re: Multi-band dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 22:26:14 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132fr4iteafke0e@corp.supernews.com>
Source record: 42488

You won't need much of an impedance transformation, so a 1:1 "current" balun (common mode choke) is appropriate. A coil of coax makes a broadly resonant circuit for currents on the outside, so acts as a current balun over a fairly wide range of frequencies. My experiments show a reasonable impedance over about a 3:1 or so frequency range. To be effective over a wider bandwidth, you'll need a couple of different sized coils, or a balun using ferrite, which is inherently broad banded.

Roy Lewallen, W7EL

mm58@earthlink.net wrote:
> Wow! Thanks for so many replies so quickly. I think I will go with a
> "fan" design rather than parallel.
> Another question though. What balun should I use? 1:1? 2:1? 4:1?
> How do I know which?
> Or can I just do the "coil the coax" thing...?
>
> Thanks
>
> Mike
> KD7VRG
>

4740. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 22:26:41 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177021601.481576.128750@b75g2000hsg.googlegroups.com>
Source record: 42487

On Apr 19, 4:47 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Are those travelling waves really crossing the
> > voltage maxima? Or are they being reflected?
>
> There is no impedance discontinuity - therefore no
> reflections.
>
> > But there is no discontinuity at the source, ...
>
> You are still making the same mistake as you have from
> the beginning. There is a discontinuity at the source.
> In your example, it is called the load-line. The load-
> line in the previous example is source voltage divided
> by zero, i.e. infinity. That's what the reflected wave
> sees.

But the load line is the same for the generator equipped
with a circulator so it too must reflect the wave. If this is
the case, what heats the circulator load resistor?

I notice you skipped the tougher questions related to a
transmission line that is 3/8 wavelength long? Is there a
zero to divide by in this case? Apply analysis equally
to Experiment A and B.

...Keith

4741. Re: Multi-band dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 22:28:21 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132fr8hrmkrrc89@corp.supernews.com>
Source record: 42489

mm58@earthlink.net wrote:
> So would a 80/40/20 be the thing to make? For whats it's worth, I
> don't have a tuner right now.
> I just want to cut each for the middle of the band for General phone,
> and accept whatever bandwidth
> I get.

That'll get you on those three bands and, as I mentioned, you can probably get a reasonable impedance on 15 as well by fiddling the 40 meter antenna a bit. It won't be quite resonant on 40, but probably close enough so your rig won't shut down.

Roy Lewallen, W7EL

4742. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 22:30:40 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <k4SVh.17841$Um6.1989@newssvr12.news.prodigy.net>
Source record: 42490

Dr. Honeydew wrote:
> you were not disallowing the fact that the source, which is matched to
> the line, sucks up the entire reverse wave from the line. I'm happy
> to see we agree on that little point after all.

Old diversionary trick - doesn't work. We do NOT agree on "that
little point". Agreeing on that little point requires negative
energy which doesn't exist. The reflected energy is 100% re-
reflected. Nothing is coming out of the source and nothing
is going into the source.

> But that requires complete reflection of the return
> wave at the interface between the source and the line.

Yes, reality requires that. However, wet dreams do not
so be my guest.

> I repeat: [In the case of a line connected to a source, with the
> impedance of the two matched--not conjugate] It's obvious that the
> source is sourcing the forward voltage wave, and it's sucking up the
> entire reverse voltage wave from the line.

All with the voltage waves being completely devoid of energy.
Will wet dreams never cease?
--
73, Cecil http://www.w5dxp.com

4743. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 22:39:28 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <AcSVh.17843$Um6.6030@newssvr12.news.prodigy.net>
Source record: 42491

Richard Clark wrote:
> A load is required to reveal the cancellation.

What's the load for b1 = s11(a1) + s12(a2) = 0 ?
--
73, Cecil http://www.w5dxp.com

4744. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 22:40:11 UTC
From: Dave <noone@nowhere.com>
Message-ID: <fdSVh.10421$uF1.8663@trndny04>
Source record: 42492

"Owen Duffy" <none@no.where> wrote in message
news:Xns99184E734F2D7nonenowhere@61.9.191.5...
>
> There has been much discussion about wave cancellation, anihalation,
> interaction etc. The discussion was initially about waves confined to a
> transmission line (but would apply also to a waveguide in a sense) and
> then progressed to radiation in free space.
>
> Let me initially explore the case of radiation in free space. I am
> talking about radio waves and the radiation far field.
>
> If we have two widely separated antennas radiating coherent radio waves
> don't they each radiate waves that travel independently through space. (I
> have specified wide separation so as to make the effect of one antenna on
> the other insignificant.
>
> If we were to place a receiving antenna at a point in space to couple
> energy from the waves, the amount of energy available from the antenna is
> the superposition of the response of the antenna to the wave from each
> source. This is quite different to saying that the electric field (or the
> magnetic field) at that point is the superposition of the field resulting
> from each antenna as is demonstrated by considering the response of
> another recieving antenna with different directivity (relative to the two
> sources) to the first receiving antenna.
>
> A practical example of this is that an omni directional receiving antenna
> may be located at a point where a direct wave and a reflected wave result
> in very low received power at the antenna, whereas a directional antenna
> that favours one or other of the waves will result in higher received
> power. This indicates that both waves are independent and available to
> the receiving antenna, the waves do not cancel in space, but rather the
> superposition occurs in the antenna.
>
> Though we frequently visualise nodes and antinodes in space, or talk of
> nulls in space (eg have you ever noticed that when you stop a car at
> traffic lights, you are smack in the middle of a null), whereas it seems
> to me that the realisation of a null involves the response of the
> receiving antenna.
>
> This explanation IMHO is more consistent with the way antennas behave
> than the concept that waves superpose in space, it allows waves to
> radiate outwards from a source, passing through each other without
> affecting each other. Whilst we routinely look at plots of the
> directivity of an antenna, and assume that the plotted directivity is

> merely a function of polar angle, we overlook that the plotted pattern
> assumes an isotropic probe at a distance very large compared to the
> dimensions of the antenna (array). Tracing the position of a pattern
> minimum in towards the array may well yield a curved path rather than a
> straight line, and a curved path is inconsistent with waves anihalating
> each other or redistributing energy near the antenna and radiating
> outwards in true radial direction from some virtual antenna centre.
>
> So, it seems to me that coherent waves from separated sources travel
> independently, and the response of the probe used to observe the waves is
> the superposition of the probe's response to each wave. (A further
> complication is that the probe (a receiving antenna) will "re-radiate"
> energy based on its (net) response to the incoming waves.)
>
> Now, considering transmission lines, do the same principles apply?
>
> A significant difference with uniform TEM transmission lines is that
> waves are constrained to travel in only two different directions.
>
> Considering the steady state:
>
> If at some point two or more coherent waves travelling a one direction,
> those waves will undergo the same phase change and attenuation with
> distance as each other and they must continue in the same direction
> (relative to the line), and the combined response in some circuit element
> on which they are incident where superposition is valid (eg a circuit
> node) will always be as if the two waves had been superposed... but the
> response is not due to wave superposition but superposition of the
> responses of the circuit element to the waves. It is however convenient,
> if not strictly correct to think of the waves as having superposed.
>
> That convenience extends to ignoring independent coherent waves that
> would net to a zero response. For example, if we were to consider a
> single stub matching scheme, though one there might consider that
> multiple reflected waves arrive at the source, if they net to zero
> response, then it is convenient to regard that in the steady state there
> are no reflected waves, the source response is as if there were no
> reflected waves. An alternative view of that configuration is that
> superposition in the circuit node that joins the stub, the line to the
> load and the line to the source results in conditions at that end of the
> source line that do not require a reflected wave to satisfy boundary
> conditions at that point, and there really is no reflected wave.
>
> Steady state analysis is sufficiently accurate and appropriate to
> analysis of many scenarios, and the convenience extends to simplified
> mathematics. It seems that the loose superposition of waves is part of
> that convenience, but it is important to remember the underlying
> principles and to consciously assess the validity of model
> approximations.
>

> Comments?
>
> Owen
>
>
its too well considered and sensible... i predict this thread will die a
quick and quiet death, there is no fodder for arguments.

4745. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 22:44:10 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <YgSVh.411$im2.241@newssvr22.news.prodigy.net>
Source record: 42493

Keith Dysart wrote:
> But the load line is the same for the generator equipped
> with a circulator so it too must reflect the wave.

ABSOLUTELY NOT!!! The load line for a circulator equipped
generator is *ALWAYS* 50 ohms (for a 50 ohm generator).
The generator *always* sees 50 ohms as a load. How could
the load-line possibly be anything else besides 50 ohms?
--
73, Cecil http://www.w5dxp.com

4746. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 22:57:50 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <7lrf23d5ebd0s5hpjsp246t3q3puq8jrml@4ax.com>
Source record: 42494

On 19 Apr 2007 15:25:41 -0700, "Dr. Honeydew" <dr_b_honeydew@msn.com>
wrote:

> If there's a summation to
>zero

Hi Tom,

And how are you going to sum it without a load?

>and there's nobody there to verify that the summation really
>occured, did it occur?

Nobody, I presume to mean no body of a load. No load hence no
combination, hence no interference.

Fairly simple stuff, but mystics here still demand that energy
disappears in these situations to be "shuffled" around like balance
ledgers done by Arthur Andersen for billing electricity to California.
Some things never change.

If you (a body) happen to be there, then yes you "might" detect a
null, a peak, or any combination in between. You (the body) are the
load. Even that is a stretch of the imagination, but your
Doppelganger can no doubt spread it out. I suppose if the fields were
viciously strong you might feel a prickle of heat (or cool, some RF
waves lend that perception). Otherwise the waves simply go on their
way without any notice of the other, and certainly to no literal
notice at all. Why would it be otherwise?

>Wheeee! Where will this take us next?
>Beaker
>is soooo excited by the possibilities.

Really? Don't hold back now on our account. :-)

73's
Richard Clark, KB7QHC

4747. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 22:58:47 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177023527.651672.194010@b75g2000hsg.googlegroups.com>
Source record: 42495

On Apr 19, 12:02 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > I have stated that there is no re-reflection of the reflected wave at
> > the
> > source. Since the source is matched to the line, the reflection
> > coefficient is 0 and the wave just .... Well it must go into the
> > source
> > since tau is one. But at least it is not reflected when rho is zero.
>
> But you are missing the point. You say the source is matched
> to the line but the source is obviously re-reflecting 100% of the
> reflected energy.

But the same can be said for experiment A, can't it? Measured
conditions on the line are identical.

> Your special magic source is doing exactly
> the opposite of what you claim it is doing. The calculated
> physical reflection coefficient may be 0 but the virtual
> reflection coefficient, SQRT(Pref/Pfor), is 1.0.

Please apply this calculation to Experiment A and check
your result. No difference. Ooooppps.

> This is
> the point I have been making ever since you started posting.
>
> > As you observe for Experiment B, the current is zero so as you
> > say "The source is not only not sourcing any forward power, it is
> > also not sinking any reflected power."
>
> > Of course the current is also zero at the same point for
> > Experiment A, so there as well, the source is not only not sourcing
> > any forward power, it is also not sinking any reflected power.
>
> That's again where you are wrong. In Experiment A, the circulator
> load resistor is sinking 100W, i.e. 100% of the reflected power.
> A bit of modulation will show that the power being sunk by the
> circulator load resistor has made a round trip to the end of
> the transmission line short and back.

And if you did the same test with Experiment B you would get the
same result.

> > A bit more analysis for Experiment A yields some more questions.
> > Terminate the line with a 50 Ohm resistor. The source is now

> > providing power to the line, there is no reflection on the line and
> > the circulator dissipates nothing.
> > Remove the resistor. The reflection returns. The circulator once
> > again dissipates 100 W. But as you said, in this condition,
> > "The source is not only not sourcing any forward power, it is also
> > not sinking any reflected power." So where did that 100 W being
> > dissipated in the circulator come from?
>
> In Experiment A, the source is sourcing 100 watts and the
> circulator load resistor is sinking 100 watts after the
> round trip delay to the end of the line and back. If the
> source signal is modulated, the delay between the source
> signal and the dissipated signal is obvious and can be
> measured.

No different for B.

> > I suggest a further extension to both Experiment A and
> > Experiment B. Replace the 1/4 WL stub with a 1 and 1/4 WL
> > stub. Now, at each 1/4 WL along the line coming back from
> > the load, no energy is flowing because either the current is
> > 0 or the voltage is 0. So this absence of energy flow happens
> > not just at the source but repeatedly along the line. This
> > makes it difficult to accomodate the thought that the
> > forward or reflected travelling waves are transporting energy
> > along the line (at least at the quarter wave points).
>
> The "absence of energy flow" is an illusion. There is 100
> joules/sec in the forward wave and 100 joules/sec in the
> reflected wave. Since the waves are flowing in opposite
> directions, you can argue that there is no *net* energy
> flow, but the component wave energy flow is alive and well.

Well this is the point you lock up on and it is one of the root
causes of all subsequent errors. I suspect your refusal to
accept the common knowledge that the output impedance
of the generator can be well known, that this controls the
amount of reflection at the generator and that superposition
works is the realization that this will conflict with "energy in
the waves". I encountered the same dilemma when first
dealing with these questions, but came to the answer that
works.

> > Now back to the quibble. You said: "The source sources 100 watts
> > and the circulator resistor dissipates 100 watts which is all of the
> > reflected power."
>
> Yes, in Experiment A but obviously not in Experiment B.
> Your source has failed to perform the way you said it would.
> As I said in the beginning, there will be re-reflections from
> your source. In this case, there is 100% re-reflection.

> Real world conditions are not as simple-minded as you say.

But, of course, your proof of re-reflections was your apriori
knowledge of the interior of the generator. I present you with
two 50 Ohm generators; one constructed with a circulator and
one constructed with a 50 Ohm resistor. How do you tell which
is which? The line conditions will be the same, so you can't.
Do you really want a theory of reflections that is dependent on
knowing the internals of the generator?

> > It would be more precise to say "The source sources 100 watts
> > and the circulator resistor dissipates 100 watts which is numerically
> > equal to the reflected power." I contend that it is this "numerical
> > equality" that has led many astray into believing that the
> > circulator is dissipating the "reflected power".
>
> No, modulation on the reflected wave proves that it has made
> a round trip to the end of the line and back. There is no
> getting around that fact. There is also no getting around
> the fact that the energy content of the stub is identical
> in both experiments. The number of joules in the stub, in
> both cases, is exactly the magnitude needed to support the
> 100W forward wave and the 100W reflected wave. The energy
> in the stub in Experiment A is obviously real. The energy
> in the stub in Experiment B is identical to Experiment A.

Yes indeed. All line conditions are exactly the same. The same
energy is stored. The output impedance is the same. Modulation
has exactly the same effects. The reflected modulated signal is not
re-reflected at the source for either case. They are
indistinguishable unless you dissassemble the generator.

> > But as we have seen,
> > no energy crosses the 0 current node into the generator so the
> > "reflected power" can not make it to the circulator (or the source
> > resistance, if the generator happens to have one).
>
> Your "no energy crosses the 0 current node" is just an ignorant
> illusion.

You can not possible be arguing that P is not equal to V times I,
can you?

And are you disputing that if V or I is at all times 0, there must be
no energy flowing.
If so, back to grade 11 science please.

> The forward current and reflected current are alive
> and well and simply superpose to a net current of zero at that
> point. We are discussing EM wave energy and a boundary condition
> for EM waves to exist is that they must travel at c(VF). If they
> don't, they are no longer EM waves.

>
> At a current node, forward current equals 1.414 amps at 0 deg.
> Reflected current equals 1.414 amps at 180 deg. Of course, the
> *net* current is zero but there is no physical impedance discontinuity
> to cause any change in the forward and reflected waves at that
> point.

Well it is pretty clear to me that if the net current is always 0,
then
no current is ever flowing and the power must be zero.

It seems to be a bit of a common fallacy to assign meaning to the
intermediate currents computed for the superposition solution to
a problem. Connect two equivalent batteries in parallel. The only
sensible answer is that no current is flowing since the voltages
are the same. (In another post you seem to accept this), though
if you use superposition to solve the problem, you get a very large
current flowing in one direction and an equally large current flowing
in the other. Only the resultant current is in any sense real. Same
for those waves on a transmission line. Just superposition. Just a
convenience to help reach the final solution. Don't over extend
and assign them meaning (or energy). In the end it will cause
deep conceptual difficulties.

...Keith

4748. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 23:20:45 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <hPSVh.17040$JZ3.5960@newssvr13.news.prodigy.net>
Source record: 42496

Keith Dysart wrote:
> Cecil Moore <nos...@w5dxp.com> wrote:
>> But you are missing the point. You say the source is matched
>> to the line but the source is obviously re-reflecting 100% of the
>> reflected energy.
>
> But the same can be said for experiment A, can't it? Measured
> conditions on the line are identical.

But conditions in the sources are exactly opposite. One
is sourcing and sinking power. The other is completely
powerless.

> Please apply this calculation to Experiment A and check
> your result. No difference. Ooooppps.

Ooooppps means you obviously made a mistake. The conditions
are opposite not alike.

> And if you did the same test with Experiment B you would get the
> same result.

Obviously not since source B is at room temperature.

> No different for B.

Source A is dissipating 200 watts. Source B is dissipating
zero watts. How is that not different?

> Well this is the point you lock up on and it is one of the root
> causes of all subsequent errors. I suspect your refusal to
> accept the common knowledge that the output impedance
> of the generator can be well known, that this controls the
> amount of reflection at the generator ...

The example proves this to be a wrong-headed concept.

> I present you with
> two 50 Ohm generators; one constructed with a circulator and
> one constructed with a 50 Ohm resistor. How do you tell which
> is which?

The one with the rapidly rising temperature is the one with
the circulator. The one that remains at room temperature
is your ten cent resistor version.

> Yes indeed. All line conditions are exactly the same.

But the source conditions are radically different. One
source is sourcing 100 watts and sinking 100 watts. The
other source is sourcing 0 watts and sinking 0 watts.

> You can not possible be arguing that P is not equal to V times I,
> can you?

Pfor - Pref = 0 where those Ps are Poynting vectors.
Pfor is not zero. Pref is not zero. Pnet is zero
only because of a directional convention.

> And are you disputing that if V or I is at all times 0, there must be
> no energy flowing.

Make that at all times AND AT ALL PLACES and I will agree.
If V is zero it only means that all the energy has migrated
into the magnetic field and indeed, when V is zero, I is
at a maximum.

> Well it is pretty clear to me that if the net current is always 0,
> then no current is ever flowing and the power must be zero.

True if the net current everywhere is zero. Not true if the
current is only zero at a point. Current on each side of
a zero current point is prima facie evidence of energy flow
in both directions.
--
73, Cecil http://www.w5dxp.com

4749. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 23:26:33 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177025193.079034.53220@l77g2000hsb.googlegroups.com>
Source record: 42497

On 19 Apr, 15:21, Richard Clark <kb7...@comcast.net> wrote:
> On 19 Apr 2007 12:48:58 -0700, art <aun...@insightbb.com> wrote:
>
> >It was only AFTER the intervention did you aknoweledged the undeniable
> >truth of what
> >Dr Davis presented.
>
> Hi Art,
>
> Well, in fact it was Dr. Davis (who came into the discussion rather
> late) who had to agree in the end with those who presented the simple
> connection between Maxwell (actually Heaviside) with his time variant
> magnetic fields and Gauss with his time invariant magnetic fields.
> Every antenna modeler on the market employs the time variant magnetic
> fields' math described by Maxwell (actually Heaviside).
>
> Maxwell is about dynamics, which means time variant; and Gauss is
> about statics, which means time invariant (or constant, never
> changing). If you inject a "cessation of time" you are already in the
> dynamics side of magnetics = Maxwell.
>
> Are you declining the invitation to review Feynman? He is pretty
> accessible, not much math - except for what really counts.
>
> 73's
> Richard Clark, KB7QHC

You are lying again. You never convinced the Doctor in any sort of
corrective way, only one person stated agreement with his summation of
mathematics No body in this group has brought forward prior knowledge
or agreement between conservative and not conservative fields by use
of the Gaussian method. Oh how quickly people forget their anger of
the idea of connecting static with non static situations. My goodness
how soon you forget the slander projected because of this supposedly
silly idea. As far as going with you to review Feynman forget it. If
you can find proof of anything relevent fine it would give a good
starting point as to why antenna engineers declined to pursue the
discovery. Frankly I am getting close to the position that most do not
understand antennas, what I am proposing and just want to prove their
masculinity by way of slander, this ofcourse does not apply to you.
I believe this thread will make a wonderfull story in the future as to
how rank amateurs tried to stop science from advancing. The material
is here both funny and sad which will come into focus when the patent
is awarded and interest picks up. True I have provoked people to

verbalise their thoughts but for good reason I want to show all what you really are in the near future.Sooner or later this all will be discussed in all educational institutions and the next generation can move forward without hindrence from the agrivation of a bunch of old men.

4750. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 23:27:14 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f08u1glit1@news.service.uci.edu>
Source record: 42498

Richard Clark wrote:

> As waves are completely independant, then they never interact.

Perhaps we can agree that they could at least share a common media through which to propagate.

> A load
> is required to reveal the cancellation.

A load - like a transducer of some sort. That would indeed be required in order to convert the effect to a form that we can more readily observe.

> No load, and any issue of
> cancelling fields is strictly limited to what goes on between the
> ears.

I hope you're not suggesting that if we cannot observe the interference effect, it does not occur. There is good reason to believe that just the opposite is true, Richard. It's a real paradox. ;-)

73, Jim AC6XG

4751. Re: GAP Titan DX

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 23:44:54 UTC
From: W4WNT <w4wnt@carolina.rr.com>
Message-ID: <4627fefa$0$9936$4c368faf@roadrunner.com>
Source record: 42499

There is a pdf of the manual at:

http://www.gapantenna.com/titan.html

Good Luck,

Bill, W4WNT

"franky" <frankyb_doe_weg@sk> wrote in message
news:4623dcf8$0$13850$ba620e4c@news.skynet.be...
> Hi,
>
> Have installad second hand gap titan DX.
> Have problems to tune the antenna. If the antenna works fine voor 20 it
> doesn't work for 15
>
> I have no dip at all on 40m.
>
> The dip voor 20 is rather high in (out) the band 14600
>
> Anyone info/tips/suggestions?
>
> thanks, ON7RU

4752. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-19 23:47:04 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132fvs4qvp5je04@corp.supernews.com>
Source record: 42500

I believe there's at least one basic fallacy in your development.

The problem is that a directional antenna can't be made to take up zero space. Let's consider a situation where we can have complete cancellation of waves from two sources. There surely are many others, but let's look at this one for starters.

Consider two identical vertical omnidirectional antennas radiating equal, out of phase fields. There will be a plane of zero field passing directly between them, where their fields sum to zero. My challenge is this: Devise a directional antenna which lies entirely in this plane and which has a response that's different for the two antennas. That is, an antenna which has a stronger response to the field from one antenna than the other. I maintain that you can't do it. Your directional antenna must extend beyond the plane, where the cancellation isn't complete. And it's there where it gets its signal to deliver to the load, and where it can distinguish between the two fields.

Also, any antenna placed in a field in a way that it delivers a detectable signal to a load alters the field. That's a second potential problem with your development. However, I believe that the first problem is enough to invalidate it. If the initial analysis of fields in space is invalid, and I believe it is, then the extension to transmission lines is based on a false premise and is questionable.

I maintain that there is actually zero field at a point of superposition of multiple waves which sum to zero, and that no device or detector can be devised which, looking only at that point, can tell that the zero field is a result of multiple waves. This is a very important and fundamental point, and I'm glad you brought it up. If you or anyone can devise an example where a directional antenna can be placed entirely in a region of zero field and yet detect that the field is made up of multiple fields, please present it.

I am, of course, assuming that everything in this discussion takes place in a linear medium.

Roy Lewallen, W7EL

4753. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 00:08:02 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f090e1$nk5$1@news.service.uci.edu>
Source record: 42502

Owen Duffy wrote:

> If we were to place a receiving antenna at a point in space to couple
> energy from the waves, the amount of energy available from the antenna is
> the superposition of the response of the antenna to the wave from each
> source. This is quite different to saying that the electric field (or the
> magnetic field) at that point is the superposition of the field resulting
> from each antenna as is demonstrated by considering the response of
> another recieving antenna with different directivity (relative to the two
> sources) to the first receiving antenna.

> A practical example of this is that an omni directional receiving antenna
> may be located at a point where a direct wave and a reflected wave result
> in very low received power at the antenna, whereas a directional antenna
> that favours one or other of the waves will result in higher received
> power. This indicates that both waves are independent and available to
> the receiving antenna, the waves do not cancel in space, but rather the
> superposition occurs in the antenna.

Well, sort of. Waves superpose everywhere, including presumably, the
space that an antenna might happen to occupy. But an antenna that
approaches a wavelength in physical length will not see a uniform
pattern along its length. The net effect will certainly be a function
of the orientation of the antenna.

> Considering the steady state:
>
> If at some point two or more coherent waves travelling a one direction,
> those waves will undergo the same phase change and attenuation with
> distance as each other and they must continue in the same direction
> (relative to the line), and the combined response in some circuit element
> on which they are incident where superposition is valid (eg a circuit
> node) will always be as if the two waves had been superposed... but the
> response is not due to wave superposition but superposition of the
> responses of the circuit element to the waves. It is however convenient,
> if not strictly correct to think of the waves as having superposed.

It is certainly true that a probe can perturb the nature of the
environment it is investigating. But it is not accurate to describe
the probe as determining the nature of that environment. If it is
effective, it will simply observe and report nature.

> Steady state analysis is sufficiently accurate and appropriate to
> analysis of many scenarios, and the convenience extends to simplified
> mathematics. It seems that the loose superposition of waves is part of
> that convenience, but it is important to remember the underlying

> principles and to consciously assess the validity of model
> approximations.

Superposition as a convenient model approximation. Of what, I wonder?

A well reasoned and interesting article, Owen. Thank you.

73, Jim AC6XG

4754. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 00:35:42 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <1l0g2318cadsd9ii13vpocta8i63j09ct7@4ax.com>
Source record: 42503

On Thu, 19 Apr 2007 16:27:14 -0700, Jim Kelley <jwkelley@uci.edu>
wrote:

>Richard Clark wrote:
>
>> As waves are completely independant, then they never interact.
>
>Perhaps we can agree that they could at least share a common media
>through which to propagate.

Hi Jim,

Certainly, at a minimum.

>> A load
>> is required to reveal the cancellation.
>
>A load - like a transducer of some sort. That would indeed be
>required in order to convert the effect to a form that we can more
>readily observe.

Every mapping of an antenna's radiation lobe characteristics presumes
this. We call them receivers.

>> No load, and any issue of
>> cancelling fields is strictly limited to what goes on between the
>> ears.
>
>I hope you're not suggesting that if we cannot observe the
>interference effect, it does not occur.

Contrary to the implication of Tom's tree falling unheard in the
forest, no I am not suggesting that. If one plants a load at a
distance and ignores it; then, yes, interference occurs. Remove the
load, and you remove interference.

1. Interference follows the load.

2. A load will also perturb the fields by the degree it couples to
the fields, and create a new interference solution.

>There is good reason to
>believe that just the opposite is true, Richard. It's a real paradox.

Not sure what the paradox is, but I trust you will elaborate if
necessary.

73's
Richard Clark, KB7QHC

4755. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 00:48:42 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177030122.531106.246040@n59g2000hsh.googlegroups.com>
Source record: 42504

On 19 Apr, 15:11, Ian White GM3SEK <gm3...@ifwtech.co.uk> wrote:
> art wrote:
> >Just imagine all the insults floating around on things imaginary or
> >things that are virtual or even simple things such a SWR and then some
> >body suggests to a newbie that he throw all his measuring instruments,
> >scribers, micrometers but keep only ,yes only, the spirit level when
> >dealing with the building of antennas !
>
> You took 4 words of mine, stripped off all the context and common-sense,
> and then made up your own fantasy about it.
>
> Fortunately everybody else can see that.
>
> --
>
> 73 from Ian GM3SEK 'In Practice' columnist for RadCom
(RSGB)http://www.ifwtech.co.uk/g3sek

They remember!
Throw the scribe away and use a spirit level !
You can always pull the posting if you are now feeling embarrased.
Or you can make light of it and put it in RADCOM as an example of
common practice in ham radio in the U.K. like making it look like it
was really a joke all the time.

4756. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 00:51:10 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f092uuppp1@news.service.uci.edu>
Source record: 42507

Richard Clark wrote:

> Contrary to the implication of Tom's tree falling unheard in the
> forest, no I am not suggesting that. If one plants a load at a
> distance and ignores it; then, yes, interference occurs. Remove the
> load, and you remove interference.

So I gotta ask: what do waves do instead of superposing when there
isn't a load somewhere? Whistle and look the other way? :-)

73, Jim ac6xg

4757. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 00:52:32 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99186EA1EE818nonenowhere@61.9.191.5>
Source record: 42505

Roy Lewallen <w7el@eznec.com> wrote in news:132fvs4qvp5je04
@corp.supernews.com:

> I believe there's at least one basic fallacy in your development.
>
> The problem is that a directional antenna can't be made to take up zero
> space. Let's consider a situation where we can have complete

Roy, the type of probe I was considering does take up space, and I understand your point that therein lies a possible / likely explanation for its behaviour.

I was thinking along the lines of the superposition occuring within the directional antenna where segment currents would each be dependent on the field from each of the sources (and to some extent field from other segments of itself), and the antenna was where the superposition mainly occurred. But you are correct that the antenna is of non zero size, and the segments that I refer to are not all located at a point where the field strength from each source is equal and opposite.

...

> I maintain that there is actually zero field at a point of
superposition
> of multiple waves which sum to zero, and that no device or detector can
> be devised which, looking only at that point, can tell that the zero
> field is a result of multiple waves. This is a very important and
> fundamental point, and I'm glad you brought it up. If you or anyone can

I understand the second point.

Extended to transmission lines, I think it means that although we can make an observation at a single point of V and I, and knowing Zo we can state whether there are standing waves or not, we cannot tell if that is the result of more than two travelling waves (unless you take the view that there is only one wave travelling in each direction, the resultant of interactions at the ends of the line).

I will think some more about the "actual zero field", but that cannot suggest that one wave modified the other, they must both pass beyond that point, each unchanged, mustn't they? If that is so, the waves must be independent, but the resultant at a point is something separate to each of the components and doesn't of itself alter the propagation of either wave.

Owen

4758. Re: Multi-band dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 00:55:43 UTC
From: merlin-7 <merlin-7@sc.rr.com>
Message-ID: <462801dc$0$9916$4c368faf@roadrunner.com>
Source record: 42501

I use a fan type dipole. The wires are 66' 33' and 16' each side so double that for total length. (befor I tuned them but thats close) with an air wound choke at the feed point.
Fan is not exactly right for my antenna ...here is what I did...

I used pvc as a spacer between each wire, the first spacer is 12 inches from the feed point (I wanted to get the wires apart from each other as close to the feed point as possible to minimise interaction between them)

They are separated 12 inches apart over the whole length and hang under each other, the longest being on top.
The top wire (the 66') is the one that has rope connected to it (via insulator) to tie the ends of the dipole to whatever. in my case, It is an inverted V so I used 2 20' poles to anchor the ends of the dipole to.

Since the ends of the 33 and the 16 footer were just hanging from the pvc spacers attached to the 66 footer, I placed a weight at the ends of them to keep it all from twisting up in high winds.

I also ran a line from the ends of the 33 footer down to my poles (a few feet below where the ends of the 66 is tied off, for the same reason. (I find that weed eater string holds up really well for this and it is cheap)

I can use it on all bands from 10 to 80 meters and even right around 1.8 mhz on 160 with a cheap mfj tuner. (not sure why it will work at 1.8 mhz, I never worked out the math)

I get great signal reports with it on my ts-440s (bare bone at 100 watts) and as a general rule, if I can hear them, I can work them.
"Roy Lewallen" <w7el@eznec.com> wrote in message
news:132fr8hrmkrrc89@corp.supernews.com...
> mm58@earthlink.net wrote:
> > So would a 80/40/20 be the thing to make? For whats it's worth, I
> > don't have a tuner right now.
> > I just want to cut each for the middle of the band for General phone,
> > and accept whatever bandwidth
> > I get.
>
> That'll get you on those three bands and, as I mentioned, you can
> probably get a reasonable impedance on 15 as well by fiddling the 40
> meter antenna a bit. It won't be quite resonant on 40, but probably
> close enough so your rig won't shut down.
>
> Roy Lewallen, W7EL

4759. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 00:57:41 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177030661.332377.189700@y5g2000hsa.googlegroups.com>
Source record: 42506

On Apr 19, 7:20 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Cecil Moore <nos...@w5dxp.com> wrote:
> >> But you are missing the point. You say the source is matched
> >> to the line but the source is obviously re-reflecting 100% of the
> >> reflected energy.
>
> > But the same can be said for experiment A, can't it? Measured
> > conditions on the line are identical.
>
> But conditions in the sources are exactly opposite. One
> is sourcing and sinking power. The other is completely
> powerless.

Of course we can turn that around by building the generator for
Experiment B in the Norton style instead of the Thevenin style.
Then it will dissipate 4 times the power it would when terminated
with 50 Ohms.

Or how about the variant that will dissipate exactly the same
as the circulator without having one. Its dissipation always
numerically rises by the same amount as the "reflected power".
You should work on this generator since it would really help
convince people that the reflected power is dissipated in the
generator.
(Hint: There are two ways to build it and you need a current
source, a voltage source and two resistors.)

> > Please apply this calculation to Experiment A and check
> > your result. No difference. Ooooppps.
>
> Ooooppps means you obviously made a mistake. The conditions
> are opposite not alike.

In your characteristic style, you have removed the description of
what is being compared so the reader can not refer back and notice
that you are just contradicting. Oh well.

> > And if you did the same test with Experiment B you would get the
> > same result.
>
> Obviously not since source B is at room temperature.

Minor changes to the generator for B can give you a very hot one
or one that is exactly the same temperature as the one with
the circulator. Your simple contradiction is a an exceedingly weak

argument.

> > No different for B.
>
> Source A is dissipating 200 watts. Source B is dissipating
> zero watts. How is that not different?

The conditions on the lines are indistinguishable and yet you
claim one is reflecting and one is not. How did the line know
whether it should reflect or not? Or is the wave that knows?

> > Well this is the point you lock up on and it is one of the root
> > causes of all subsequent errors. I suspect your refusal to
> > accept the common knowledge that the output impedance
> > of the generator can be well known, that this controls the
> > amount of reflection at the generator ...
>
> The example proves this to be a wrong-headed concept.

You really should crack a basic text book, although you are
in kind of deep now to back track so that path does carry
high risk. You could also google or try the simulation. All
will support the statement I made above.

> > I present you with
> > two 50 Ohm generators; one constructed with a circulator and
> > one constructed with a 50 Ohm resistor. How do you tell which
> > is which?
>
> The one with the rapidly rising temperature is the one with
> the circulator. The one that remains at room temperature
> is your ten cent resistor version.

But if we use a Norton style, which one gets hotter?
Or the third style (have you worked out how to build it yet?),
which will dissipate exactly the same as the circulator.

> > Yes indeed. All line conditions are exactly the same.
>
> But the source conditions are radically different. One
> source is sourcing 100 watts and sinking 100 watts. The
> other source is sourcing 0 watts and sinking 0 watts.

I won't repeat myself.

> > You can not possible be arguing that P is not equal to V times I,
> > can you?
>
> Pfor - Pref = 0 where those Ps are Poynting vectors.
> Pfor is not zero. Pref is not zero. Pnet is zero
> only because of a directional convention.

Actually Pnet is zero because of basic circuit theory and the
universally accepted understanding that P = VI.

> > And are you disputing that if V or I is at all times 0, there must be
> > no energy flowing.
>
> Make that at all times AND AT ALL PLACES and I will agree.
> If V is zero it only means that all the energy has migrated
> into the magnetic field and indeed, when V is zero, I is
> at a maximum.

In circuits, we measure the power at a particular place.
I certainly want my power company to do this. If the voltage
or current is 0 at a particular place in the circuit then no
energy is flowing at that place in the circuit. If you are disputing
this, I contend that you do not accept that P = VI.

> > Well it is pretty clear to me that if the net current is always 0,
> > then no current is ever flowing and the power must be zero.

> True if the net current everywhere is zero. Not true if the
> current is only zero at a point. Current on each side of
> a zero current point is prima facie evidence of energy flow
> in both directions.

Inventive. But it doesn't fly. P = VI or it doesn't.

In fact what happens is the energy flows towards the voltage
and current nulls from both sides at the same time, then it flows
away. But it never crosses. Of course, the above statement
applies to sinusoidal excitation. The story is a bit different for
pulse and step. If the line is excited by a step function, for
example, after the reflection makes it back the generator, the
current is zero everywhere, though the 'Bird Watts' are still
'flowing' (but it does take a DC coupled directional wattmeter
to observe this).

...Keith

4760. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 01:02:43 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177030963.572239.201260@y5g2000hsa.googlegroups.com>
Source record: 42508

On 13 Apr, 09:37, Walter Maxwell <w...@w2du.com> wrote:
> In the thread 'Constructive Interference and Radiowave Propagation', Owen, on 4-8-07 asserted that my writings
> in Reflections concerning the analysis of stub matching procedures using reflection coefficients are
> applicable only in cases where the transmission line is either lossless, or distortionless. I disagree, and in
> what follows I hope to persuade those who agree with Owen's position to reconsider.
>
Are we there yet?
Does confusion still rein?
Are they still on topic?
Who has convinced who?
Who got the purple heart ?
Have you enough yet to write a new book?
Will it be a comedy that will make people laugh?
Will you give credits for information given or taken?

4761. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 01:12:09 UTC
From: jawod <jawod@fuse.net>
Message-ID: <46281369.9080603@fuse.net>
Source record: 42509

art wrote:
> On 13 Apr, 09:37, Walter Maxwell <w...@w2du.com> wrote:
>
>>In the thread 'Constructive Interference and Radiowave Propagation', Owen, on 4-8-07 asserted that my writings
>>in Reflections concerning the analysis of stub matching procedures using reflection coefficients are
>>applicable only in cases where the transmission line is either lossless, or distortionless. I disagree, and in
>>what follows I hope to persuade those who agree with Owen's position to reconsider.
>>
>
> Are we there yet?
> Does confusion still rein?
> Are they still on topic?
> Who has convinced who?
> Who got the purple heart ?
> Have you enough yet to write a new book?
> Will it be a comedy that will make people laugh?
> Will you give credits for information given or taken?
>
Jesus, I'm outta here

4762. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 01:20:42 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <46281560$0$21248$39cecf19@news.twtelecom.net>
Source record: 42510

Ian White GM3SEK wrote:

> art wrote:
>
>> Just imagine all the insults floating around on things imaginary or
>> things that are virtual or even simple things such a SWR and then some
>> body suggests to a newbie that he throw all his measuring instruments,
>> scribers, micrometers but keep only ,yes only, the spirit level when
>> dealing with the building of antennas !
>
>
> You took 4 words of mine, stripped off all the context and common-sense,
> and then made up your own fantasy about it.
>
> Fortunately everybody else can see that.
>
>

As you know Ian, we are all too familiar with Art's style. His problem is, he hasn't figured out that he is someone that will always be ignored. He just keeps it coming. And I just keep laughing.

73
tom
K0TAR

4763. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 01:22:25 UTC
From: Wes <n7ws@yahoo.com>
Message-ID: <1177032145.364625.286810@d57g2000hsg.googlegroups.com>
Source record: 42511

On Apr 19, 11:48 am, art <aun...@insightbb.com> wrote:

> As yet I have not found the tolerance range for a spirit level whether
> it be angular or otherwise.

If you would simply follow the link that I provided earlier, you could
read:

"The 6" through 18" (150-450 mm) main level vials have graduations
that are approximately 80-90 seconds or .005" per foot (0.42 mm per
meter). There are five, six, or seven lines on each side of the
bubble, depending on the base length.

As for insults to ones intelligence I get
> them all the time from idiots who do not have the knoweledge to even
> understand the subject let alone give proof of errors stated that they
> are trying to challenge.

Perhaps it is because you write with such a lack of clarity that no
one can figure out what your points are.

> Look around you Jimmy, here we are in the company of antenna experts,
> lots of them. Simple questions are posed by newbies and each expert
> writes something different such that an answer is never arrived at.

In the case at hand, several people offered different methods of
work. That you fail to agree with them does not make them invalid;
actually now that I think about it, I think the converse is true.

> There is not one expert here that can give a single response that can
> satisfy all posters ...

Well, as long as you're one who needs to be satisfied, that will never
happen.

Rest of bafflegab snipped as a service to the readership.

Wes N7WS

4764. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 02:15:29 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99187CB1D42CDnonenowhere@61.9.191.5>
Source record: 42512

Wes <n7ws@yahoo.com> wrote in news:1177032145.364625.286810
@d57g2000hsg.googlegroups.com:

> "The 6" through 18" (150-450 mm) main level vials have graduations
> that are approximately 80-90 seconds or .005" per foot (0.42 mm per
> meter). There are five, six, or seven lines on each side of the
> bubble, depending on the base length.

Wes, I agree, that is entirely practical. As far as bubble technology goes, senstivity easily exceeds that, IIRC the plate bubble sensitivity on theodolites is commonly around 20" (seconds) per 2mm run. By reversing such a bubble and splitting the difference, it should be possible to achieve an error well under 0.1mm/m slope.

Realistically, most bubbles for engineering workshop use would be more accurate than the drilling process, so they are a quite adequate means of registering the work.

I have used them with success, but prefer an indicator that I can see clearly while tightening the vice.

Owen

4765. Re: W9INN Antenna Designs

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 02:22:15 UTC
From: notme <nono@no.org>
Message-ID: <u_ednU8zc6lOvrXbnZ2dnUVZ_uiknZ2d@comcast.com>
Source record: 42513

"Dick, AA5VU" <aa5vuNOSPAM@arrl.net> wrote in message
news:aa5vuNOSPAM-3C4D1A.13461719042007@newsclstr02.news.prodigy.com...
> Many of us miss Bill, W9INN, and have had years of enjoyment from his FB
> antennas. When I purchased my antenna from Bill in 1977 or 1978 he
> provided excellent documentation that I have lost.
>
> Did anyone take the time to scan Bill's documents or have they been
> saved in a library somewhere?
>
> I would like to get the specifications on his 40/80 reactor (his term
> for a trap) so mine can be rebuilt.
>
> What started out life as a 40/80 dipole from W9INN was modified by me to
> add extra sets of wires for 10 MHz and 18 MHz and I got lucky the whole
> mess works FB on 24 MHz as well as 50 MHz. The antenna has been up for
> 25++ years and still works great.
>
> W9INN you are missed!
>
> 73, Dick AA5V

Can you provide any diagrams, plans, measurements, etc....?

Thanks!

4766. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 02:41:57 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <0b9g235eqs5uafuvs7ir3dlum8ronunmsv@4ax.com>
Source record: 42514

On 19 Apr 2007 16:26:33 -0700, art <aunwin@insightbb.com> wrote:

> As far as going with you to review Feynman forget it. If
>you can find proof of anything relevent fine it would give a good
>starting point as to why antenna engineers declined to pursue the
>discovery.

Hi Art,

Feynman merely confirmed the math of 70 years of antenna design before him. Nothing has altered since 1963, dynamic magnetic fields are still defined by Maxwell's (Heaviside's) equations, and static magnetic fields are still defined by Gauss' equations. Any discussion of the "cessation of time" immediately casts all work into Maxwell's (Heaviside's) math.

Nothing had to be invented because Maxwell (Heaviside) had done the basic math long before antennas were ever discovered. In fact, about 190 years ago Augustin-Jean Fresnel beat them all to the punch without a flicker of electricity or magnetism ever entering the picture.

Antenna engineers have been using Fresnel math too. Amateur radio operators respond to it every time they complain of picket-fencing on 2M. That math is contained in EVERY antenna modeler that offers radiation characteristics.

73's
Richard Clark, KB7QHC

4767. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 02:47:35 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <5bag23po88v30fos5t7nkmbq8i7dlb5v31@4ax.com>
Source record: 42515

On Thu, 19 Apr 2007 17:51:10 -0700, Jim Kelley <jwkelley@uci.edu>
wrote:

>So I gotta ask: what do waves do instead of superposing when there
>isn't a load somewhere? Whistle and look the other way? :-)

Hi Jim,

What do they DO?

What an odd question.

73's
Richard Clark, KB7QHC

4768. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 02:52:25 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <jiag231qmo0v9oo1u6htd5q9epc94323v3@4ax.com>
Source record: 42516

On Fri, 20 Apr 2007 00:52:32 GMT, Owen Duffy <none@no.where> wrote:

>Roy Lewallen <w7el@eznec.com> wrote in news:132fvs4qvp5je04
>@corp.supernews.com:
>
>> I believe there's at least one basic fallacy in your development.
>>
>> The problem is that a directional antenna can't be made to take up zero
>> space. Let's consider a situation where we can have complete
>
>Roy, the type of probe I was considering does take up space, and I
>understand your point that therein lies a possible / likely explanation
>for its behaviour.
>
>I was thinking along the lines of the superposition occuring within the
>directional antenna where segment currents would each be dependent on the
>field from each of the sources (and to some extent field from other
>segments of itself), and the antenna was where the superposition mainly
>occurred. But you are correct that the antenna is of non zero size, and
>the segments that I refer to are not all located at a point where the
>field strength from each source is equal and opposite.

Hi Owen,

Why would you think that superposition fails for this?

73's
Richard Clark, KB7QHC

4769. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 02:55:59 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <3ZVVh.330949$5j1.78850@bgtnsc04-news.ops.worldnet.att.net>
Source record: 42517

Cecil Moore wrote:
> Gene Fuller wrote:
>> All we need now is that you also understand that waves flowing in the
>> SAME direction do NOT interact unless there is an interface or other
>> discontinuity.
>
> Please stop implying things that I have never said. When I
> asserted that reflections only happen at a physical impedance
> discontinuity, that implies that interaction can only happen
> at a physical impedance discontinuity. It is impossible to
> get two coherent waves flowing in the same direction except
> at a physical impedance discontinuity.
>
> Assume b1 = s11(a1) + a12(s2) = 0
>
> What I have said is that s11(a1) and s12(a2) are wave components
> that cancel without ever being incident upon an impedance discontinuity.
> Those two wave components originate at the impedance discontinuity
> flowing *AWAY FROM* the impedance discontinuity. They are canceled
> in a delta-t, i.e. a very short time. Those two waves are the result
> of interaction at the impedance discontinuity but neither of them
> ever interacted with the impedance discontinuity because they
> originated at the impedance discontinuity.
> --
> 73, Cecil, w5dxp.com

Cecil,

I am familiar with all sorts of weird and wonderful things that happen on surfaces and really close to interfaces and discontinuities. However, classical transmission line theory does not deal with any of those things. I don't believe any of the recent discussions on RRAA have dealt with these close-in effects either.

Where are the equations that describe this "delta-t" stuff that you keep bringing up? How long is delta-t? What justification do you have for saying that the waves start out from some point and then shortly thereafter decide to cancel? Do they annihilate each other suddenly or is the interaction gradual from time zero up to delta-t? Do you have any references for this behavior? I scanned the Melles Griot tutorial info and the FSU website, but I couldn't find anything about delta-t.

Inquiring minds want to know.

73,
Gene

W4SZ

4770. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 02:56:29 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132gava6osouba0@corp.supernews.com>
Source record: 42518

Keith Dysart wrote:
> . . .
> Well it is pretty clear to me that if the net current is always 0,
> then
> no current is ever flowing and the power must be zero.
>
> It seems to be a bit of a common fallacy to assign meaning to the
> intermediate currents computed for the superposition solution to
> a problem. Connect two equivalent batteries in parallel. The only
> sensible answer is that no current is flowing since the voltages
> are the same. (In another post you seem to accept this), though
> if you use superposition to solve the problem, you get a very large
> current flowing in one direction and an equally large current flowing
> in the other. Only the resultant current is in any sense real. Same
> for those waves on a transmission line. Just superposition. Just a
> convenience to help reach the final solution. Don't over extend
> and assign them meaning (or energy). In the end it will cause
> deep conceptual difficulties.

I think you've put your finger right on Cecil's conceptual problem. When we solve the battery example by superposition, we get the right answer, zero current. But now let's put a resistor between the two batteries and repeat the solution. When we "turn off" the left hand battery, we have a lot of power being dissipated in that resistor. Using Cecil's view, we would assign this to be the power associated with the current flowing to the left. Then we "turn on" the left hand battery and "turn off" the right hand battery. Again we have a lot of power being dissipated. This would be the power associated with the current flowing to the right. The problem comes in having to somehow manipulate these powers to get zero, which is what we actually see. The mistake, as you continually point out, is attributing a power to each current -- or each wave -- in the first place.

Roy Lewallen, W7EL

4771. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 03:06:51 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <l5bg231laqs792of9eo1n6ijib29tq3bg5@4ax.com>
Source record: 42519

On Fri, 20 Apr 2007 02:55:59 GMT, Gene Fuller <W4SZzzzzzz@att.net>
wrote:

>I am familiar with all sorts of weird and wonderful things that happen
>on surfaces and really close to interfaces and discontinuities. However,
>classical transmission line theory does not deal with any of those
>things. I don't believe any of the recent discussions on RRAA have dealt
>with these close-in effects either.

Hi Gene,

Nutz, I thought I had mentioned Plasmons some time or other....

>Where are the equations that describe this "delta-t" stuff that you keep
>bringing up? How long is delta-t? What justification do you have for
>saying that the waves start out from some point and then shortly
>thereafter decide to cancel? Do they annihilate each other suddenly or
>is the interaction gradual from time zero up to delta-t? Do you have any
>references for this behavior? I scanned the Melles Griot tutorial info
>and the FSU website, but I couldn't find anything about delta-t.

Except for the conceit of "delta-t," I bet you already can answer the
other questions with positive examples (and that you are well aware
that the Melles Griot material is -um- light years behind in these
topics).

73's
Richard Clark, KB7QHC

4772. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 03:10:27 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132gbpftnauu1eb@corp.supernews.com>
Source record: 42520

Owen,

It's a pleasure to have a rational discussion. We will both learn from this, and perhaps some of the readers will also.

Owen Duffy wrote:
> Roy Lewallen <w7el@eznec.com> wrote in news:132fvs4qvp5je04
> @corp.supernews.com:
>
>> I believe there's at least one basic fallacy in your development.
>>
>> The problem is that a directional antenna can't be made to take up zero
>> space. Let's consider a situation where we can have complete
>
> Roy, the type of probe I was considering does take up space, and I
> understand your point that therein lies a possible / likely explanation
> for its behaviour.
>
> I was thinking along the lines of the superposition occuring within the
> directional antenna where segment currents would each be dependent on the
> field from each of the sources (and to some extent field from other
> segments of itself), and the antenna was where the superposition mainly
> occurred. But you are correct that the antenna is of non zero size, and
> the segments that I refer to are not all located at a point where the
> field strength from each source is equal and opposite.

Yes, each element is seeing a different field from the other. Those induce different currents in the elements. The sum of those is what ultimately gives you the output from the antenna. If the two elements both were at a point of complete wave cancellation, both would produce zero.

> . . .

> Extended to transmission lines, I think it means that although we can
> make an observation at a single point of V and I, and knowing Zo we can
> state whether there are standing waves or not, we cannot tell if that is
> the result of more than two travelling waves (unless you take the view
> that there is only one wave travelling in each direction, the resultant
> of interactions at the ends of the line).

Hm, let's think about this a little. In my free space example, we had two radiators whose fields went through the same point, and those two radiators were equal in magnitude and out of phase. The sum of the two E fields was zero and the sum of the H fields was zero, so there was no field at all where they crossed.

But now let's look at a transmission line with waves created by reflections from a single source. I believe that there is no point along the line where both the E and H fields are zero, or where both the current and the voltage are zero. (Please correct me if I'm wrong about this.) That's a different situation from the free space, two-radiator situation I proposed. So in a transmission line, we can find a point of zero voltage (a "virtual short"), say, but discover that there's current there. There will be an H field but no E field. And conversely for a "virtual open". So there is a difference between those points and a point of no field at all. And there is energy in the E or H field. (This also occurs in free space where a wave interferes with its reflection or when waves traveling in opposite directions cross.) Now, if you could feed two equal canceling waves into a transmission line, going in the same direction, then you would have truly zero E and H fields, and zero voltage and current, like the plane bisecting the two free space antennas. You couldn't tell the difference between that and no waves at all. But as Keith recently pointed out, superposition of two parallel equal voltage batteries would show large currents in both directions. But they would sum to zero, which is what we observe. And as long as the batteries remain connected, we can never detect those supposed currents. The two-wave scenario I described is in the same category, I believe.

We can readily concede that there is no field, voltage, current, or energy beyond the point at which the two canceling waves meet, without having to invoke any interaction or seeing any violation of energy conservation. Show me the whole circuit which produces this overlaying of canceling waves, and I'll show you where every erg of energy from your source(s) has gone. None of it will be beyond that canceling point.

> I will think some more about the "actual zero field", but that cannot
> suggest that one wave modified the other, they must both pass beyond that
> point, each unchanged, mustn't they?

Absolutely!

> If that is so, the waves must be
> independent

Absolutely!

>, but the resultant at a point is something separate to each
> of the components and doesn't of itself alter the propagation of either
> wave.

Sorry, I don't fully understand what you've said. But it is true that the propagation of neither wave is affected in any way by the presence of the other.

Roy Lewallen, W7EL

4773. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 03:22:02 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1177039322.894522.164370@q75g2000hsh.googlegroups.com>
Source record: 42521

On Apr 19, 5:52 pm, Owen Duffy <n...@no.where> wrote:

...
>
> I will think some more about the "actual zero field", but that cannot
> suggest that one wave modified the other, they must both pass beyond that
> point, each unchanged, mustn't they? If that is so, the waves must be
> independent, but the resultant at a point is something separate to each
> of the components and doesn't of itself alter the propagation of either
> wave.
>
> Owen

Hi Owen,

I've seen it written, by a well-respected expert on antennas, that electromagnetic fields may be viewed in either of two different ways. Are there more than two, other than minor variations on the theme? I'm not sure. The two I know from that author are that (1) fields are real physical entities, and (2) that fields are merely mathematical abstractions to help explain our observations: in the case of electromagnetic fields, that acceleration of a electron results in sympathetic motion of free electrons throughout the universe. It seems to me that in either of those cases, the result of fields from multiple sources, in a linear medium, is always the sum of the fields from each of the sources independently. That is practically the definition of linearity, is it not? It does not depend on us putting something there to detect the field, or to test if the mathematical model is correct. Certainly if we were watching waves in water, we could see lines along which there was cancellation, where the water would not be moving. But even if the fields are merely a mathematical abstraction, then I still know where they sum to zero. The utility of a mathematical abstraction to practical folk, of course, is that it can accurately predict the behaviour in the physical world. So if fields are just an abstraction, I can still use them to predict where I can place a wire that's in the sphere of influence of two or more radiating sources, and have the electrons in that wire unaffected by the sources (because those theoretical fields canceled there). On the other hand, if my field theory is describing something physical, if fields are entities apart from (but inexorably linked to) the motion of electrons, then it seems that whether we are able to observe those fields directly or not, their cancellation is real. That does assume that we've correctly deduced the nature of those fields, I suppose, so that our model does say what's going on in that physical medium we can only probe with our free electrons.

Cheers,
Tom

4774. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 03:57:25 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <FSWVh.17075$JZ3.4650@newssvr13.news.prodigy.net>
Source record: 42522

Keith Dysart wrote:
> In your characteristic style, you have removed the description of
> what is being compared so the reader can not refer back and notice
> that you are just contradicting.

Such diversions - almost everyone is running a threaded newsreader.
All one has to do is click on the previous posting. Not trimming
postings is a violation of usenet guidelines. My pet peeve is
when someone repeats ten pages of postings and adds one line,
like "Right on".

> Minor changes to the generator for B can give you a very hot one
> or one that is exactly the same temperature as the one with
> the circulator.

You've been hammering people with the source of your choice
for days but choose to abandon it as soon as someone points out
a logical problem with it.

> The conditions on the lines are indistinguishable and yet you
> claim one is reflecting and one is not. How did the line know
> whether it should reflect or not? Or is the wave that knows?

One wave encounters a 50 ohm resistor and is dissipated.
The other wave encounters an infinite impedance and is
100% re-reflected - all in accordance with the wave
reflection model.

> Actually Pnet is zero because of basic circuit theory and the
> universally accepted understanding that P = VI.

Circuit theory completely falls apart with distributed
network problems. The currents at two points in the
closed loop are often flowing in opposite directions.

> In circuits, we measure the power at a particular place.
> I certainly want my power company to do this. If the voltage
> or current is 0 at a particular place in the circuit then no
> energy is flowing at that place in the circuit. If you are disputing
> this, I contend that you do not accept that P = VI.

Plenty of energy is flowing - two equal magnitudes
in opposite directions equals zero net energy.

Correction to your P = VI based on DC, not AC/RF:

Net P = V*I*cos(theta) = Pfor - Pref

Forget V and I being 0. cos(theta) is always 0 for a
standing wave. There is ZERO net power anywhere in a
standing wave. (It's a lot like my bank account.)

> Inventive. But it doesn't fly. P = VI or it doesn't.

Forward waves and reflected waves are completely independent
of each other and do NOT interact. Their powers do NOT
superpose. There is nothing but joules moving at the
speed of light in a transmission line. There's no net
energy but your zero energy assertions are just illusions.
EM waves are incompatible with zero energy.
--
73, Cecil http://www.w5dxp.com

4775. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 04:08:17 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132gf5u6c5po2dc@corp.supernews.com>
Source record: 42523

K7ITM wrote:
> . . .
> I've seen it written, by a well-respected expert on antennas, that
> electromagnetic fields may be viewed in either of two different ways.
> Are there more than two, other than minor variations on the theme?
> I'm not sure. The two I know from that author are that (1) fields are
> real physical entities, and (2) that fields are merely mathematical
> abstractions to help explain our observations: in the case of
> electromagnetic fields, that acceleration of a electron results in
> sympathetic motion of free electrons throughout the universe. . .
> . . .

Throughout my time at the USAF technical school, I was frustrated by the hand-waving of the instructors when the topic was electromagnetic fields (and many other topics, for that matter). It was obvious that they really had a very poor grasp of the subject(s). So on the very first day of my first college semester of fields, I asked the professor, "What is an electromagnetic field?" His response: "Electromagnetic fields are mathematical models we use to help us understand phenomena we observe." The professor was Carl T.A. Johnk. I have his textbook _Engineering Electromagnetic Fields and Waves_, which was in draft manuscript form at the time I took the course. The first sentence in section 1-1 on page 1 is "A field is taken to mean a mathematical function of space and time."

Roy Lewallen, W7EL

4776. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 04:20:02 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <QbXVh.390$ns5.50@newssvr17.news.prodigy.net>
Source record: 42524

Gene Fuller wrote:
> Where are the equations that describe this "delta-t" stuff that you keep
> bringing up?

delta-t is a mathematical term, Gene, related in the limit
to the differential dt. If you have to ask, I'm sure you
wouldn't understand the explanation.

Given the following experiment with two signal generators
equipped with circulators and load resistors - the generators
are phased-locked to ensure coherency:

```
100W 50W
50 ohm---50 ohm line---+---291.4 ohm line---291.4 ohm
SGCL1 SGCL2
```

Here's the setup for determining s11 and s21 with
SGCL2 turned off.

```
100W
50 ohm---50 ohm line---+---291.4 ohm line---291.4 ohm load
SGCL1
```

Here are the results:

```
a1---->|
|---->s21(a1)
s11(a1)<----|
```

THE EM WAVE, s11(a1), EXISTS, IS MEASURABLE, AND IS ALIVE
AND WELL.

Here's the setup for determining s12 and s22 with
SGCL1 turned off.

```
50W
50 ohm load---50 ohm line---+---291.4 ohm line---291.4 ohm
SGCL2
```

Here are the results:

```
|---->s22(a2)
s12(a2)<----|
|<----a2
```

THE EM WAVE, s12(a2), EXISTS, IS MEASURABLE, AND IS ALIVE
AND WELL.

Now power off both signal generators and power them up
simultaneously. Let t=0 be the time when s11(a1) and
s12(a2) first exist. Superpose s11(a1) and s12(a2). How
long does it take to achieve b1 = s11(a1) + s12(a2) = 0?
I estimate that time to be delta-t which becomes dt
in the differential equation limit.

The principle of superposition allows us to observe that
s11(a1) and a12(a2) actually existed before they were
canceled.
--
73, Cecil http://www.w5dxp.com

4777. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 04:23:02 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <DeXVh.391$ns5.234@newssvr17.news.prodigy.net>
Source record: 42525

Roy Lewallen wrote:
> I think you've put your finger right on Cecil's conceptual problem.

Your conceptual problem is obviously that you don't
understand the difference between a DC circuit problem
and an RF distributed network problem.

Can you get DC current to flow in opposite directions
around a closed loop? Can you get RF current to flow
in opposite directions around a closed loop.

Please get real.
--
73, Cecil http://www.w5dxp.com

4778. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 04:39:42 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <iuXVh.11445$YL5.3190@newssvr29.news.prodigy.net>
Source record: 42526

Gene Fuller wrote:
> Where are the equations that describe this "delta-t" stuff that you keep
> bringing up?

I made an error in my last reply and have canceled that reply.

delta-t is a mathematical term, Gene, related in the limit
to the differential dt. If you have to ask, I'm sure you
wouldn't understand the explanation.

Given the following experiment with two signal generators
equipped with circulators and load resistors - the generators
are phased-locked to ensure coherency:

```
100W 100W
50 ohm---50 ohm line---+---291.4 ohm line---291.4 ohm
SGCL1 SGCL2
```

Here's the setup for determining s11 and s21 with
SGCL2 turned off.

```
100W
50 ohm---50 ohm line---+---291.4 ohm line---291.4 ohm load
SGCL1
```

Here are the results:

```
a1---->|
|---->s21(a1)
s11(a1)<----|
```

THE EM WAVE, s11(a1), EXISTS, IS MEASURABLE, AND IS ALIVE
AND WELL.

Here's the setup for determining s12 and s22 with
SGCL1 turned off.

```
100W
50 ohm load---50 ohm line---+---291.4 ohm line---291.4 ohm
SGCL2
```

Here are the results:

```
|---->s22(a2)
s12(a2)<----|
|<----a2
```

THE EM WAVE, s12(a2), EXISTS, IS MEASURABLE, AND IS ALIVE
AND WELL.

Now power off both signal generators and power them up
simultaneously. Let t=0 be the time when s11(a1) and
s12(a2) first exist. Superpose s11(a1) and s12(a2). How
long does it take to achieve b1 = s11(a1) + s12(a2) = 0?
I estimate that time to be delta-t which becomes dt
in the differential equation limit.

The principle of superposition allows us to observe that
s11(a1) and a12(a2) actually existed before they were
canceled.
--
73, Cecil http://www.w5dxp.com

4779. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 04:47:18 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <qBXVh.11448$YL5.8524@newssvr29.news.prodigy.net>
Source record: 42527

Gene Fuller wrote:
> I am familiar with all sorts of weird and wonderful things that happen
> on surfaces and really close to interfaces and discontinuities.

Here's a little brain teaser for you, Gene.

Given the following experiment with two signal generators
equipped with circulators and load resistors - the generators
are phased-locked to ensure coherency. The two feedlines
are of equal electrical lengths.

100W | 25W
50 ohm---50 ohm line---+---291.4 ohm line---291.4 ohm
SGCL1 Pfor1=100W--> | <--Prev2=25W SGCL2
<--Prev1 | Pfor2-->

What is the magnitude of Prev1? Pfor2?
--
73, Cecil http://www.w5dxp.com

4780. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 05:02:39 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <MPXVh.396$ns5.127@newssvr17.news.prodigy.net>
Source record: 42528

Roy Lewallen wrote:
> I think you've put your finger right on Cecil's conceptual problem. When
> we solve the battery example by superposition, we get the right answer,
> zero current. But now let's put a resistor between the two batteries and
> repeat the solution. When we "turn off" the left hand battery, we have a
> lot of power being dissipated in that resistor. Using Cecil's view, we
> would assign this to be the power associated with the current flowing to
> the left. Then we "turn on" the left hand battery and "turn off" the
> right hand battery. Again we have a lot of power being dissipated. This
> would be the power associated with the current flowing to the right. The
> problem comes in having to somehow manipulate these powers to get zero,
> which is what we actually see. The mistake, as you continually point
> out, is attributing a power to each current -- or each wave -- in the
> first place.

Roy, the intensity equation from the field of optics actually
handles that situation perfectly. The batteries are hooked
up in opposition to each other. Mathematically, their voltages
are 180 degrees out of phase.

Let P1 be the power dissipated in the resistor when battery
#1 is on. Let P2 be the power dissipated in the resistor
when battery #2 is on. P1 = P2

When both batteries are on, the total power in the resistor is:

Ptot = P1 + P2 + SQRT(P1*P2)cos(180) = 0

The intensity equation gets the same total power as you do. If
it's wrong then you are wrong. If it's right then you are wrong.
Seems that you are wrong either way. :-)
--
73, Cecil http://www.w5dxp.com

4781. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 05:38:37 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99189F2266205nonenowhere@61.9.191.5>
Source record: 42529

Roy Lewallen <w7el@eznec.com> wrote in
news:132gbpftnauu1eb@corp.supernews.com:

> Owen,
>
> It's a pleasure to have a rational discussion. We will both learn from
> this, and perhaps some of the readers will also.

Thanks Roy.

>
> Owen Duffy wrote:
...
>
>> Extended to transmission lines, I think it means that although we can
>> make an observation at a single point of V and I, and knowing Zo we
>> can state whether there are standing waves or not, we cannot tell if
>> that is the result of more than two travelling waves (unless you take
>> the view that there is only one wave travelling in each direction,
>> the resultant of interactions at the ends of the line).
>
> Hm, let's think about this a little. In my free space example, we had
> two radiators whose fields went through the same point, and those two
> radiators were equal in magnitude and out of phase. The sum of the two
> E fields was zero and the sum of the H fields was zero, so there was
> no field at all where they crossed.
>
> But now let's look at a transmission line with waves created by
> reflections from a single source. I believe that there is no point
> along the line where both the E and H fields are zero, or where both
> the current and the voltage are zero. (Please correct me if I'm wrong
> about this.) That's a different situation from the free space,

Yes, I agree with you, and I think the key factor is that waves are only
free to travel in two directions, and if multiple coherent waves can
travel in the same direction, they are colinear.

> two-radiator situation I proposed. So in a transmission line, we can
> find a point of zero voltage (a "virtual short"), say, but discover
> that there's current there. There will be an H field but no E field.
> And conversely for a "virtual open". So there is a difference between
> those points and a point of no field at all. And there is energy in
> the E or H field. (This also occurs in free space where a wave
> interferes with its reflection or when waves traveling in opposite
> directions cross.) Now, if you could feed two equal canceling waves
> into a transmission line, going in the same direction, then you would

> have truly zero E and H fields, and zero voltage and current, like the
> plane bisecting the two free space antennas. You couldn't tell the

But is it possible to inject two coherent waves travelling independently in the same direction? Could I not legitimately resolve the attempt at a circuit node (line end node) of two coherent sources to drive the line to be the superposition of the voltages and curents of each to effectively resolve to a single phasor voltage and associated phasor current at that node, and then the conditions on the line would be such as to comply with the boundary conditions at that line end node. Though I have mentioned phasors which implies the steady state, this should be true in general using v(t) and i(t), just the maths is more complex.

I can see that we can deal mathematicly with two or more coherent components thought of as travelling in the same direction on a line (by adding their voltages or currents algebraicly), but it seems to me that there is no way to isolate the components, and that questions whether they actually exist separately.

So, whilst it may be held by some that there is re-reflected energy at the source end of a transmission line in certain scenarios, a second independent forward wave component to track, has not the forward wave just changed to a new value to comply with boundary conditions in response to a change in the source V/I characteristic when the reflection arrived at the source end of the line? I know that analysis of either scenario will yield the same result, but one may be more complex, and it is questionable whether the two (or more) forward wave components really exist independently.

...
>> I will think some more about the "actual zero field", but that cannot
>> suggest that one wave modified the other, they must both pass beyond
>> that point, each unchanged, mustn't they?
>
> Absolutely!
>
>> If that is so, the waves must be
>> independent
>
> Absolutely!
>
>>, but the resultant at a point is something separate to each
>> of the components and doesn't of itself alter the propagation of
>> either wave.
>
> Sorry, I don't fully understand what you've said. But it is true that
> the propagation of neither wave is affected in any way by the presence
> of the other.

I am saying that resolution of the fields of two independent waves at a point in free space to a resultant is not a wave itself, it cannot be represented as a wave, and it does not of itself alter the propagation of

either wave. It may be useful in predicting the influence of the two waves on something at that point, but nowhere else.

Having thought through to the last sentence, I think I am agreeing with your statement about free space interference "I maintain that there is actually zero field at a point of superposition of multiple waves which sum to zero, and that no device or detector can be devised which, looking only at that point, can tell that the zero field is a result of multiple waves."

And we haven't mentioned power, not once!

Owen

4782. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 05:40:13 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99189F680A46Enonenowhere@61.9.191.5>
Source record: 42530

Richard Clark <kb7qhc@comcast.net> wrote in
news:jiag231qmo0v9oo1u6htd5q9epc94323v3@4ax.com:
...
> Why would you think that superposition fails for this?

Richard, I don't... but the failure was to think that such an experiment indicated that the two interfering waves could be isolated at a point.

Owen

4783. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 05:48:50 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9918A0DE1ED16nonenowhere@61.9.191.5>
Source record: 42531

K7ITM <k7itm@msn.com> wrote in
news:1177039322.894522.164370@q75g2000hsh.googlegroups.com:

> On Apr 19, 5:52 pm, Owen Duffy <n...@no.where> wrote:
>
> ...
>>
>> I will think some more about the "actual zero field", but that cannot
>> suggest that one wave modified the other, they must both pass beyond
>> that point, each unchanged, mustn't they? If that is so, the waves
>> must be independent, but the resultant at a point is something
>> separate to each of the components and doesn't of itself alter the
>> propagation of either wave.
>>
>> Owen
>
> Hi Owen,
>
> I've seen it written, by a well-respected expert on antennas, that
> electromagnetic fields may be viewed in either of two different ways.
> Are there more than two, other than minor variations on the theme?
> I'm not sure. The two I know from that author are that (1) fields are
> real physical entities, and (2) that fields are merely mathematical
> abstractions to help explain our observations: in the case of
> electromagnetic fields, that acceleration of a electron results in
> sympathetic motion of free electrons throughout the universe. It
> seems to me that in either of those cases, the result of fields from
> multiple sources, in a linear medium, is always the sum of the fields
> from each of the sources independently. That is practically the
> definition of linearity, is it not? It does not depend on us putting
> something there to detect the field, or to test if the mathematical
> model is correct. Certainly if we were watching waves in water, we
> could see lines along which there was cancellation, where the water
> would not be moving. But even if the fields are merely a mathematical
> abstraction, then I still know where they sum to zero. The utility of
> a mathematical abstraction to practical folk, of course, is that it
> can accurately predict the behaviour in the physical world. So if
> fields are just an abstraction, I can still use them to predict where
> I can place a wire that's in the sphere of influence of two or more
> radiating sources, and have the electrons in that wire unaffected by
> the sources (because those theoretical fields canceled there). On the
> other hand, if my field theory is describing something physical, if
> fields are entities apart from (but inexorably linked to) the motion
> of electrons, then it seems that whether we are able to observe those

> fields directly or not, their cancellation is real. That does assume
> that we've correctly deduced the nature of those fields, I suppose, so
> that our model does say what's going on in that physical medium we can
> only probe with our free electrons.
>

Thanks Tom.

All noted, and it seems of all wave types, EM waves are most difficult to prove the link between mathematical models and the real world.

To some extent, some of the muddy water is about whether waves superpose (whatever that means), or whether the fields of a wave superpose at a point and those superposed fields do not imply anything about fields or waves at any other points.

If that is the case, it comes back to defining what waves means.

Owen

4784. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 06:40:19 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <pung239q7s9ub9ovd9h9a1va5jsq8qkoqh@4ax.com>
Source record: 42532

On Fri, 20 Apr 2007 05:40:13 GMT, Owen Duffy <none@no.where> wrote:

>Richard Clark <kb7qhc@comcast.net> wrote in
>news:jiag231qmo0v9oo1u6htd5q9epc94323v3@4ax.com:
>...
>> Why would you think that superposition fails for this?
>
>Richard, I don't... but the failure was to think that such an experiment
>indicated that the two interfering waves could be isolated at a point.

Hi Owen,

I presume all of this flows from your statement:
>>>A practical example of this is that an omni directional receiving antenna
>>>may be located at a point where a direct wave and a reflected wave result
>>>in very low received power at the antenna, whereas a directional antenna
>>>that favours one or other of the waves will result in higher received
>>>power. This indicates that both waves are independent and available to
>>>the receiving antenna, the waves do not cancel in space, but rather the
>>>superposition occurs in the antenna.

As Roy did not quote any of your material, I must presume this. Am I
correct?

73's
Richard Clark, KB7QHC

4785. Re: A good RF ground

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 06:44:52 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <58r5r6F2ih0f4U1@mid.individual.net>
Source record: 42533

"Jim Lux" <james.p.lux@jpl.nasa.gov> wrote in message
news:f089q6glv1@nntp1.jpl.nasa.gov...
> Richard wrote:
>> I want to put up a "long wire" with the feedpoint at one of the back end
>> corners of the garden. I need a good RF ground.
>>
>> If I got a length of 6 foot wide copper sheet and made out of it a
>> cylinder,
>> say 6 feet in diameter, and then placed that cylinder in an upwards
>> position
>> in the ground, the top level with the surface, would that be a good idea
>> for
>> trying to acheive a decent RF ground? Also, is there anything I could
>> place
>> around the cylinder to better the conduction between the cyinder and the
>> earth around it? Should I drill holes in the cylinder so I can pour water
>> into the cylinder to keep the ground around it moist?
>>
>> Would I still benefit from some radials in the ground?
>>
>> My garden's about 33 foot long, 21 foot wide. Ground gets rather rocky
>> and a bit sandyish at about 9 inches or so from the surface.TIA.
>>
> That might be overkill.. Why not spend the money on a spool of copper
> wire and lay radials. For RF purposes, large area of coverage is more
> important than low impedance at a particular point. You want to improve
> the apparent conductivity of the soil over as much volume as you can.
> Think of your grounding system as (partially) a big leaky capacitor to
> "the earth".. you want to spread the RF current out over as large an area
> as possible, and radials are probably the easiest way to do it. There's
> nothing special about how you lay the radials or their length (they're in
> dirt, so they're not tuned or resonant.. just wires).

Maybe a 3 foot wde cylinder would be adequate.

One thing: Why are radials so effective? They are not resonant
counterpoises, and from the aspect of surface area in contact with ground,
radials have hardly any surface area that "connects" with "the earth". I can
understand if I put in a 20 foot by 20 foot copper plate flat in the earth
that would "connect" to earth quite well, I mean the measured ohmic
resistance to "the earth" could be quite low. But also capacitive coupling
would be low too. But radials have no real capacitive coupling to "the
earth" neither much surface area in contact with "the earth". So it confuses
me as to why they are so effective.

BTW, since it looks like many wires in the earth are as good as a plate, perhaps I could put in a wire mesh grid about 1 foot under the soil over the whole garden . I'm digging up the garden anyway. Perhaps with some ground stakes here and there connected to the grid, although maybe not necessary.

4786. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 06:49:46 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9918AB32F38B1nonenowhere@61.9.191.5>
Source record: 42534

Richard Clark <kb7qhc@comcast.net> wrote in
news:pung239q7s9ub9ovd9h9a1va5jsq8qkoqh@4ax.com:

> On Fri, 20 Apr 2007 05:40:13 GMT, Owen Duffy <none@no.where> wrote:
>
>>Richard Clark <kb7qhc@comcast.net> wrote in
>>news:jiag231qmo0v9oo1u6htd5q9epc94323v3@4ax.com:
>>...
>>> Why would you think that superposition fails for this?
>>
>>Richard, I don't... but the failure was to think that such an
>>experiment indicated that the two interfering waves could be isolated
>>at a point.
>
> Hi Owen,
>
> I presume all of this flows from your statement:
>>>>A practical example of this is that an omni directional receiving
>>>>antenna may be located at a point where a direct wave and a
>>>>reflected wave result in very low received power at the antenna,
>>>>whereas a directional antenna that favours one or other of the waves
>>>>will result in higher received power. This indicates that both waves
>>>>are independent and available to the receiving antenna, the waves do
>>>>not cancel in space, but rather the superposition occurs in the
>>>>antenna.
>
> As Roy did not quote any of your material, I must presume this. Am I
> correct?

Yes

4787. Re: A good RF ground

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 06:58:16 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <58r6jeF2hni3fU1@mid.individual.net>
Source record: 42536

"Richard" <nearlynews_email@ntlworld.com> wrote in message
news:58r5r6F2ih0f4U1@mid.individual.net...

I said:

> Maybe a 3 foot wde cylinder would be adequate.
>
> One thing: Why are radials so effective? They are not resonant
> counterpoises, and from the aspect of surface area in contact with ground,
> radials have hardly any surface area that "connects" with "the earth". I
> can understand if I put in a 20 foot by 20 foot copper plate flat in the
> earth that would "connect" to earth quite well, I mean the measured ohmic
> resistance to "the earth" could be quite low. But also capacitive coupling
> would be low too. But radials have no real capacitive coupling to "the
> earth" neither much surface area in contact with "the earth". So it
> confuses me as to why they are so effective.
>
> BTW, since it looks like many wires in the earth are as good as a plate,
> perhaps I could put in a wire mesh grid about 1 foot under the soil over
> the whole garden . I'm digging up the garden anyway. Perhaps with some
> ground stakes here and there connected to the grid, although maybe not
> necessary.

The only thing that I can think of why radials are effective is nothing to
do with ohmic resistance to "the earth" or capactive coupling to "the
earth". Not even to do with a large surface area in contact with the ground.
It's simply that the ground is changed, those radials simply make "the
earth" in that locality less like an insulator and more like a conductor.
More like the radials make the ground below your feet more like say
a pool of salt water than the high resistivity ground that it normally is.
What do you think?

4788. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 07:01:33 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <iuog23940tgk6c74tv39psdtuvlo8bnebn@4ax.com>
Source record: 42537

On Fri, 20 Apr 2007 05:38:37 GMT, Owen Duffy <none@no.where> wrote:

>"I maintain that there is
>actually zero field at a point of superposition of multiple waves which
>sum to zero, and that no device or detector can be devised which, looking
>only at that point, can tell that the zero field is a result of multiple
>waves."

Hi Owen,

This seems to be in distinct contrast to what appeared to be your goal earlier - insofar as the separation of sources (you and others call them waves). I am trying to tease out just what it was that impelled you upon this thread.

>And we haven't mentioned power, not once!

Not specifically so, but inferentially, certainly. We see the term detector employed above, and it cannot escape the obvious implication of power to render an indication. Perhaps the relief expressed by your sentiment is in not having to have had added or subtracted power (or any other expressions of power).

73's
Richard Clark, KB7QHC

4789. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 07:08:08 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4cpg23dleifa2jinosncdh5qfdiv7nk77l@4ax.com>
Source record: 42538

On Fri, 20 Apr 2007 06:49:46 GMT, Owen Duffy <none@no.where> wrote:

>Richard Clark <kb7qhc@comcast.net> wrote in
>>>>>A practical example of this is that an omni directional receiving
>>>>>antenna may be located at a point where a direct wave and a
>>>>>reflected wave result in very low received power at the antenna,
>>>>>whereas a directional antenna that favours one or other of the waves
>>>>>will result in higher received power. This indicates that both waves
>>>>>are independent and available to the receiving antenna, the waves do
>>>>>not cancel in space, but rather the superposition occurs in the
>>>>>antenna.
>>
>> As Roy did not quote any of your material, I must presume this. Am I
>> correct?
>
>Yes

Hi Owen,

And you have already allowed that superposition does not fail. Thus there must be some other failure to be found in the choice of antenna. From other correspondence, it is asserted that a gain antenna, by virtue of its size, cannot be placed in null space (that point wherein all contributions of energy sum to zero) which is planar and equidistant between sources (there being two of them for the purpose of discussion).

Have I described this accurately?

73's
Richard Clark, KB7QHC

4790. Re: A good RF ground

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 07:17:59 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <fppg23lenln8aho2emgs24v8n8k6nf2c4v@4ax.com>
Source record: 42539

On Fri, 20 Apr 2007 07:58:16 +0100, "Richard"
<nearlynews_email@ntlworld.com> wrote:

>More like the radials make the ground below your feet more like say
>a pool of salt water than the high resistivity ground that it normally is.
>What do you think?

Hi Richard,

Actually salt water sucks as a local ground - it is as poor a "good"
conductor as you could imagine. Carbon is a far better conductor than
salt water, but no one yet has suggested building on top of a coal
seam.

You would be better off filling your yard with sand to the depth of 30
feet or so (yeah, sure). The testimonials attributed to salt water
comes with its far field qualities of a tremendous mismatch to air and
offering spectacularly low radiation launch angles.

So, copper replaces a very poor conductor (as a first pass
approximation). Invest your copper in close proximity to the base of
the antenna. That is, a lot of short radials, and a fair number of
medium size ones, and a few long ones.

Two things to consider. The ground closest to the antenna is
responsible for efficiency in loading. The ground further out
(between 5 and 10 wavelengths, or more) is responsible for launch
efficiency (offering lower launch angles).

73's
Richard Clark, KB7QHC

4791. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 07:39:34 UTC
From: Alan Peake <adpeake@killspam.internode.on.net>
Message-ID: <46286E36.8040007@killspam.internode.on.net>
Source record: 42535

Owen Duffy wrote:

> But is it possible to inject two coherent waves travelling independently
> in the same direction?

In a transmission line? Wouldn't they both have the same propagation
velocity? If so, how would you distinguish between them?
Alan

4792. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 07:46:07 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132grucl31sn141@corp.supernews.com>
Source record: 42540

Richard Clark wrote:
>
> Hi Owen,
>
> And you have already allowed that superposition does not fail. Thus
> there must be some other failure to be found in the choice of antenna.
> From other correspondence, it is asserted that a gain antenna, by
> virtue of its size, cannot be placed in null space (that point wherein
> all contributions of energy sum to zero) which is planar and
> equidistant between sources (there being two of them for the purpose
> of discussion).
>
> Have I described this accurately?

I think it might be more fundamental and perhaps subtle than just a limitation of size. If the null space is a whole plane, as with the two radiating elements of my example, you have an infinite area on which to construct your antenna, although it would have to have zero thickness. But even allowing infinitely thin elements, I don't see any way you can construct it entirely on the plane so it will be more sensitive to signals coming from one side of the plane than the other. That is, use any number of elements you want, oriented and phased any way you want, and as long as all elements lie entirely on the plane, I don't think you can make it favor the signal from one of the radiators over the other. I believe you'll find this same problem with any region of total wave cancellation. I don't have any rigorous proof of this, just intuition from observing the symmetry, and would be glad to see an example which would prove me wrong. (It might reveal a whole new class of directional antennas! Maybe one of Art's Gaussian marvels would do it?) But if I'm right, then there's no way to do as Owen originally proposed, namely to determine entirely from a null space that the null is the sum of multiple fields, let alone the nature of those fields -- at least with a directional antenna. It has to extend out where it can a sniff of the uncanceled fields to do that.

Roy Lewallen, W7EL

4793. Re: A good RF ground

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 08:02:34 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <58racjF2i49rmU1@mid.individual.net>
Source record: 42541

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:fppg23lenln8aho2emgs24v8n8k6nf2c4v@4ax.com...
> On Fri, 20 Apr 2007 07:58:16 +0100, "Richard"
> <nearlynews_email@ntlworld.com> wrote:
>
>>More like the radials make the ground below your feet more like say
>>a pool of salt water than the high resistivity ground that it normally is.
>>What do you think?
>
> Hi Richard,
>
> Actually salt water sucks as a local ground - it is as poor a "good"
> conductor as you could imagine. Carbon is a far better conductor than
> salt water, but no one yet has suggested building on top of a coal
> seam.
>
> You would be better off filling your yard with sand to the depth of 30
> feet or so (yeah, sure). The testimonials attributed to salt water
> comes with its far field qualities of a tremendous mismatch to air and
> offering spectacularly low radiation launch angles.
>
> So, copper replaces a very poor conductor (as a first pass
> approximation). Invest your copper in close proximity to the base of
> the antenna. That is, a lot of short radials, and a fair number of
> medium size ones, and a few long ones.
>
> Two things to consider. The ground closest to the antenna is
> responsible for efficiency in loading. The ground further out
> (between 5 and 10 wavelengths, or more) is responsible for launch
> efficiency (offering lower launch angles).

Hmm, a new concept introduced.

I was thinking on these lines.

The first thing to do is to prepare the ground, that is, alter the nature of the ground in the vicinity of the antenna from an electrical point of view. To improve from "poor ground" to "good ground", in an electrical sense. That can be done by laying wires in the ground (radials) or a wire mesh. Once that is done, one is in a better postion to have the best RF ground possible. I think this is what the radial/wires do, they simply alter the nature of the ground where they are placed. This is like making poor ground, good ground or good ground, excellent ground by laying wires in the ground.

Now what seems to be the case is that there is an advantage in making the ground nearest the antenna the very best ground that you can. So, if you are going to use wires to better the ground, make sure that most radials go in near the base of the antenna.

Of course, wires improve the ground, it's conductivity, but in practice, you tend to connect the antenna to the radials/wires rather than make for seperate arrangements.

4794. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 10:13:13 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177063993.617540.71040@y80g2000hsf.googlegroups.com>
Source record: 42542

On Apr 19, 11:57 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Minor changes to the generator for B can give you a very hot one
> > or one that is exactly the same temperature as the one with
> > the circulator.
>
> You've been hammering people with the source of your choice
> for days but choose to abandon it as soon as someone points out
> a logical problem with it.

Yes indeed. But a key realization is that the behaviour on the line
can not depend on arcane details about the construction of the
generator. So when such statements are made, it is instructive
to explore the situation with a different generator. If the outcome
is different, then there is something wrong with the theory. Note
that the standard explanations only require that the impedance
of the source be known. It is not important how this impedance
is achieved. With the hypothesis you are proposing, the internal
details significantly change the behaviour on the line and require
that the line (or the wave) know the internals so that it can
decide to enter or reflect despite the impedance being the same.

> > The conditions on the lines are indistinguishable and yet you
> > claim one is reflecting and one is not. How did the line know
> > whether it should reflect or not? Or is the wave that knows?
>
> One wave encounters a 50 ohm resistor and is dissipated.
> The other wave encounters an infinite impedance and is
> 100% re-reflected - all in accordance with the wave
> reflection model.

But how does it know, since the output (source) impedances are
the same for both cases? How does the 50 Ohm output
impedance of generator B become infinite while the 50 Ohm
output impedance of generator A does not? This is the key
issue with your explanation. In fact, there is no difference and
they behave the same. The reverse wave encounters 50 Ohms
and is not reflected in either case. It is the only sensible answer.

> > Actually Pnet is zero because of basic circuit theory and the
> > universally accepted understanding that P = VI.
>
> Circuit theory completely falls apart with distributed
> network problems. The currents at two points in the
> closed loop are often flowing in opposite directions.

This is a misunderstanding. Look at the distributed inductors and
capacitors and make the measurements at a point that makes
sense. This is, of course, how a directional wattmeter works.
It measures the voltage and current at one place on the line.
And this is how a real wattmeter would work if it was placed
at the same point.

> > In circuits, we measure the power at a particular place.
> > I certainly want my power company to do this. If the voltage
> > or current is 0 at a particular place in the circuit then no
> > energy is flowing at that place in the circuit. If you are disputing
> > this, I contend that you do not accept that P = VI.
>
> Plenty of energy is flowing - two equal magnitudes
> in opposite directions equals zero net energy.
>
> Correction to your P = VI based on DC, not AC/RF:
>
> Net P = V*I*cos(theta) = Pfor - Pref

I think you have made this mistakte before. In my expression P=VI,
V and I are simultaneous instantaneous values and P is the
instantaneous power. If you want average you need to integrate
and divide.

Your expression applies only to sine waves and V and I are peak
voltages. Interestingly, the expression P=V*I*cos(theta) for sine
waves is always derived by starting with Pinst=Vinst*Iinst,
substituting the appropriate functions for Vinst and Inst, integrating
and dividing.

> Forget V and I being 0. cos(theta) is always 0 for a
> standing wave. There is ZERO net power anywhere in a
> standing wave. (It's a lot like my bank account.)

True. But there IS energy flowing at every point that is not a voltage
minimum or maximum. At these points there is NEVER any energy
flowing.

> > Inventive. But it doesn't fly. P = VI or it doesn't.
>
> Forward waves and reflected waves are completely independent
> of each other and do NOT interact. Their powers do NOT
> superpose. There is nothing but joules moving at the
> speed of light in a transmission line. There's no net
> energy but your zero energy assertions are just illusions.
> EM waves are incompatible with zero energy.

Well that does leave you with a bit of a conundrum since on
an open ended line, zero energy is flowing at every quarter
wavelength point back from the load. Pinst=Vinst*Iinst.
Vinst or Iinst is for all times zero. Power must be zero for
all times.

At such a point a real instantaneous wattmeter would always indicate zero. At other points a real wattmeter would show energy flowing first one way then the other, though the average would be zero. And the peak magnitude of the energy flow depends on where you insert the real wattmeter on the line. An instructive question: Where does the peak energy flow occur? It is zero at every quarter wavelength point so it must be highest somewhere else.

...Keith

4795. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 10:18:26 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177064306.792037.121050@l77g2000hsb.googlegroups.com>
Source record: 42543

On Apr 20, 12:23 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Roy Lewallen wrote:
> > I think you've put your finger right on Cecil's conceptual problem.
>
> Your conceptual problem is obviously that you don't
> understand the difference between a DC circuit problem
> and an RF distributed network problem.
>
> Can you get DC current to flow in opposite directions
> around a closed loop? Can you get RF current to flow
> in opposite directions around a closed loop.

However when you draw the distributed elements, you find
there are many loops (an infinite number?) and each loop
behaves exactly as it does for those in a circuit built of
lumped elements. There is no magic at all. The same
theories work, though the calculus is a bit more tedious.

So the RF is not flowing in opposite directions around the
loop. You just have not drawn the appropriate loops.

...Keith

4796. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 10:41:44 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177065704.158632.157020@o5g2000hsb.googlegroups.com>
Source record: 42544

On Apr 20, 1:02 am, Cecil Moore <nos...@w5dxp.com> wrote:
> When both batteries are on, the total power in the resistor is:
>
> Ptot = P1 + P2 + SQRT(P1*P2)cos(180) = 0
>
> The intensity equation gets the same total power as you do. If
> it's wrong then you are wrong. If it's right then you are wrong.
> Seems that you are wrong either way. :-)

The difficulties with your explanations are not so much that they
give you the wrong numerical answers. In fact, they give you the
right numerical answers so often that they convince you of their
truth.

No, the problem is that they lead you to do other thinks wrong.

For example, in all your examples you now provide a circulator
because you think this is the only way to control reflections,
when in fact, all that is necessary is a source impedance that is
equivalent to the line impedance and there will be no reflection.

In other cases you claim that problems are insolvable because
insufficient information is provided about the generator. In fact,
all you need to do is use the source impedance to compute
the reflection coefficient and the problem is solved.

You claim that superposition does not work in a generator.

These examples are suboptimal outcomes that derive
from your explanations. Better explanations do not lead to
these limitations.

Of course, you keep providing examples where the numbers
work and these reinforce your beliefs. You need to temporarily
let go and explore the alternatives. You will find that the
alternatives work better, not because they necessarily
give you different numerical answers but because they free
you to solve more problems and provide more optimal solutions.

...Keith

4797. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 11:23:05 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132h8l5sgmv28bf@corp.supernews.com>
Source record: 42545

Owen Duffy wrote:
>
> But is it possible to inject two coherent waves travelling independently
> in the same direction?

Well, let's see. Begin with two identical, phase locked generators with fixed 50 ohm output resistances. Connect the output of generator A to a one wavelength 50 ohm transmission line, and the output of generator B to a half wavelength 50 ohm line. Connect the far ends of the lines together, and to a third transmission line of any length. Let's properly terminate the third line for simplicity. Superposition should work with this system, so begin by turning off generator A. The one wavelength line is now perfectly terminated and looks just like a 50 ohm resistor across the third line. Generator B puts half its power into generator A's output resistance and half into the third line's load. There's a wave traveling down that line. Now turn off B and turn on A, and note that half of A's power is going to B's source resistance and half into the third line's load. The wave going down the third line is exactly like before, but reversed in phase.

If you believe as I do that waves don't interact in a linear medium and believe in the validity of superposition in such a medium, then you believe that when both generators are on there are two waves going down that third line. They're exactly equal but out of phase, so they add to zero everywhere along the line. With the system on and in steady state, there's absolutely no way you can tell the difference between this sum of two waves and no waves at all. *They are the same.* If you look at the input to the third line, you'll find a point with zero voltage across the line, and zero current entering or leaving it. Where you will get into serious trouble is if you assign a power to each of the original waves. Then you'll have a real job explaining where the power in one of the waves went when you turned on the second generator -- among other problems. There's no problem in accounting for all the power leaving the generators and being, in this case, completely dissipated in their source resistances, without the need for assuming any wave interaction, any waves of power or energy, or assigning some amount of power or energy to each of the two supposed waves.

A solution to the problem based on the assumption that there are no waves on the third line and one which claims there are two canceling waves are equally valid, and both should give identical answers.

> Could I not legitimately resolve the attempt at a
> circuit node (line end node) of two coherent sources to drive the line to
> be the superposition of the voltages and curents of each to effectively

> resolve to a single phasor voltage and associated phasor current at that
> node, and then the conditions on the line would be such as to comply with
> the boundary conditions at that line end node. Though I have mentioned
> phasors which implies the steady state, this should be true in general
> using v(t) and i(t), just the maths is more complex.

I'm afraid you've lost me again, but I think maybe you're describing
something similar to the example I just presented.
>
> I can see that we can deal mathematicly with two or more coherent
> components thought of as travelling in the same direction on a line (by
> adding their voltages or currents algebraicly), but it seems to me that
> there is no way to isolate the components, and that questions whether
> they actually exist separately.

Yes, as in the example, there is no difference between no waves at all
and two overlaid canceling traveling waves. They are the same thing.

> So, whilst it may be held by some that there is re-reflected energy at
> the source end of a transmission line in certain scenarios, a second
> independent forward wave component to track, has not the forward wave
> just changed to a new value to comply with boundary conditions in
> response to a change in the source V/I characteristic when the reflection
> arrived at the source end of the line?

I maintain that no wave (that is, V or I wave) changes due to another.
While alternative approaches might give correct answers in some cases or
perhaps even every case, the approach I use has proved to adequately
explain all observed phenomena for over a century. So I'll stick with it.

> I know that analysis of either
> scenario will yield the same result, but one may be more complex, and it
> is questionable whether the two (or more) forward wave components really
> exist independently.

They either exist independently or not at all.
>
> I am saying that resolution of the fields of two independent waves at a
> point in free space to a resultant is not a wave itself, it cannot be
> represented as a wave, and it does not of itself alter the propagation of
> either wave. It may be useful in predicting the influence of the two
> waves on something at that point, but nowhere else.

I agree with that.

> Having thought through to the last sentence, I think I am agreeing with
> your statement about free space interference "I maintain that there is
> actually zero field at a point of superposition of multiple waves which
> sum to zero, and that no device or detector can be devised which, looking
> only at that point, can tell that the zero field is a result of multiple
> waves."
>
> And we haven't mentioned power, not once!

I did cringe at your mention of "re-reflected energy", which would be energy in motion. But at least we don't have power in motion. As soon as that comes into a discussion, it invariably quickly enters the realm of junk science in a desperate attempt to get the numbers to add up -- or subtract, as need be. And I've learned to run, not walk, away from those. (They kinda remind me of overheard conversations at the UFO museum in Roswell. But that's another story.)

Roy Lewallen, W7EL

4798. Re: Flexible/Durable FM Antenna for Jeep?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 11:27:11 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <sr8h23dv81embgdtqm9si874ne5os5nh6k@4ax.com>
Source record: 42546

On 19 Apr 2007 14:42:20 -0700, info@jinenkanseigi.com wrote:

>I have destroyed several stock antennae on my Jeep during trail rides
>when they get snagged by brush and easily bent. I went to a short
>(maybe 1' long)flexible type, but my reception absolutely sucks now.
>Can anyone suggest a car-type antenna that will have good reception,
>but can take a hit? I'd prefer to use it in the original place as I
>already have a hole in the body, but one of the amplified -inside-the-
>winshield type might be an option if it is worth anything.

what band(s)?

--
73 for now
Buck, N4PGW
www.lumpuckeroo.com

4799. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 12:18:47 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <Hc2Wh.17923$Um6.6530@newssvr12.news.prodigy.net>
Source record: 42547

Owen Duffy wrote:
> But is it possible to inject two coherent waves travelling independently
> in the same direction? Could I not legitimately resolve the attempt at a
> circuit node (line end node) of two coherent sources to drive the line to
> be the superposition of the voltages and curents of each to effectively
> resolve to a single phasor voltage and associated phasor current at that
> node, and then the conditions on the line would be such as to comply with
> the boundary conditions at that line end node. Though I have mentioned
> phasors which implies the steady state, this should be true in general
> using v(t) and i(t), just the maths is more complex.

Two coherent waves traveling independently in the same
direction in a transmission line are collinear and
interfere in a permanent manner, i.e. they interact. Why
this is so is easy to understand when one superposes the
two E-fields and the two H-fields. The total E-field changes
by the same percentage as does the H-field. In an EM wave,
ExB is proportional to the joules/sec associated with the
wave.

When two coherent EM
waves are superposed while traveling in the same direction
in a transmission line, the total ExB magnitude decreases
if the interference is destructive and increases if the
interference is constructive. A destructive interference
event gives up energy to a constructive interference event
somewhere else. That is what changes the direction and
magnitude of the reflected wave at a Z0-match point. If
the interference is destructive toward the source, the
"extra" energy will be redistributed in the direction of
the load as constructive interference energy.

> I can see that we can deal mathematicly with two or more coherent
> components thought of as travelling in the same direction on a line (by
> adding their voltages or currents algebraicly), but it seems to me that
> there is no way to isolate the components, and that questions whether
> they actually exist separately.

Thanks Owen, you have just described coherent wave interaction
in a transmission line.

> So, whilst it may be held by some that there is re-reflected energy at
> the source end of a transmission line in certain scenarios, a second
> independent forward wave component to track, has not the forward wave
> just changed to a new value to comply with boundary conditions in
> response to a change in the source V/I characteristic when the reflection

> arrived at the source end of the line?

Yes, wave interaction is permanent. Canceled waves cease to exist in their original direction of travel in the transmission line.

> And we haven't mentioned power, not once!

Every EM wave possesses an E-field and an H-field. The cross product of the RMS value of those fields is proportional to average power. One can avoid mentioning power, but one cannot run away from the fact that the power associated with each EM wave is ExB. If Vref and Iref exist, then the joules/sec in Eref x Href has to exist. The fields cannot be separated from the energy necessary for them to exist. Such is the basic nature of EM waves.
--
73, Cecil http://www.w5dxp.com

4800. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 12:21:17 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <1f2Wh.17924$Um6.12519@newssvr12.news.prodigy.net>
Source record: 42548

Owen Duffy wrote:
> Richard Clark <kb7qhc@comcast.net> wrote:
>> Why would you think that superposition fails for this?
>
> Richard, I don't... but the failure was to think that such an experiment
> indicated that the two interfering waves could be isolated at a point.

Doesn't

b1 = s11(a1) + s12(a2) = 0

indicate that the two interfering waves are isolated
to a point?
--
73, Cecil http://www.w5dxp.com

4801. Re: Multi-band dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 12:22:06 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <pubh23dkjdsect6pv2ba572nn0pta31iil@4ax.com>
Source record: 42549

On 19 Apr 2007 12:17:00 -0700, mm58@earthlink.net wrote:

>Hello,
>
>Just joined the group and I have a question about constructing a multi-
>band dipole.
>
>I plan to construct a 80/40/20/15 band multi-element dipole using
>separate dipole wires for each band,
>but a single feedpoint. My question is: how important is the spacing
>BETWEEN the
>individual band wires. I understand that they can't/shouldn't touch,
>but is there any distance
>that is optimal? or is just keeping them from touching enough?
>
>Thanks,
>
>Mike
>KD7VRG
There is a picture in most ARRL antenna books that shows a fan dipole
made from twin lead that just don't work!

Other than that, my experience with fans has been good. They are easy
to adapt to any environment. The same tactics adapt to a vertical
quarter wave as well.

John Ferrell W8CCW
"Life is easier if you learn to
plow around the stumps"

4802. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 12:29:12 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <sm2Wh.17926$Um6.16147@newssvr12.news.prodigy.net>
Source record: 42550

Alan Peake wrote:
>
> Owen Duffy wrote:
>> But is it possible to inject two coherent waves travelling
>> independently in the same direction?
>
> In a transmission line? Wouldn't they both have the same propagation
> velocity? If so, how would you distinguish between them?

They become indistinguishable, i.e. they interact. If they
interact destructively, they give up energy to constructive
interference in the opposite direction. If they interact
constructively, they require destructive interference
energy from the opposite direction. In a transmission line,
interference is one-dimensional.
--
73, Cecil http://www.w5dxp.com

4803. Re: Flexible/Durable FM Antenna for Jeep?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 12:34:42 UTC
From: info@jinenkanseigi.com
Message-ID: <1177072482.849959.136590@n76g2000hsh.googlegroups.com>
Source record: 42551

> Not a TJ is it - there antennas are pretty tough
> Lushy

Nope - it's a CJ. I guess "stock" may be a misnomer, as I'm not sure what originally came on this thing. I was referring to the common metal tube types.

4804. Re: Flexible/Durable FM Antenna for Jeep?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 12:35:39 UTC
From: info@jinenkanseigi.com
Message-ID: <1177072539.218626.115000@d57g2000hsg.googlegroups.com>
Source record: 42552

> what band(s)?
>
> --
> 73 for now
> Buck, N4PGWwww.lumpuckeroo.com

I'm not really sure - standard AM and FM reception, but mostly FM
(around 88 to 108 MHz?).

4805. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 12:51:00 UTC
From: Dave <noone@nowhere.com>
Message-ID: <UG2Wh.11294$k7.628@trndny05>
Source record: 42553

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:Hc2Wh.17923$Um6.6530@newssvr12.news.prodigy.net...
> The fields cannot be separated from
> the energy necessary for them to exist. Such is the basic
> nature of EM waves.
> --
I would go the other way... the energy can not be separated from the fields.
the fields are the 'more basic' components, energy and power can always be
calculated from them... but you can't always go the other way without
carrying along extra phase information that isn't necessary when talking
about (scalar) power or energy.

4806. Re: A good RF ground

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 13:01:25 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <bsch23p8b08bcs67r4i8bmsp567dtg6aij@4ax.com>
Source record: 42554

On Thu, 19 Apr 2007 17:55:03 +0100, "Richard"
<nearlynews_email@ntlworld.com> wrote:

>I want to put up a "long wire" with the feedpoint at one of the back end
>corners of the garden. I need a good RF ground.
>
>If I got a length of 6 foot wide copper sheet and made out of it a cylinder,
>say 6 feet in diameter, and then placed that cylinder in an upwards position
>in the ground, the top level with the surface, would that be a good idea for
>trying to acheive a decent RF ground? Also, is there anything I could place
>around the cylinder to better the conduction between the cyinder and the
>earth around it? Should I drill holes in the cylinder so I can pour water
>into the cylinder to keep the ground around it moist?
>
>Would I still benefit from some radials in the ground?
>
>My garden's about 33 foot long, 21 foot wide. Ground gets rather rocky and a
>bit sandyish at about 9 inches or so from the surface.TIA.

Check out http://www.bencher.com/pdfs/00361ZZV.pdf
and http://www.bencher.com/pdfs/00803ZZV.pdf

We usually associate an RF ground with verticals. I believe what you
are referring to as a "long wire" is usually called an :inverted L".

I think your proposed depth of 1 foot or more may be too deep for best
performance.

If you are planning cultivate your garden on a regular basis and use
it for a radial field you have some unique problems. Insulated wire on
top of the ground works as well as buried bare wire.

The consensus seems to be that each time you double your number of
radials you gain a db up to about 128 of them. essentially, more is
better. Popular thinking is that 16 are the minimum.

I experimented with using electrical extension cords of various length
for a radial system and found that all efforts would work but more is
always better! One radial will get you on the air but just barely! I
suspect a quarter wave radiator in any configuration and 4 radials
would beat any mobile installation.

If I were you I would invest in a few orange extension cords and run
them on top of the ground IN the garden rows. Orange will be easy to
see and avoid when you cultivate your garden. They will be easy to
remove and re deploy for garden cleanup.
Plan on assuring the curious neighbors that you are electrically

stimulating your garden. That will probably subdue any objections.

John Ferrell W8CCW
"Life is easier if you learn to
plow around the stumps"

4807. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 13:13:56 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <o03Wh.11975$Kd3.9537@newssvr27.news.prodigy.net>
Source record: 42555

Keith Dysart wrote:
> But a key realization is that the behaviour on the line
> can not depend on arcane details about the construction of the
> generator.

Agreed, but the behavior on the line also doesn't depend
upon where the forward and reverse traveling wave came from.
All that is important is their existence. The reverse
traveling wave might come from a separate source and the
line doesn't know the difference.

> So when such statements are made, it is instructive
> to explore the situation with a different generator. If the outcome
> is different, then there is something wrong with the theory.

No, if the outcome is different, something different is
happening while abiding by the wave reflection model rules.
Why are you surprised that changes occur when something is
changed?

> Note
> that the standard explanations only require that the impedance
> of the source be known.

If the "standard explanations" were correct, this would
have been put to bed a long time ago.

> But how does it know, since the output (source) impedances are
> the same for both cases?

Conclusion: The output source impedance is NOT the impedance
encountered by the reflected wave. That's essentially what
Walter Maxwell's paper says.

> I think you have made this mistakte before. In my expression P=VI,
> V and I are simultaneous instantaneous values and P is the
> instantaneous power. If you want average you need to integrate
> and divide.

No, if you want to average sinusoidals , use RMS values, which
is the result of said integrating and dividing. Somebody else
already did all the work.

> Your expression applies only to sine waves and V and I are peak
> voltages.

I is a peak voltage??????? You are more confused than
I ever realized. :-)

> Interestingly, the expression P=V*I*cos(theta) for sine
> waves is always derived by starting with Pinst=Vinst*Iinst,

Interestingly, you forgot to say you were talking about
instantaneous power until now.

> True. But there IS energy flowing at every point that is not a voltage
> minimum or maximum. At these points there is NEVER any energy
> flowing.

Every half cycle in every EM traveling wave, the instantaneous
power is zero. Would you therefore argue that traveling waves
cannot transfer any energy? Please get real.

Given two parallel water pipes carrying 100 gallons/minute
in opposite directions. I can see you arguing that there
is no NET flow of water. But I cannot see you arguing that
there is no flow of water at all when the pressure of just
one stream can knock you off your feet.

> Well that does leave you with a bit of a conundrum since on
> an open ended line, zero energy is flowing at every quarter
> wavelength point back from the load.

The conundrum is all yours. Every half cycle, every EM
traveling wave is at a zero instantaneous power point.
If EM traveling waves can transfer energy while the
instantaneous power is zero every half cycle, superposing
two of them doesn't present a conundrum at all.

> At such a point a real instantaneous wattmeter would always
> indicate zero.

A real instantaneous wattmeter would always indicate zero
at the zero crossing of every EM traveling wave in the
universe so exactly how does the light from Alpha Centauri
ever make it to Earth when the instantaneous power is zero
every half cycle? Please get real.
--
73, Cecil http://www.w5dxp.com

4808. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 13:23:27 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <j93Wh.11977$Kd3.7661@newssvr27.news.prodigy.net>
Source record: 42556

Keith Dysart wrote:
> For example, in all your examples you now provide a circulator
> because you think this is the only way to control reflections,
> when in fact, all that is necessary is a source impedance that is
> equivalent to the line impedance and there will be no reflection.

Your above statement has been proved wrong in any number
of bench experiments.

> In other cases you claim that problems are insolvable because
> insufficient information is provided about the generator. In fact,
> all you need to do is use the source impedance to compute
> the reflection coefficient and the problem is solved.

Again, proved wrong by any number of bench experiments.

> You claim that superposition does not work in a generator.

Not that it doesn't work - just that it is impossible
for a reflected wave to compete with an active dynamic
source. The source essentially ignores the reflected
wave like a fire hose ignores you trying to spit up
the hose against the flow.

> You will find that the alternatives work better, ...

Sorry Keith, I stopped listening to you when you asserted
that I is voltage.
--
73, Cecil http://www.w5dxp.com

4809. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 13:27:11 UTC
From: tclay@qmc.ph.msstate.edu
Message-ID: <86d51zqiq8.fsf@qmc.ph.msstate.edu>
Source record: 42557

>that favours one or other of the waves will result in higher received
>power. This indicates that both waves are independent and available to
>the receiving antenna, the waves do not cancel in space, but rather the
>superposition occurs in the antenna.

It's really very simple:

at each point in free space at a specific time t, there is only ONE
value of the (vector) electric and magnetic fields,

E=(E_x(x,y,z,t),E_y(x,y,z,t),E_z(x,y,z,t))
B=(B_x(x,y,z,t),B_y(x,y,z,t),B_z(x,y,z,t))

to find those values, you simply add up what comes from various sources
of the fields. Separate antennas do not have their "own" E and B that
is independent.

Tor
N4OGW

4810. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 13:49:34 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177076974.615744.321150@l77g2000hsb.googlegroups.com>
Source record: 42558

On Apr 20, 9:13 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > But a key realization is that the behaviour on the line
> > can not depend on arcane details about the construction of the
> > generator.
>
> Agreed, but the behavior on the line also doesn't depend
> upon where the forward and reverse traveling wave came from.
> All that is important is their existence. The reverse
> traveling wave might come from a separate source and the
> line doesn't know the difference.

All true, and as long as you think of voltage and current waves
you won't get into trouble.

> > So when such statements are made, it is instructive
> > to explore the situation with a different generator. If the outcome
> > is different, then there is something wrong with the theory.
>
> No, if the outcome is different, something different is
> happening while abiding by the wave reflection model rules.
> Why are you surprised that changes occur when something is
> changed?

The key point is that the line conditions did not change, so the
same reflections must be occuring and yet your explanation
claims that sometimes nothing is reflected and sometimes
all is reflected.

> > Note
> > that the standard explanations only require that the impedance
> > of the source be known.
>
> If the "standard explanations" were correct, this would
> have been put to bed a long time ago.

And it was. But there are always a few stragglers.

> > But how does it know, since the output (source) impedances are
> > the same for both cases?
>
> Conclusion: The output source impedance is NOT the impedance
> encountered by the reflected wave. That's essentially what
> Walter Maxwell's paper says.

Did you read the same paper I read? I recall that the claim was a
conjugate match of the effective impedances AFTER tuning. The
systems under discussion here have not been tuned for maximum
power transfer.

> > I think you have made this mistakte before. In my expression P=VI,
> > V and I are simultaneous instantaneous values and P is the
> > instantaneous power. If you want average you need to integrate
> > and divide.
>
> No, if you want to average sinusoidals , use RMS values, which
> is the result of said integrating and dividing. Somebody else
> already did all the work.

This is true, but reflection is an instantaneous behaviour.
Simplifying
the analysis to RMS or average values, while often effective, bears
many risks in misleading the understanding, as demonstrated here.

> > Your expression applies only to sine waves and V and I are peak
> > voltages.
>
> I is a peak voltage??????? You are more confused than
> I ever realized. :-)

Oh darn. A typo. I know it will be quoted over and over in subsequent
posts. So be it.

Well, actually two typos. It should read "V and I are RMS voltages
and currents".

> > Interestingly, the expression P=V*I*cos(theta) for sine
> > waves is always derived by starting with Pinst=Vinst*Iinst,
>
> Interestingly, you forgot to say you were talking about
> instantaneous power until now.

My apologies. I did not mean to confuse you. Since reflection is
an instantaneous phenomenon, I just tend to think of it that way.

> > True. But there IS energy flowing at every point that is not a voltage
> > minimum or maximum. At these points there is NEVER any energy
> > flowing.
>
> Every half cycle in every EM traveling wave, the instantaneous
> power is zero. Would you therefore argue that traveling waves
> cannot transfer any energy? Please get real.

Of course not. But when the instaneous power is 0 for all instants
then no energy can be flowing.

> Given two parallel water pipes carrying 100 gallons/minute
> in opposite directions. I can see you arguing that there
> is no NET flow of water. But I cannot see you arguing that

> there is no flow of water at all when the pressure of just
> one stream can knock you off your feet.

Given one pipe of water, I also would not argue there are 10**9
gallons flowing per minute in one direction and 10**9 gallons
flowing per minute in the other, but the net is 0 so all is well.

That is analagous to the claim being made for forward and
reverse energy carrying travelling waves. Are you arguing
that for the water?

> > Well that does leave you with a bit of a conundrum since on
> > an open ended line, zero energy is flowing at every quarter
> > wavelength point back from the load.
>
> The conundrum is all yours. Every half cycle, every EM
> traveling wave is at a zero instantaneous power point.
> If EM traveling waves can transfer energy while the
> instantaneous power is zero every half cycle, superposing
> two of them doesn't present a conundrum at all.

Except at those points where for every instant the instantaneous
energy transfer is zero.

> > At such a point a real instantaneous wattmeter would always
> > indicate zero.
>
> A real instantaneous wattmeter would always indicate zero
> at the zero crossing of every EM traveling wave in the
> universe so exactly how does the light from Alpha Centauri
> ever make it to Earth when the instantaneous power is zero
> every half cycle? Please get real.

There is quite a difference between the instanteous power being
occasionally zero and being zero for all instances. Real enough?

...Keith

4811. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 13:58:21 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177077501.676119.258100@b58g2000hsg.googlegroups.com>
Source record: 42559

On Apr 20, 9:23 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > For example, in all your examples you now provide a circulator
> > because you think this is the only way to control reflections,
> > when in fact, all that is necessary is a source impedance that is
> > equivalent to the line impedance and there will be no reflection.
>
> Your above statement has been proved wrong in any number
> of bench experiments.

Actually, most bench experiments demonstrate the opposite.
Were you to take a moment and look at the schematic for any
typical signal generator, you would find the resistor that matches
the generator to the line and prevents reflection of signals
incident upon the generator.

> > In other cases you claim that problems are insolvable because
> > insufficient information is provided about the generator. In fact,
> > all you need to do is use the source impedance to compute
> > the reflection coefficient and the problem is solved.
>
> Again, proved wrong by any number of bench experiments.

It would be educational if you could describe one of these
experiments.

Remember, you are looking for a re-reflection of the reverse signal
at a generator whose source (output) impedance matches the line
characteristic impedance.

> > You claim that superposition does not work in a generator.
>
> Not that it doesn't work - just that it is impossible
> for a reflected wave to compete with an active dynamic
> source. The source essentially ignores the reflected
> wave like a fire hose ignores you trying to spit up
> the hose against the flow.

Either it works, or it doesn't. Superposition in circuit theory
is not dependant on the relative magnitudes of any of the
sources.

> > You will find that the alternatives work better, ...
>
> Sorry Keith, I stopped listening to you when you asserted
> that I is voltage.

Darn. I knew that typo would show up again. On the other hand, I can take some pleasure in accurate predictions.

...Keith

4812. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 13:58:32 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <cG3Wh.333508$5j1.168776@bgtnsc04-news.ops.worldnet.att.net>
Source record: 42560

Cecil Moore wrote:
> Gene Fuller wrote:
>> Where are the equations that describe this "delta-t" stuff that you
>> keep bringing up?
>
> I made an error in my last reply and have canceled that reply.
>
> delta-t is a mathematical term, Gene, related in the limit
> to the differential dt. If you have to ask, I'm sure you
> wouldn't understand the explanation.
>
> Given the following experiment with two signal generators
> equipped with circulators and load resistors - the generators
> are phased-locked to ensure coherency:

[random s-parameter babble snipped]

> How
> long does it take to achieve b1 = s11(a1) + s12(a2) = 0?
> I estimate that time to be delta-t which becomes dt
> in the differential equation limit.
>
> The principle of superposition allows us to observe that
> s11(a1) and a12(a2) actually existed before they were
> canceled.

Cecil,

That's typical; you don't have a clue about what you have dragged
yourself into.

Let's see. Delta-t is, uhhhh, delta-t. And of course we can replace
delta-t by the differential form, dt, if we choose. You haven't offered
the slightest justification for this bizarre formulation. Where are the
equations that include delta-t or dt? Sure, Maxwell's equations include
time derivatives, but somehow that does not seem to offer much help for
your delta-t dilemma. I always though that part of the utility of
s-parameters is that they do not have any time dependence in steady
state conditions. Is there some equation for ds11/dt that I missed?

I would sure like to see your definition of "the principle of
superposition" if it somehow says that something existed before it was
canceled. I cannot find that definition in any of my sources.

8-)

73,
Gene
W4SZ

4813. Re: W9INN Antenna Designs

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 14:40:40 UTC
From: "Dick, AA5VU" <aa5vuNOSPAM@arrl.net>
Message-ID: <aa5vuNOSPAM-C54007.09404020042007@newsclstr02.news.prodigy.com>
Source record: 42561

In article <u_ednU8zc6lOvrXbnZ2dnUVZ_uiknZ2d@comcast.com>,
"notme" <nono@no.org> wrote:

> "Dick, AA5VU" <aa5vuNOSPAM@arrl.net> wrote in message
> news:aa5vuNOSPAM-3C4D1A.13461719042007@newsclstr02.news.prodigy.com...
> > Many of us miss Bill, W9INN, and have had years of enjoyment from his FB
> > antennas. When I purchased my antenna from Bill in 1977 or 1978 he
> > provided excellent documentation that I have lost.
> >
> > Did anyone take the time to scan Bill's documents or have they been
> > saved in a library somewhere?
> >
> > I would like to get the specifications on his 40/80 reactor (his term
> > for a trap) so mine can be rebuilt.
> >
> > What started out life as a 40/80 dipole from W9INN was modified by me to
> > add extra sets of wires for 10 MHz and 18 MHz and I got lucky the whole
> > mess works FB on 24 MHz as well as 50 MHz. The antenna has been up for
> > 25++ years and still works great.
> >
> > W9INN you are missed!
> >
> > 73, Dick AA5VU
>
> Can you provide any diagrams, plans, measurements, etc....?
>
> Thanks!

That is why I hope someone has the documentation.

I have looked through my stuff and cannot find Bill writings.

Bill's antennas were mostly coax fed with NO baluns. He used a center
insulator (his design) and had some unique trap like coils of wire that
he called reactors.

Dick AA5VU

4814. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 15:35:49 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <p55Wh.12004$Kd3.10192@newssvr27.news.prodigy.net>
Source record: 42562

Roy Lewallen wrote:
> Well, let's see. Begin with two identical, phase locked generators with
> fixed 50 ohm output resistances. Connect the output of generator A to a
> one wavelength 50 ohm transmission line, and the output of generator B
> to a half wavelength 50 ohm line. Connect the far ends of the lines
> together, and to a third transmission line of any length. Let's properly
> terminate the third line for simplicity. Superposition should work with
> this system, so begin by turning off generator A. The one wavelength
> line is now perfectly terminated and looks just like a 50 ohm resistor
> across the third line. Generator B puts half its power into generator
> A's output resistance and half into the third line's load.

If generator A has 100 watts available to a 50 ohm load, how
much power is being dissipated in the resistor at the end of
the third transmission line?

Did you account for the fact that the generator sees 25 ohms,
not 50 ohms? Are you ignoring the reflections on generator
A's feedline?

> There's a
> wave traveling down that line. Now turn off B and turn on A, and note
> that half of A's power is going to B's source resistance and half into
> the third line's load.

With either source turned off, the voltage reflection coefficient at
the junction of the three lines is rho = (25-50)/(25+50) = -0.33.
Did you account for the resulting reflections?

> If you believe as I do that waves don't interact in a linear medium and
> believe in the validity of superposition in such a medium, then you
> believe that when both generators are on there are two waves going down
> that third line. They're exactly equal but out of phase, so they add to
> zero everywhere along the line. With the system on and in steady state,
> there's absolutely no way you can tell the difference between this sum
> of two waves and no waves at all. *They are the same.* If you look at
> the input to the third line, you'll find a point with zero voltage
> across the line, and zero current entering or leaving it. Where you will
> get into serious trouble is if you assign a power to each of the
> original waves.

Would you agree that the waves are EM waves? Would you agree
that the waves each have an E-field and a B-field? Would you
agree that the joules/sec in each wave is proportional to
ExB and that the waves could not exist without those joules/sec?
There is absolutely no problem assigning joules/sec to each

EM wave. In fact, the laws of physics demands it.

> Then you'll have a real job explaining where the power
> in one of the waves went when you turned on the second generator --
> among other problems.

It's no problem at all. Optical physicists have been doing it
for over a century. The energy analysis at the feedline junction
point is very straight forward. It simply obeys the wave reflection
model, the superposition principle, and the conservation of
energy principle.

> A solution to the problem based on the assumption that there are no
> waves on the third line and one which claims there are two canceling
> waves are equally valid, and both should give identical answers.

EM waves cannot exist without ExB joules/sec, i.e. EM waves
cannot exist devoid of energy. Those two waves engaged in
destructive interference which redirected the sum of their
energy components back toward the sources as constructive
interference. They interacted at the physical impedance
discontinuity and ceased to exist in the third feedline.

In your example, with both sources on, the SWR on the two
generator feedlines is infinite. There is exactly enough joules
stored in each line to support the forward and reflected powers
measured by a Bird directional wattmeter.
--
73, Cecil, w5dxp.com

4815. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 15:44:24 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1177083864.796914.227430@b75g2000hsg.googlegroups.com>
Source record: 42563

On Apr 19, 3:24 pm, Cecil Moore <nos...@w5dxp.com> wrote:

> Interaction is certainly required for them to cancel forever.

So let it be written, so let it be done. :-)

> Otherwise, we have all these energyless phantom ghost waves
> existing forever.

Apparently you intend to concern yourself with waves which never
existed, forever.

73, AC6XG

4816. W9INN Antenna Designs

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 15:47:19 UTC
From: "Dick, AA5VU" <aa5vuNOSPAM@arrl.net>
Message-ID: <aa5vuNOSPAM-19BF19.10471820042007@newsclstr02.news.prodigy.com>
Source record: 42564

Many of us miss Bill, W9INN, and have had years of enjoyment from his FB antennas. When I purchased my antenna from Bill in 1977 or 1978 he provided excellent documentation that I have lost.

Did anyone take the time to scan Bill's documents or have they been saved in a library somewhere?

I would like to get the specifications on his 40/80 "resonactor"(his term for a trap) so mine can be rebuilt.

What started out life as a 40/80 dipole from W9INN was modified by me to add extra sets of wires for 10 MHz and 18 MHz and I got lucky the whole mess works FB on 24 MHz as well as 50 MHz. The antenna has been up for 25++ years and still works great.

W9INN you are missed!

73, Dick AA5V

4817. Re: W9INN Antenna Designs

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 15:50:50 UTC
From: "Dick, AA5VU" <aa5vuNOSPAM@arrl.net>
Message-ID: <aa5vuNOSPAM-AE9649.10504920042007@newsclstr02.news.prodigy.com>
Source record: 42565

In article <u_ednU8zc6lOvrXbnZ2dnUVZ_uiknZ2d@comcast.com>,
"notme" <nono@no.org> wrote:

> "Dick, AA5VU" <aa5vuNOSPAM@arrl.net> wrote in message
> news:aa5vuNOSPAM-3C4D1A.13461719042007@newsclstr02.news.prodigy.com...
> > Many of us miss Bill, W9INN, and have had years of enjoyment from his FB
> > antennas. When I purchased my antenna from Bill in 1977 or 1978 he
> > provided excellent documentation that I have lost.
> >
> > Did anyone take the time to scan Bill's documents or have they been
> > saved in a library somewhere?
> >
> > I would like to get the specifications on his 40/80 resonactor (his term
> > for a trap) so mine can be rebuilt.
> >
> > What started out life as a 40/80 dipole from W9INN was modified by me to
> > add extra sets of wires for 10 MHz and 18 MHz and I got lucky the whole
> > mess works FB on 24 MHz as well as 50 MHz. The antenna has been up for
> > 25++ years and still works great.
> >
> > W9INN you are missed!
> >
> > 73, Dick AA5VU
>
> Can you provide any diagrams, plans, measurements, etc....?
>
> Thanks!

That is why I hope someone has the documentation.

I have looked through my stuff and cannot find Bill writings.

Bill's antennas were mostly coax fed with NO baluns. He used a center
insulator (his design) and had some unique trap like coils of wire that
he called a resonactor.

Dick AA5VU

4818. Re: A good RF ground

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 16:11:58 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <k1ph23d0all7377tmes7o3jeg6vmn50q2e@4ax.com>
Source record: 42566

On Fri, 20 Apr 2007 09:02:34 +0100, "Richard"
<nearlynews_email@ntlworld.com> wrote:

>The first thing to do is to prepare the ground, that is, alter the nature of
>the ground in the vicinity of the antenna from an electrical point of view.
>To improve from "poor ground" to "good ground", in an electrical sense. That
>can be done by laying wires in the ground (radials) or a wire mesh. Once
>that is done, one is in a better postion to have the best RF ground
>possible. I think this is what the radial/wires do, they simply alter the
>nature of the ground where they are placed. This is like making poor ground,
>good ground or good ground, excellent ground by laying wires in the ground.

Hi Richard,

Yes, this is a good analogy. It fails quickly, however. That is, you
do not gain better ground characteristics in proportion to the number
of radials.

So, as general rules go, the common advice is to make your radials as
long as the radiator is high, and to lay out as many as you feel
comfortable doing. If you need a hard number, then a dozen to sixteen
is a good starting place from which others can argue ceaselessly to
offer you to gain only 1 more dB of performance (maybe 2).

>Now what seems to be the case is that there is an advantage in making the
>ground nearest the antenna the very best ground that you can. So, if you are
>going to use wires to better the ground, make sure that most radials go in
>near the base of the antenna.
>
>Of course, wires improve the ground, it's conductivity, but in practice, you
>tend to connect the antenna to the radials/wires rather than make for
>seperate arrangements.

True, that is the sense of a counterpoise. However, even a ground
field beneath a dipole overhead improves the dipole's performance and
there is no direct connection there. Some would argue this only
describes a yagi pointing straight up and the gain only comes to more
power poured into the clouds. Yes, this is an appealing argument, and
yet if you consider how much the gain rises at a low angle of launch;
then you find it is beneficial in that respect as well.

The alternative view of radials is that they operate as a shield
against loss.

73's
Richard Clark, KB7QHC

4819. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 16:34:11 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1177086851.488847.188170@n76g2000hsh.googlegroups.com>
Source record: 42567

On Apr 19, 7:47 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Thu, 19 Apr 2007 17:51:10 -0700, Jim Kelley <jwkel...@uci.edu>
> wrote:
>
> >So I gotta ask: what do waves do instead of superposing when there
> >isn't a load somewhere? Whistle and look the other way? :-)
>
> Hi Jim,
>
> What do they DO?

I was hoping to persuade you to tell us, Richard. In your post, you
only told us what they don't do.

73, Jim AC6XG

4820. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 16:38:00 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <I%5Wh.93$RX.38@newssvr11.news.prodigy.net>
Source record: 42568

Keith Dysart wrote:
> All true, and as long as you think of voltage and current waves
> you won't get into trouble.

I don't recall Maxwell's equations relying on "voltage and
current waves".

> The key point is that the line conditions did not change, so the
> same reflections must be occuring and yet your explanation
> claims that sometimes nothing is reflected and sometimes
> all is reflected.

If you put two signal generators equipped with circulator
loads at each end of a transmission line, there are absolutely
no reflections anywhere. Yet there is a forward wave and a
reverse wave. We can cause a reverse wave when "sometimes
nothing is reflected and sometimes all is reflected". The
transmission line will not know the difference.

> Did you read the same paper I read? I recall that the claim was a
> conjugate match of the effective impedances AFTER tuning. The
> systems under discussion here have not been tuned for maximum
> power transfer.

The existence of a conjugate match is irrelevant to our
discussion. All that is relevant to our discussion is
that the reflected waves does not see the generator
source impedance.

> Oh darn. A typo. I know it will be quoted over and over in subsequent
> posts. So be it.

Keith, arrogant omniscient beings, as you present yourself
to be :-), do not make typos.

> Of course not. But when the instaneous power is 0 for all instants
> then no energy can be flowing.

The instantaneous power is zero every 1/2WL in an EM wave.
Therefore, according to you, EM waves cannot transfer energy
or power. Good luck on that one.

> There is quite a difference between the instanteous power being
> occasionally zero and being zero for all instances. Real enough?

If the instantaneous power is zero for all space and time,
an EM wave cannot exist.
--

73, Cecil, w5dxp.com

4821. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 16:46:27 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <e56Wh.376$Ea5.288@newssvr19.news.prodigy.net>
Source record: 42569

Keith Dysart wrote:
> It would be educational if you could describe one of these
> experiments.

I already did - Bruene's early 1990's QST article.

> Remember, you are looking for a re-reflection of the reverse signal
> at a generator whose source (output) impedance matches the line
> characteristic impedance.

It happened with your pet generator from which you quickly
tried to divert attention. Zero power dissipation inside
a "matched" source is hard to sweep under the rug, huh?

> Either it works, or it doesn't.

Superposition works in some situations and doesn't work
in others. For instance, it doesn't work with power.
--
73, Cecil, w5dxp.com

4822. Re: A good RF ground

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 17:01:03 UTC
From: Bob Miller <NOSPAM@neosoft.com>
Message-ID: <75sh239g7obhjq20op8m6bdo1q5msvgv5q@4ax.com>
Source record: 42570

On Fri, 20 Apr 2007 07:44:52 +0100, "Richard"
<nearlynews_email@ntlworld.com> wrote:

Before you dig up the earth, you might try a quickie fix, a 1/4 wave
elevated counterpoise, run from your tuner ground nut, out the window,
hung from the side of the house or whatever. That's all it took to
provide a 1:1 swr for my last "long wire," a 3/4 wave wire for 20
meters.

bob
k5qwg

>
>"Jim Lux" <james.p.lux@jpl.nasa.gov> wrote in message
>news:f089q6glv1@nntp1.jpl.nasa.gov...
>> Richard wrote:
>>> I want to put up a "long wire" with the feedpoint at one of the back end
>>> corners of the garden. I need a good RF ground.
>>>
>>> If I got a length of 6 foot wide copper sheet and made out of it a
>>> cylinder,
>>> say 6 feet in diameter, and then placed that cylinder in an upwards
>>> position
>>> in the ground, the top level with the surface, would that be a good idea
>>> for
>>> trying to acheive a decent RF ground? Also, is there anything I could
>>> place
>>> around the cylinder to better the conduction between the cyinder and the
>>> earth around it? Should I drill holes in the cylinder so I can pour water
>>> into the cylinder to keep the ground around it moist?
>>>
>>> Would I still benefit from some radials in the ground?
>>>
>>> My garden's about 33 foot long, 21 foot wide. Ground gets rather rocky
>>> and a bit sandyish at about 9 inches or so from the surface.TIA.
>>>
>> That might be overkill.. Why not spend the money on a spool of copper
>> wire and lay radials. For RF purposes, large area of coverage is more
>> important than low impedance at a particular point. You want to improve
>> the apparent conductivity of the soil over as much volume as you can.
>> Think of your grounding system as (partially) a big leaky capacitor to
>> "the earth".. you want to spread the RF current out over as large an area
>> as possible, and radials are probably the easiest way to do it. There's
>> nothing special about how you lay the radials or their length (they're in
>> dirt, so they're not tuned or resonant.. just wires).

>
>Maybe a 3 foot wde cylinder would be adequate.
>
>One thing: Why are radials so effective? They are not resonant
>counterpoises, and from the aspect of surface area in contact with ground,
>radials have hardly any surface area that "connects" with "the earth". I can
>understand if I put in a 20 foot by 20 foot copper plate flat in the earth
>that would "connect" to earth quite well, I mean the measured ohmic
>resistance to "the earth" could be quite low. But also capacitive coupling
>would be low too. But radials have no real capacitive coupling to "the
>earth" neither much surface area in contact with "the earth". So it confuses
>me as to why they are so effective.
>
>BTW, since it looks like many wires in the earth are as good as a plate,
>perhaps I could put in a wire mesh grid about 1 foot under the soil over the
>whole garden . I'm digging up the garden anyway. Perhaps with some ground
>stakes here and there connected to the grid, although maybe not necessary.

4823. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 17:59:20 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <2mph2314qh1f7419gsd8jbp44180olpds4@4ax.com>
Source record: 42571

On Fri, 20 Apr 2007 00:46:07 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>Richard Clark wrote:
>>
>> Hi Owen,
>>
>> And you have already allowed that superposition does not fail. Thus
>> there must be some other failure to be found in the choice of antenna.
>> From other correspondence, it is asserted that a gain antenna, by
>> virtue of its size, cannot be placed in null space (that point wherein
>> all contributions of energy sum to zero) which is planar and
>> equidistant between sources (there being two of them for the purpose
>> of discussion).
>>
>> Have I described this accurately?
>
>I think it might be more fundamental and perhaps subtle than just a
>limitation of size. If the null space is a whole plane, as with the two
>radiating elements of my example, you have an infinite area on which to
>construct your antenna, although it would have to have zero thickness.
>But even allowing infinitely thin elements, I don't see any way you can
>construct it entirely on the plane so it will be more sensitive to
>signals coming from one side of the plane than the other.

Hi Roy,

I presume by your response that it affirms my description. Moving on
to your comments, it stands to reason that the reduction of the
argument proves you cannot build an antenna with directivity within a
very specific constraint - the null space. As there is zero dimension
on the axis that connects the two sources, then no directivity can be
had from a zero length boom as one example. Other examples would
demand some dimension other than zero along this axis is where I see
the counter-argument developing.

>... But if I'm
>right, then there's no way to do as Owen originally proposed, namely to
>determine entirely from a null space that the null is the sum of
>multiple fields, let alone the nature of those fields -- at least with a
>directional antenna. It has to extend out where it can a sniff of the
>uncanceled fields to do that.

This then suggests that there is something special about null space
that is observed no where else. That is specifically true, but not
generally. What is implied by null is zero, and in a perfect world we

can say they are equivalent. Even a dipole inhabiting that null space would bear it out, whereas an antenna with greater directivity along that axis would not.

However, if we open up the meaning of null to mean a point, or region, within which we find a minimum due to the combination of all wave contributions, then I would say a directive antenna is back in the game, and that it exhibits Owens proposition (if I understand it - but I still need to see Owen's elaboration).

73's
Richard Clark, KB7QHC

4824. Re: A good RF ground

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 18:07:24 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <f0avgr$8f9$1@nntp1.jpl.nasa.gov>
Source record: 42428

Richard Clark wrote:
> On Fri, 20 Apr 2007 07:58:16 +0100, "Richard"
> <nearlynews_email@ntlworld.com> wrote:
>
>
>>More like the radials make the ground below your feet more like say
>>a pool of salt water than the high resistivity ground that it normally is.
>>What do you think?
>
>
> Hi Richard,
>
> Actually salt water sucks as a local ground - it is as poor a "good"
> conductor as you could imagine. Carbon is a far better conductor than
> salt water, but no one yet has suggested building on top of a coal
> seam.
>
> You would be better off filling your yard with sand to the depth of 30
> feet or so (yeah, sure). The testimonials attributed to salt water
> comes with its far field qualities of a tremendous mismatch to air and
> offering spectacularly low radiation launch angles.

mostly due to that epsilon of 80, more than the conductivity

>
> So, copper replaces a very poor conductor (as a first pass
> approximation). Invest your copper in close proximity to the base of
> the antenna. That is, a lot of short radials, and a fair number of
> medium size ones, and a few long ones.

Exactly...

In fact, one can do some numerical analysis to figure out an optimum strategy, based on minimizing IR losses in the soil. The current density is higher close to the base of a vertical, so, at first glance, it would appear that improvements in conductivity there would have more "value". I imagine there's some nice integration that covers it all.

All that analysis and spreadsheets out there all make the assumption that you want all radials the same length, which isn't necessarily so.

What also throws a "wrench into the gear train" is that if you start looking at verticals with nonuniform current distributions, especially if they aren't representable by a "simple" form such as linear or cos(h), an analytical approach gets tricky (hence the suggestion for numerical methods). Consider, for instance, a half wave dipole with the

center, say, 3/8 wavelength above the ground. Or some sort of asymmetric vertical with an elevated feedpoint, or loading coils. The optimum radial layout gets a bit trickier to figure out.

> Two things to consider. The ground closest to the antenna is
> responsible for efficiency in loading. The ground further out
> (between 5 and 10 wavelengths, or more) is responsible for launch
> efficiency (offering lower launch angles).
>
> 73's
> Richard Clark, KB7QHC

4825. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 18:08:52 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <710i23ddbi15keslcg4rsi2kffinj86l08@4ax.com>
Source record: 42572

On 20 Apr 2007 09:34:11 -0700, Jim Kelley <jwkelley@uci.edu> wrote:

>On Apr 19, 7:47 pm, Richard Clark <kb7...@comcast.net> wrote:
>> On Thu, 19 Apr 2007 17:51:10 -0700, Jim Kelley <jwkel...@uci.edu>
>> wrote:
>>
>> >So I gotta ask: what do waves do instead of superposing when there
>> >isn't a load somewhere? Whistle and look the other way? :-)
>>
>> Hi Jim,
>>
>> What do they DO?
>
>I was hoping to persuade you to tell us, Richard. In your post, you
>only told us what they don't do.

Hi Jim,

They do nothing. It is still an odd question - unless it was posed
for the benefit of lurkers who are in doubt.

73's
Richard Clark, KB7QHC

4826. Re: Multi-band dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 18:12:31 UTC
From: nm5k@wt.net
Message-ID: <1177092751.439739.127390@q75g2000hsh.googlegroups.com>
Source record: 42573

On Apr 19, 4:28 pm, Roy Lewallen <w...@eznec.com> wrote:
> m...@earthlink.net wrote:
> > So would a 80/40/20 be the thing to make? For whats it's worth, I
> > don't have a tuner right now.
> > I just want to cut each for the middle of the band for General phone,
> > and accept whatever bandwidth
> > I get.
>
> That'll get you on those three bands and, as I mentioned, you can
> probably get a reasonable impedance on 15 as well by fiddling the 40
> meter antenna a bit. It won't be quite resonant on 40, but probably
> close enough so your rig won't shut down.
>
> Roy Lewallen, W7EL

He may notice a resonant point around 27-28-29 mhz also..
If you use a length a coax to feed, that will add a 1/4 wave
of length to the 80 legs, IE: about 60-70 feet, you can feed
the shorted coax end from the shack, and run it on 160m as
a vertical. When I use the 40 legs for 15m, I usually slap a
tuner inline as a line flattener to keep the radio happy, and
also increase the usable bandwidth. I usually don't trim the
40 antenna to get a match on 15, as I prefer the 40 legs to
be tuned where I cut it, which is usually in the middle of the
band, so I can work both phone and CW. Any cheap tuner
will easily give a good match for 15m, and the loss is going
to be low, being the match isn't bad to begin with.
In the old days with tube rigs, I never worried about tuning 15.
The rigs would tune it no problem, with no tuner required.
But the newer solid state radios are a bit pickier.. So I'll
put the tuner on. I have a 989c which is always inline, but
rarely actually used in most cases, except for the meter,
and in rare cases like 15m, 30m, and maybe 160m where
I want to tweak the match a bit.
MK

4827. Re: Multi-band dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 18:16:20 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <f0b01j$8oj$1@nntp1.jpl.nasa.gov>
Source record: 42429

John Ferrell wrote:
> On 19 Apr 2007 12:17:00 -0700, mm58@earthlink.net wrote:
>
>
>>Hello,
>>
>>Just joined the group and I have a question about constructing a multi-
>>band dipole.
>>
>>I plan to construct a 80/40/20/15 band multi-element dipole using
>>separate dipole wires for each band,
>>but a single feedpoint. My question is: how important is the spacing
>>BETWEEN the
>>individual band wires. I understand that they can't/shouldn't touch,
>>but is there any distance
>>that is optimal? or is just keeping them from touching enough?
>>
>>Thanks,
>>
>>Mike
>>KD7VRG
>
> There is a picture in most ARRL antenna books that shows a fan dipole
> made from twin lead that just don't work!
>
> Other than that, my experience with fans has been good. They are easy
> to adapt to any environment. The same tactics adapt to a vertical
> quarter wave as well.

I find that trying to prune/tune a multiwire antenna (like a fan) is an exercise in frustration because of the strong interactions among the elements, aggravated by the fact that most people install antennas in places other than a vacuum. there's wind blowing (which changes the spacing), trees, other stuff, etc.

So, I figure that if you get it "reasonably close", and then use an autotuner to deal with the rest. If you want to obssess about loss in the feedline, then put the tuner at the feedpoint.

Yes, the tuner costs some money, but it's a one time investment, and makes playing with wire antennas much more pleasant and fast. Once you've got that tuner, you can literally build decent antennas in 10 minutes with parts from the grocery store.

If you get a tuner that has a computer interface, then you can use it to measure the Z of the antenna, if you feel compelled to prune.

4828. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 18:23:24 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0b0k8$f21$1@news.service.uci.edu>
Source record: 42574

Richard Clark wrote:

> On 20 Apr 2007 09:34:11 -0700, Jim Kelley <jwkelley@uci.edu> wrote:
>
>
>>On Apr 19, 7:47 pm, Richard Clark <kb7...@comcast.net> wrote:
>>
>>>On Thu, 19 Apr 2007 17:51:10 -0700, Jim Kelley <jwkel...@uci.edu>
>>>wrote:
>>>
>>>
>>>>So I gotta ask: what do waves do instead of superposing when there
>>>>isn't a load somewhere? Whistle and look the other way? :-)
>>>
>>>Hi Jim,
>>>
>>>What do they DO?
>>
>>I was hoping to persuade you to tell us, Richard. In your post, you
>>only told us what they don't do.
>
>
> Hi Jim,
>
> They do nothing. It is still an odd question - unless it was posed
> for the benefit of lurkers who are in doubt.

Hi Richard,

Actually, it was posted because of doubt about your claim "Remove the
load, and you remove interference." Please describe this phenomenon
in more detail. The implications are huge.

Thanks,

Jim AC6XG

4829. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 18:40:09 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <142i239ee39q98pca866uv5sji58ve0qa9@4ax.com>
Source record: 42575

On Fri, 20 Apr 2007 11:23:24 -0700, Jim Kelley <jwkelley@uci.edu>
wrote:

>Actually, it was posted because of doubt about your claim "Remove the
>load, and you remove interference." Please describe this phenomenon
>in more detail. The implications are huge.

Hi Jim,

Implications aside, it would help us all if you simply describe your
doubt instead of having me fish for your problem.

73's
Richard Clark, KB7QHC

4830. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 18:41:40 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <BP7Wh.5760$H_5.4294@newssvr23.news.prodigy.net>
Source record: 42576

Gene Fuller wrote:
> Where are the equations that include delta-t or dt?

Unfortunately, for that type of detail, I need to reference
my technical library which is 125 miles away at my new QTH.
Please stand by.
--
73, Cecil http://www.w5dxp.com

4831. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 18:44:41 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <qS7Wh.5761$H_5.239@newssvr23.news.prodigy.net>
Source record: 42427

Jim Kelley wrote:
> So let it be written, so let it be done. :-)

That's much more in accordance with your omniscience, Jim.

> Apparently you intend to concern yourself with waves which never
> existed, forever.

The keepers of the s-parameter analysis will be interested
to know that you can prove that s11(a1) and s12(a2) never
existed. Have you contacted them with your insight?
--
73, Cecil http://www.w5dxp.com

4832. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 19:11:53 UTC
From: JB MacDonald <k1jzp@comcast.net>
Message-ID: <h72dnW95aKfEjbTbnZ2dnUVZ_t-mnZ2d@comcast.com>
Source record: 42430

Tnx for the reply The chalk line, securing one end and guessing at the other , a little off on the other end (guess)at center of pipe at best could through line off. 2. Great idea but you have to have a perfect flat level surface to start with.great idea for small lengths though. JB

John Smith I wrote:
> JB MacDonald wrote:
>> I know how to find the center of a pipe, using a vee block, but my
>> question is how do you scribe a line from one end to the other , so
>> the first hole is in perfect alignment with the last hole .. take for
>> example a 20 foot pipe , or tubing . If we had a 20 foot layout table
>> fine , clamp pipe down and use a height gauge to scrib a line the length
>> of the pipe. if you do not have a line you could get a twist(miss
>> alignment) but what can a person due that does not have a 20 foot
>> layout table . Maybe I am being to critical
>
> Two methods I have use:
>
> 1) "Chalk line", available at any hardware store. Stretch line tight
> down the center of the top of the boom (as viewed from above) snap!
>
> 2) Lay a 20 ft board, which is 1/2 dia of boom, next to boom and scribe
> line down the top of the board on the boom.
>
> I am sure there are other ways ...
>
> JS

4833. Re: GAP Titan DX

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 19:18:51 UTC
From: Philo <philo@nospampse.be>
Message-ID: <vm8Wh.131326$pJ3.928905@phobos.telenet-ops.be>
Source record: 42431

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:v4ha23tplv861skso8g1b34l0gkmdo39t9@4ax.com...
> On Tue, 17 Apr 2007 21:59:23 +0200, franky <frankyb_doe_weg@sk> wrote:
>
>>It's ground mounted today. Do you think the swr pattern will change if I
>>put it 8 feet off the ground?
>
> Hi Franky,
>
> Yes.
>
> 73's
> Richard Clark, KB7QHC

"The Titan is a respectable 25' tall and weighs a solid 25 pounds. The Titan
is configured to mount easily on a 11/4" O.D. mast. This mast can be a
length of your choosing and since the feedpoint is elevated this mast can be
as short as a foot."

4834. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 19:23:26 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0b44q$i04$1@news.service.uci.edu>
Source record: 42432

Richard Clark wrote:
> On Fri, 20 Apr 2007 11:23:24 -0700, Jim Kelley <jwkelley@uci.edu>
> wrote:
>
>
>>Actually, it was posted because of doubt about your claim "Remove the
>>load, and you remove interference." Please describe this phenomenon
>>in more detail. The implications are huge.
>
>
> Hi Jim,
>
> Implications aside, it would help us all if you simply describe your
> doubt instead of having me fish for your problem.

Hello again Richard,

Seems we're having some difficulty communicating so I'll do you the favor that you rarely extend to anyone, and speak as plainly as possible. The subject matter is interference; a result of the superposition of waves. Your assertion regarding the phenomenon is: "No load, and any issue of canceling fields is strictly limited to what goes on between the ears."

My question, plainly put is: What in the hell are you talking about?

Thanks and regards,

Jim, AC6XG

4835. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 19:31:05 UTC
From: JB MacDonald <k1jzp@comcast.net>
Message-ID: <m9ydnWQGULhFibTbnZ2dnUVZ_s6onZ2d@comcast.com>
Source record: 42433

Great Idea! I Just have to extend my table on the right side, keeping
my perfectly aligned Vee block clamped down . Now it sounds simple . Tnx JB

Tom Ring wrote:
> JB MacDonald wrote:
>
>> I know how to find the center of a pipe, using a vee block, but my
>> question is how do you scribe a line from one end to the other , so
>> the first hole is in perfect alignment with the last hole .. take for
>> example a 20 foot pipe , or tubing . If we had a 20 foot layout table
>> fine , clamp pipe down and use a height gauge to scrib a line the length
>> of the pipe. if you do not have a line you could get a twist(miss
>> alignment) but what can a person due that does not have a 20 foot
>> layout table . Maybe I am being to critical
>
> Assuming you have a drill press or drill guide that allows vertical
> drilling, and assuming that you have at least a few feet of table, there
> is a solution, for VHF and up anyway.
>
> Take a small piece of plate or board and mount a rod the same diameter
> as the holes you are drilling vertically from it. The accuracy here is
> going to set your ultimate result. If you are off 1 degree and use the
> device as a reference 10 times during the drilling, you will have a 10
> degree twist, although there is a simple way to reduce that error.
>
> Drill your first hole. Now use the device and the new hole to hold the
> boom in place and slide along your table to position your drill at the
> next hole. Move the device to the latest hole drilled as you run out of
> table. To reduce errors from imperfect vertical on the device, rotate
> it 180 degrees between each move.
>
> I have used this method to drill 39 element holes for a 31 foot 432 beam
> with almost perfect results on an 8 foot table and just a drill guide,
> not a drill press. It can be used across boom diameter boundaries,
> which it was in this case, with a bit of care.
>
> tom
> K0TAR

4836. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 19:33:29 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0b4nliga1@news.service.uci.edu>
Source record: 42434

Cecil Moore wrote:

> The keepers of the s-parameter analysis will be interested
> to know that you can prove that s11(a1) and s12(a2) never
> existed. Have you contacted them with your insight?

You should notify them immediately of this outrage! (Then afterwards
you can verify that s-parameters must indeed always have non-zero values.)

:-)

ac6xg

4837. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 19:41:02 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <t65i23popjre6fq5tfv59efva20pke30mo@4ax.com>
Source record: 42435

On Fri, 20 Apr 2007 12:23:26 -0700, Jim Kelley <jwkelley@uci.edu>
wrote:

>Your assertion regarding the phenomenon is:
>"No load, and any issue of canceling fields is strictly limited to
>what goes on between the ears."
>
>My question, plainly put is: What in the hell are you talking about?

Hi Jim,

This quote of mine is simply an example of poetic license, it is to suggest that without a load, interference is a concept trapped in the mind and unrealized = there is no interference. You asked several times about what do the waves DO, and certainly this was one of many expressions I've offered that responded to that. I didn't see why repetition was necessary, or that I had to construct yet another elaboration, unless you were fishing for stylistic variation. I would be happy to go there! ;-)

It helps to know what your doubt was about, as we would have gone around the track several times to home in on one sentence.

73's
Richard Clark, KB7QHC

4838. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 19:46:50 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132i65akeo8o476@corp.supernews.com>
Source record: 42436

Richard,

As often happens, I don't think we're fully communicating.

Richard Clark wrote:
>
> I presume by your response that it affirms my description. Moving on
> to your comments, it stands to reason that the reduction of the
> argument proves you cannot build an antenna with directivity within a
> very specific constraint - the null space. As there is zero dimension
> on the axis that connects the two sources, then no directivity can be
> had from a zero length boom as one example. Other examples would
> demand some dimension other than zero along this axis is where I see
> the counter-argument developing.

In the two antenna example, the null space is a plane. Since the plane is infinite in extent, you can create in that plane an antenna with a boom of any length, and therefore with arbitrarily high directivity. However, if you restrict that antenna to lie entirely in the null plane, that directivity won't be in a direction such that the antenna will favor one radiator over the other. Therefore it can't tell if the null plane is simply an area in space with no field, or whether it's the result of two superposing fields. And I believe this is true for any antenna, of any size, orientation, or design that you can construct which lies completely in that plane.

> This then suggests that there is something special about null space
> that is observed no where else. That is specifically true, but not
> generally. What is implied by null is zero, and in a perfect world we
> can say they are equivalent. Even a dipole inhabiting that null space
> would bear it out, whereas an antenna with greater directivity along
> that axis would not.

But I'm claiming you can't get directivity such that you can favor one radiator over the other, by any antenna lying entirely in the null space. In other words, any antenna you build in that null space will detect zero field. The special thing about null space is simply that it's a limit, and it makes a good vehicle for illustration because we can more easily distinguish between nothing and something than between two different levels.

> However, if we open up the meaning of null to mean a point, or region,
> within which we find a minimum due to the combination of all wave
> contributions, then I would say a directive antenna is back in the
> game, and that it exhibits Owens proposition (if I understand it - but
> I still need to see Owen's elaboration).

I'll extend my hypothesis to include all such regions. Create a null space or region of any size or shape by superposing any number of waves. I claim that any antenna, regardless of size or design, lying entirely in that space or region will detect zero signal. In fact, no detector of any type which you can devise, lying entirely within that null space or region, will be able to detect anything or otherwise tell the difference between the superposition and a simple region of zero field. It will take only a single contrary example to prove me wrong.

Roy Lewallen, W7EL

4839. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 20:14:18 UTC
From: richardharrison@webtv.net
Message-ID: <26751-46291F1A-551@storefull-3253.bay.webtv.net>
Source record: 42437

Roy Lewallen, W7EL wrote:
"With the system on and in steady state, there`s absolutely no way you can tell the difference between this sum of two waves and no waves at all."

With the constraint of where Roy would let me check, I think he is right.

Terman`s first sentence in the 1955 (4th edition) of "Electronics and Radio Engineering" is: "Electrical energy that has escaped into free space exisrs in the form of electromagnetic waves."

Other definitions say: "All entities that carry force, whether one marble striking another or sunlight moving molecules of air, act sometimes as particles and sometimes as waves."

Thyere is an analogy of Roy`s null plane in public address where two loudspeakers are placed together and driven out-of-phase. The microphone is placed on the centerline to avoid feedback.

I agree that two wires in a plane with the plane of the source antennas perpendicular to the plane of of those wires and the reception point equidistant from the antennas cannot select between those antennas without occupying some space outside the plane. A patch antenna might do it but it has depth or thickness so it partially falls outside the plane.

Waves may be only a mathematical convenience but are visible in water and in powders on vibrating surfaces. They are also visible in synchronized illumination on vibrating surfaces and in synchronized photos.

Waves in-phase and traveling in the same direction are inseparable so might as well be a single wave.

Best regards, Richard Harrison, KB5WZI

4840. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 20:27:33 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0b7t2kua1@news.service.uci.edu>
Source record: 42438

Richard Clark wrote:

> This quote of mine is simply an example of poetic license, it is to
> suggest that without a load, interference is a concept trapped in the
> mind and unrealized = there is no interference. You asked several
> times about what do the waves DO, and certainly this was one of many
> expressions I've offered that responded to that. I didn't see why
> repetition was necessary, or that I had to construct yet another
> elaboration, unless you were fishing for stylistic variation. I would
> be happy to go there! ;-)

Please, no. Repetition in lieu of elaboration would only deepen the
mystery of why someone would hold such an untenable viewpoint. ;-)

73,
Jim AC6XG

4841. Re: Multi-band dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 20:40:13 UTC
From: nm5k@wt.net
Message-ID: <1177101613.385041.101010@y80g2000hsf.googlegroups.com>
Source record: 42439

On Apr 20, 12:16 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:

>
> I find that trying to prune/tune a multiwire antenna (like a fan) is an
> exercise in frustration because of the strong interactions among the
> elements, aggravated by the fact that most people install antennas in
> places other than a vacuum. there's wind blowing (which changes the
> spacing), trees, other stuff, etc.

Thats why I always spread them apart. I never stack the elements,
or have them closely spaced. I'll place them at right angles,
if only two bands.. The third band, I'll usually stick equally
between the others. If you have a coupling problem with
the third band, often just moving that leg a few feet one
way or the other will cure the problem. Once you do that,
you won't have wind problems with the higher band.
The only other type "all band" dipole I use is the "sectioned"
dipole, where you use insulators, and clips to open/short the
overall length of the dipole for other bands. But I only use those
when camping when I can only string a single wire.

>
> So, I figure that if you get it "reasonably close", and then use an
> autotuner to deal with the rest. If you want to obssess about loss in
> the feedline, then put the tuner at the feedpoint.

Most of the time the loss is not a big deal. Only on the "hi Z"
bands,
where the antenna is a full wave, etc, will it be a problem. And even
then, you can still operate. I use 213 coax, so if the SWR is under
say 5:1, and I'm on a fairly low frequency, the loss is not a big
deal.
That's about my scenario on 30m, where I have no resonant elements.
Still works quite well.
>
> Yes, the tuner costs some money, but it's a one time investment, and
> makes playing with wire antennas much more pleasant and fast. Once
> you've got that tuner, you can literally build decent antennas in 10
> minutes with parts from the grocery store.

Maybe so, but I can do the same without a tuner too...
I don't use a tuner on the normal "resonant" bands.
A coax fed dipole is my favorite 10 min "quicky" antenna.
The only cost is coax and a bit of wire. No tuner
needed, and the system efficiency is hard to beat.
My 989c will handle open wire feeders, but I don't use them much.

>
> If you get a tuner that has a computer interface, then you can use it to
> measure the Z of the antenna, if you feel compelled to prune.

Actually, I can probably do it faster from sense of smell... :/
I find the same thing using the analysers... I can often tune
an antenna faster the old fashioned way, then using the new
fangled analysers.. I don't own an analyser myself, but I
have tried the MFJ versions that friends of mine have.
I'm too cheap to buy one, thats for sure... All it does is
verify what I can already see using the old methods.. :/
MK

4842. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 20:49:13 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <dH9Wh.12048$Kd3.4161@newssvr27.news.prodigy.net>
Source record: 42440

Jim Kelley wrote:
> Cecil Moore wrote:
> You should notify them immediately of this outrage! (Then afterwards you
> can verify that s-parameters must indeed always have non-zero values.)

You are implying that they must have a zero value.
If that is true, an s-parameter analysis is an
exercise in futility.

I'll make it easy for you.

s11(a1) = 5 at zero degrees

s12(a2) = 5 at 180 degrees

b1 = s11(a1) + s12(a2) = 0

Is s11(a1) = 0? _______

Is s12(a2) = 0? _______

Is b1 = 0? ______
--
73, Cecil http://www.w5dxp.com

4843. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 21:18:40 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1177103920.535812.66930@p77g2000hsh.googlegroups.com>
Source record: 42441

On Apr 20, 1:27 pm, Jim Kelley <jwkel...@uci.edu> wrote:
...
> Please, no. Repetition in lieu of elaboration would only deepen the
> mystery of why someone would hold such an untenable viewpoint. ;-)
>
> 73,
> Jim AC6XG

http://www.gocomics.com/nonsequitur/2007/04/16/

Cheers,
Tom

4844. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 21:22:55 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <tlbi2314lm4j9uurrlp57hs14nf0ab8ukr@4ax.com>
Source record: 42443

On Fri, 20 Apr 2007 13:27:33 -0700, Jim Kelley <jwkelley@uci.edu>
wrote:

>Please, no. Repetition in lieu of elaboration would only deepen the
>mystery of why someone would hold such an untenable viewpoint. ;-)
>

Hi Jim,

And thus we return to the unanswered question:

>>>Implications aside, it would help us all if you simply describe your
>>>doubt instead of having me fish for your problem.

73's
Richard Clark, KB7QHC

4845. Re: A good RF ground

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 21:23:24 UTC
From: nm5k@wt.net
Message-ID: <1177104204.267867.234020@y80g2000hsf.googlegroups.com>
Source record: 42442

On Apr 20, 12:44 am, "Richard" <nearlynews_em...@ntlworld.com> wrote:

>
> One thing: Why are radials so effective? They are not resonant
> counterpoises, and from the aspect of surface area in contact with ground,
> radials have hardly any surface area that "connects" with "the earth". I can
> understand if I put in a 20 foot by 20 foot copper plate flat in the earth
> that would "connect" to earth quite well, I mean the measured ohmic
> resistance to "the earth" could be quite low. But also capacitive coupling
> would be low too. But radials have no real capacitive coupling to "the
> earth" neither much surface area in contact with "the earth". So it confuses
> me as to why they are so effective.

To put it simply, rather than couple with the earth, they help shield
the antenna
currents from the lossy earth..
IE: Richard Clarks comment..
"The alternative view of radials is that they operate as a shield
against loss."

Thats about what it boils down to...
In fact, I think 60 radials one inch off the ground should be slightly
better
than 60 radials touching the ground, both using bare wire.
But radials that are elevated to any real height should be resonant
for
best results.
>
> BTW, since it looks like many wires in the earth are as good as a plate,
> perhaps I could put in a wire mesh grid about 1 foot under the soil over the
> whole garden . I'm digging up the garden anyway. Perhaps with some ground
> stakes here and there connected to the grid, although maybe not necessary.

Would be ok, but actual radials are a better use of wire, than mesh.
Also
mesh can develop connection problems on down the line.
Mesh has an equal density over it's whole area.
But radials place a higher density of wire at the feedpoint, which is
what you want. The ground area at the feedpoint is the most critical.
But that doesn't mean you want to ignore the area a bit farther out.
Normal radials spoked out from a center give you a good appx overall
density of wire in the areas you want to have it.
In general, for a given amount of wire on the ground, many shorter
radials are better than a few long ones. That places more of the wire
at the feedpoint.

A cylinder or tube, etc makes a lousy rf ground. The lightning ground
is
the one that needs a super good connection to earth.
The RF ground requires *no* connection to earth to function properly.
MK

4846. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 21:39:14 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0bc3f$o9m$1@news.service.uci.edu>
Source record: 42444

Cecil Moore wrote:

> You are implying that they must have a zero value.
> If that is true, an s-parameter analysis is an
> exercise in futility.

Ok Cecil. I give up. You're right. The waves from the canceled
electromagnetic fields are there and they are not there.

Trying to have a rational discussion with you - now that's an exercise
in futility.

73, ac6xg

4847. Re: multiband vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 21:53:07 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1177105987.803801.320090@y80g2000hsf.googlegroups.com>
Source record: 42445

On Apr 19, 12:40 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Jimmie D wrote:
> > Cecil, I was thinking of trying your no= tune antenna and the 16 ft piece
> > may not be doable at my QTH, I have to keep it all hidden behind the bushes.
> > Could this piece be replaced with a circuit using lumped LC values.
>
> That would work at one frequency but not others. What I do with
> the 16 foot length is coil it into a spiral of 4 turns. The
> diameter of the spiral is about 16 inches and the overall
> length of the spiral is about 24 inches. That should fit
> "behind the bushes". I use a piece of fiberglass rod to
> which to tiewrap the coils.
>
> There's nothing magic about the 16 foot length. It is only
> necessary if you need to vary your length from 0 to 31 feet.
> In actual practice with my 130 foot dipole, I only needed
> to vary the length from 0 to 23 feet so I made the "16 ft"
> section just another 8 foot section. The 16 foot section
> was required from 3.5-3.6 MHz and I never use those frequencies.
> That's why I could get away with replacing the 16 ft section
> with another 8 ft section.
> --
> 73, Cecil, w5dxp.com

Thanks Cecil, I have been wanting to put up an antenna like yours for
quite a while now. Today I was doing a liittle clean up in the attic
and found a box of DPDT open frame relays that should work well for
remote switches. I should be able to run coax out to my garden shed
and and ladder line from there to the antenna locating the switches at
the shed. I can hang the dipole at about 40ft and was wondering what
the pattern would be. I was thinking this low to the ground it would
be almost an omni- directional antenna. If I could ever get all my
crap organized I could probably put together one hell of a station.

Jimmie

4848. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 21:58:00 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <gsbi235iroc2pciel35p40sppblr59dkld@4ax.com>
Source record: 42446

On Fri, 20 Apr 2007 12:46:50 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>But I'm claiming you can't get directivity such that you can favor one
>radiator over the other, by any antenna lying entirely in the null
>space. In other words, any antenna you build in that null space will
>detect zero field.

Hi Roy,

No dispute there either.

>The special thing about null space is simply that
>it's a limit, and it makes a good vehicle for illustration because we
>can more easily distinguish between nothing and something than between
>two different levels.

That is distinctive as being binary, certainly; but I am sure there is
something between two different levels that are distinguishable to the
same degree. The difference between 0 and 1 is no greater than
between 1 and 2.

>> However, if we open up the meaning of null to mean a point, or region,
>> within which we find a minimum due to the combination of all wave
>> contributions, then I would say a directive antenna is back in the
>> game, and that it exhibits Owens proposition (if I understand it - but
>> I still need to see Owen's elaboration).
>
>I'll extend my hypothesis to include all such regions. Create a null
>space or region of any size or shape by superposing any number of waves.

But this says nothing of the quality of "null" as I extended it above
which could be supported by a directional antenna. As I am still
unsure of the nature of Owen's proposition, I will leave the quality
of "null" for Owen to discuss or discard.

73's
Richard Clark, KB7QHC

4849. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 22:13:55 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <BWaWh.395$Ea5.150@newssvr19.news.prodigy.net>
Source record: 42447

Jim Kelley wrote:
> Ok Cecil. I give up. You're right. The waves from the canceled
> electromagnetic fields are there and they are not there.

You seem not to be able to separate the past from the
present, Jim. The electromagnetic fields were there
and now they are not there any more. Here is a before
and after example for you.

Given the following experiment with two signal generators
equipped with circulators and load resistors - the generators
are phased-locked to ensure coherency. The two feedlines
are of equal electrical lengths.

SGCL1 is turned on. SGCL2 is turned off.

100W | 25W
50 ohm---50 ohm line---+---291.4 ohm line---291.4 ohm
SGCL1 <--Prev1 | SGCL2

What is Pref1 before SGCL2 is turned on? What is Pref1
after SGCL2 is turned on? Did Pref1 change after SGCL2
is turned on?

Since Pref1 *NEVER* encounters the impedance discontinuity
how can it possibly be affected by SGCL2 being turned on?
--
73, Cecil http://www.w5dxp.com

4850. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 22:19:47 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <70bWh.11576$YL5.2072@newssvr29.news.prodigy.net>
Source record: 42448

Gene Fuller wrote:
> Where are the equations that describe this "delta-t" stuff that you keep
> bringing up?

Actually, Gene, the example I just posted for Jim will answer
your question.

SGCL1 is turned on. SGCL2 is turned off.

100W | 25W
50 ohm---50 ohm line---+---291.4 ohm line---291.4 ohm
SGCL1 <--Prev1 | SGCL2

When SGCL2 is turned on let t=0 be the time when the
SGCL2 source wave reaches the impedance discontinuity
at point '+'. How long does it take for that source
wave to affect Prev1? Whatever length of time that is,
that's the length of delta-t.
--
73, Cecil http://www.w5dxp.com

4851. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 22:36:55 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns991957A3B5EFEnonenowhere@61.9.191.5>
Source record: 42449

Tom Ring <news0003@taring.org> wrote in
news:4626cbe9$0$21252$39cecf19@news.twtelecom.net:

...
> the next hole. Move the device to the latest hole drilled as you run
> out of table. To reduce errors from imperfect vertical on the device,

This violates an important technique of minimising measurement and layout
error, determine a datum such that you can lay everything off from that
datum, and then do just that.

> the next hole. Move the device to the latest hole drilled as you run
> out of table. To reduce errors from imperfect vertical on the device,
> rotate it 180 degrees between each move.

This is a technique to compensate for moving the datum.

I am not saying it won't work, and I can see that you have done it to reduce
the size of accurate table needed to register the device.

Owen

4852. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-20 23:12:11 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0bhhqskv1@news.service.uci.edu>
Source record: 42450

Cecil Moore wrote:
> Jim Kelley wrote:
>
>> Ok Cecil. I give up. You're right. The waves from the canceled
>> electromagnetic fields are there and they are not there.
>
>
> You seem not to be able to separate the past from the
> present, Jim.

> The electromagnetic fields were there
> and now they are not there any more.

There is no reference to time in an s-parameter analysis. That is because it assumes steady state. The purpose of doing analysis in the steady state is because past and present are irrelevant. S-parameter analysis doesn't support your claim. There is no support for your claim.

ac6xg

4853. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 00:05:51 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <4629556c$0$17200$39cecf19@news.twtelecom.net>
Source record: 42453

Owen Duffy wrote:

> Tom Ring <news0003@taring.org> wrote in
> news:4626cbe9$0$21252$39cecf19@news.twtelecom.net:
>
> ...
>
>>the next hole. Move the device to the latest hole drilled as you run
>>out of table. To reduce errors from imperfect vertical on the device,
>
>
> This violates an important technique of minimising measurement and layout
> error, determine a datum such that you can lay everything off from that
> datum, and then do just that.
>
>
>>the next hole. Move the device to the latest hole drilled as you run
>>out of table. To reduce errors from imperfect vertical on the device,
>>rotate it 180 degrees between each move.
>
>
> This is a technique to compensate for moving the datum.
>
> I am not saying it won't work, and I can see that you have done it to reduce
> the size of accurate table needed to register the device.
>
> Owen

And yet is does work. For 39 holes in my case.

I didn't say it was highly accurate, but that by following what I did,
that it would work well enough for a long boom UHF beam DESPITE that
fact. It's also cheap and easy. Unfortunately, many of us cannot
afford the best, but need still need good results. This is one way.

If I could afford equipment like you describe, I would certainly have it
and use it, but I can't. My guess is that most of the people here are
closer to my end of the spectrum than yours. Yet another unfortunate fact.

73,
tom
K0TAR

4854. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 00:09:40 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <46295650$0$17200$39cecf19@news.twtelecom.net>
Source record: 42454

Owen Duffy wrote:

>
> This is a technique to compensate for moving the datum.
>
> I am not saying it won't work, and I can see that you have done it to reduce
> the size of accurate table needed to register the device.
>
> Owen

And the best thing about those holes is that the antenna they resulted
in set the all time gain record for a homebrew 432 yagi at Central
States. :)

tom
K0TAR

4855. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 00:17:02 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <2KcWh.62899$VU4.16247@bgtnsc05-news.ops.worldnet.att.net>
Source record: 42455

Cecil Moore wrote:
> Gene Fuller wrote:
>> Where are the equations that describe this "delta-t" stuff that you
>> keep bringing up?
>
> Actually, Gene, the example I just posted for Jim will answer
> your question.
>
> SGCL1 is turned on. SGCL2 is turned off.
>
> 100W | 25W
> 50 ohm---50 ohm line---+---291.4 ohm line---291.4 ohm
> SGCL1 <--Prev1 | SGCL2
>
> When SGCL2 is turned on let t=0 be the time when the
> SGCL2 source wave reaches the impedance discontinuity
> at point '+'. How long does it take for that source
> wave to affect Prev1? Whatever length of time that is,
> that's the length of delta-t.

Cecil,

BZZZZT! Wrong answer.

We are talking steady state, remember? You need to dig a bit deeper. I won't hold my breath waiting. I will give you extra credit for a vivid imagination, however.

73,
Gene
W4SZ

4856. Re: A good RF ground

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 00:24:25 UTC
From: merlin-7 <merlin-7@sc.rr.com>
Message-ID: <46294c03$0$18842$4c368faf@roadrunner.com>
Source record: 42451

One Question
Do you have a chain link fence?

They make great RF grounds...

"John Ferrell" <johnferrell@sprintmail.com> wrote in message
news:bsch23p8b08bcs67r4i8bmsp567dtg6aij@4ax.com...
> On Thu, 19 Apr 2007 17:55:03 +0100, "Richard"
> <nearlynews_email@ntlworld.com> wrote:
>
> >I want to put up a "long wire" with the feedpoint at one of the back end
> >corners of the garden. I need a good RF ground.
> >
> >If I got a length of 6 foot wide copper sheet and made out of it a
cylinder,
> >say 6 feet in diameter, and then placed that cylinder in an upwards
position
> >in the ground, the top level with the surface, would that be a good idea
for
> >trying to acheive a decent RF ground? Also, is there anything I could
place
> >around the cylinder to better the conduction between the cyinder and the
> >earth around it? Should I drill holes in the cylinder so I can pour water
> >into the cylinder to keep the ground around it moist?
> >
> >Would I still benefit from some radials in the ground?
> >
> >My garden's about 33 foot long, 21 foot wide. Ground gets rather rocky
and a
> >bit sandyish at about 9 inches or so from the surface.TIA.
>
> Check out http://www.bencher.com/pdfs/00361ZZV.pdf
> and http://www.bencher.com/pdfs/00803ZZV.pdf
>
> We usually associate an RF ground with verticals. I believe what you
> are referring to as a "long wire" is usually called an :inverted L".
>
> I think your proposed depth of 1 foot or more may be too deep for best
> performance.
>
> If you are planning cultivate your garden on a regular basis and use
> it for a radial field you have some unique problems. Insulated wire on
> top of the ground works as well as buried bare wire.
>
> The consensus seems to be that each time you double your number of

> radials you gain a db up to about 128 of them. essentially, more is
> better. Popular thinking is that 16 are the minimum.
>
> I experimented with using electrical extension cords of various length
> for a radial system and found that all efforts would work but more is
> always better! One radial will get you on the air but just barely! I
> suspect a quarter wave radiator in any configuration and 4 radials
> would beat any mobile installation.
>
> If I were you I would invest in a few orange extension cords and run
> them on top of the ground IN the garden rows. Orange will be easy to
> see and avoid when you cultivate your garden. They will be easy to
> remove and re deploy for garden cleanup.
> Plan on assuring the curious neighbors that you are electrically
> stimulating your garden. That will probably subdue any objections.
>
> John Ferrell W8CCW
> "Life is easier if you learn to
> plow around the stumps"

4857. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 00:34:44 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <E_cWh.5117$2v1.382@newssvr14.news.prodigy.net>
Source record: 42456

Jim Kelley wrote:
> There is no support for your claim.

There is plenty of support for my claim, Jim, but you
deleted it. I will simply repost it over and over until
you respond.

Given the following experiment with two signal generators
equipped with circulators and load resistors - the generators
are phased-locked to ensure coherency. The two feedlines
are of equal electrical lengths.

SGCL1 is turned on. SGCL2 is turned off.

```
100W | 25W
50 ohm---50 ohm line---+---291.4 ohm line---291.4 ohm
SGCL1 <--Prev1 | SGCL2
```

What is Pref1 before SGCL2 is turned on? What is Pref1
after SGCL2 is turned on? Did Pref1 change after SGCL2
is turned on?

Since Pref1 *NEVER* encounters the impedance discontinuity
how can it possibly be affected by SGCL2 being turned on?
This is a perfect example of wave interaction.
--
73, Cecil http://www.w5dxp.com

4858. Re: Multi-band dipole question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 00:39:38 UTC
From: merlin-7 <merlin-7@sc.rr.com>
Message-ID: <46294fa2$0$8993$4c368faf@roadrunner.com>
Source record: 42452

The trick I have found..

Is to space the wires 12 inches apart, as close to the feed point as possible.
With my antenna, it goes from the feed point to a 12 inch separation 18 inches from the feed point.
The wires are 12 inches apart from that point on and there is very little interaction between the wires if any. At least my antenna analyzer cant find any.

Like I said, the trick is to move the wires away from each other as close to the feed point as possible.
I have found with this set up, that wind etc. changes very little.

Like I have stated before, my wires are hung under each other, so I have no idea if the same concept would work with a true fan dipole....

> > I find that trying to prune/tune a multiwire antenna (like a fan) is an
> > exercise in frustration because of the strong interactions among the
> > elements, aggravated by the fact that most people install antennas in
> > places other than a vacuum. there's wind blowing (which changes the
> > spacing), trees, other stuff, etc.
>

4859. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 00:39:49 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <n3dWh.418$Ea5.191@newssvr19.news.prodigy.net>
Source record: 42457

Gene Fuller wrote:
> We are talking steady state, remember? You need to dig a bit deeper. I
> won't hold my breath waiting. I will give you extra credit for a vivid
> imagination, however.

This is steady-state after the wave interaction. What
you guys don't seem to realize is that s11(a1) and
s12(a2) are continually changing, continually
interacting, and a1 & a2 are rotating phasors
changing with time.
--
73, Cecil http://www.w5dxp.com

4860. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 00:54:50 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99196F063C777nonenowhere@61.9.191.5>
Source record: 42458

Richard Clark <kb7qhc@comcast.net> wrote in
news:iuog23940tgk6c74tv39psdtuvlo8bnebn@4ax.com:

> On Fri, 20 Apr 2007 05:38:37 GMT, Owen Duffy <none@no.where> wrote:
>
>>"I maintain that there is
>>actually zero field at a point of superposition of multiple waves
>>which sum to zero, and that no device or detector can be devised
>>which, looking only at that point, can tell that the zero field is a
>>result of multiple waves."
>
> Hi Owen,
>
> This seems to be in distinct contrast to what appeared to be your goal
> earlier - insofar as the separation of sources (you and others call
> them waves). I am trying to tease out just what it was that impelled
> you upon this thread.

Richard

I still have a problem reconciling the resultant E field and H field, including their direction, with the concept that they are not evidence of another wave. I am not suggesting there is another wave, there is good reason to believe that there isn't, but that if there isn't another wave, is the resultant E field, and H field (including direction) a convenient mathematical representation of something that doesn't actually exist.

In answer to your last question, a quest for understanding. I don't know the answer, but the discussion is enlightening.

>
>>And we haven't mentioned power, not once!
>
> Not specifically so, but inferentially, certainly. We see the term
> detector employed above, and it cannot escape the obvious implication
> of power to render an indication. Perhaps the relief expressed by
> your sentiment is in not having to have had added or subtracted power
> (or any other expressions of power).

Basically. Some of the problems in the analysis are as a result of trying to determine conditions at a point, which can have no area, and presumably no power, but yet E field and H field.

I think the discussion is mainly exploring a detailed definition of the concept of superposition of radio waves. It seems to mean different things to different people, but it is used as if it has a shared meaning.

Owen

4861. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 01:27:02 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1177118822.704067.29950@b58g2000hsg.googlegroups.com>
Source record: 42459

On Apr 20, 5:54 pm, Owen Duffy <n...@no.where> wrote:

> Some of the problems in the analysis are as a result of trying
> to determine conditions at a point, which can have no area, and
> presumably no power, but yet E field and H field.

It is usual, I believe, to talk about power density. Volts per meter times amps per meter is watts per square meter. It's not watts at a point, or along a line, but over an area. Of course, you have to be careful what you mean by that. The actual value of the power density will be a function of position and time, of course, and will in general be different at one point than at a point a meter, a millimeter, or a micron removed. It can also be useful to add the dimension of frequency: the power density is also a function of frequency.

> I think the discussion is mainly exploring a detailed definition of the
> concept of superposition of radio waves. It seems to mean different
> things to different people, but it is used as if it has a shared meaning.

One of the points of the "fields are interpreted by some as physical, and by others as mathematical abstractions," which is a preamble to further antenna discussions in the book I'm thinking of, is that it doesn't matter which way you view them; if both camps describe their behaviour the same way, the observable result is the same.

Cheers,
Tom

4862. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 02:05:16 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99197AF6B8D5Anonenowhere@61.9.191.5>
Source record: 42460

Tom Ring <news0003@taring.org> wrote in
news:4629556c$0$17200$39cecf19@news.twtelecom.net:

> If I could afford equipment like you describe, I would certainly have
> it and use it, but I can't. My guess is that most of the people here
> are closer to my end of the spectrum than yours. Yet another
> unfortunate fact.
>

Tom, I don't understand the reference to expensive equipment, the system I described of placing a short close fitting rod in the first hole and visually aligning the rod with the drill for each additional hole is very low cost and adequately accurant.

Owen

4863. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 02:08:27 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132isgski4jf2d8@corp.supernews.com>
Source record: 42461

Owen Duffy wrote:
> . . .
> I think the discussion is mainly exploring a detailed definition of the
> concept of superposition of radio waves. It seems to mean different
> things to different people, but it is used as if it has a shared meaning.

Superposition means the following: If f(x) is the result of excitation x and f(y) is the result of excitation y, then the result of excitation (x + y) is f(x + y). This is a very clear and unambiguous definition which you can find in a multiplicity of texts. It's an extremely valuable tool in the analysis of linear systems.

To put it plainly in terms of waves and radiators, it means that if one radiator by itself creates field x and another creates field y, then the field resulting when both radiators are on is x + y.

What other meaning do you think it has?

Roy Lewallen, W7EL

4864. Re: Boom construction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 02:28:11 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <462976b1$0$21255$39cecf19@news.twtelecom.net>
Source record: 42462

Owen Duffy wrote:

>
> Tom, I don't understand the reference to expensive equipment, the system I
> described of placing a short close fitting rod in the first hole and
> visually aligning the rod with the drill for each additional hole is very
> low cost and adequately accurant.
>
> Owen

Owen

I was refering to another of your posts -

Wes, I agree, that is entirely practical. As far as bubble technology goes, senstivity easily exceeds that, IIRC the plate bubble sensitivity on theodolites is commonly around 20" (seconds) per 2mm run. By reversing such a bubble and splitting the difference, it should be possible to achieve an error well under 0.1mm/m slope.

Realistically, most bubbles for engineering workshop use would be more accurate than the drilling process, so they are a quite adequate means of registering the work.

As has been described and documented in the last few months (not here, but in science journals), emails, and their equivalent, are sometimes the most misunderstood things in the history of human communication. The problem is even worse in a newsgroup, because the threads are huge, and replies sometimes reference posts not in the current sequence, and people receive items out of time order and often delayed.

tom
K0TAR

4865. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 03:19:56 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <vpfWh.63278$VU4.31647@bgtnsc05-news.ops.worldnet.att.net>
Source record: 42463

Cecil Moore wrote:
> Gene Fuller wrote:
>> We are talking steady state, remember? You need to dig a bit deeper. I
>> won't hold my breath waiting. I will give you extra credit for a vivid
>> imagination, however.
>
> This is steady-state after the wave interaction. What
> you guys don't seem to realize is that s11(a1) and
> s12(a2) are continually changing, continually
> interacting, and a1 & a2 are rotating phasors
> changing with time.

Cecil,

Utter nonsense. Any setup that includes t0 or t=0 is not steady state.

73,
Gene
W4SZ

4866. Check Out Radio Pirates Forum

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 04:07:23 UTC
From: DJboutit <Recordking@Hotmail.com>
Message-ID: <462987f8$0$1405$4c368faf@roadrunner.com>
Source record: 42464

For all you pirate radio needs many sections to keep you busy lots of technical info meet other who are into the world of pirate radio www.radiopirates.com

4867. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 05:10:09 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132j75hi0a4uocd@corp.supernews.com>
Source record: 42465

Correction:

Roy Lewallen wrote:
>
> Superposition means the following: If f(x) is the result of excitation x
> and f(y) is the result of excitation y, then the result of excitation (x
> + y) is f(x + y). . .

That should read:

Superposition means the following: If f(x) is the result of excitation x
and f(y) is the result of excitation y, then the result of excitation
(x + y) is f(x) + f(y). . .
^^^^^^^^^^^
I apologize for the error. Thanks very much to David Ryeburn for
spotting it.

Roy Lewallen, W7EL

4868. Most of the free software you can use for HAM/Radio/antenna/ ... (on linux)

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 05:50:30 UTC
From: Dwergje <dwarf@dsds.be>
Message-ID: <f0c8n8$3r9$3@registered.motzarella.org>
Source record: 42466

Sometimes works on Windows/Apple

http://users.fulladsl.be/spb13810/linux/radio.txt

20000+ other packages listed on:

http://users.fulladsl.be/spb13810/linux/software.txt

The French parliament is going to use Ubuntu.com linux as of this summer.

about this packages and this text:

Because I was unhappy I did not have a simple means to search the index of all packages linux (in fact debian) gives me, I made a long text file which consists of the package name, followed by its detailed information (if it exists). That makes a file of about 15Mb, and 280.000 lines. Now, people that DO NOT have linux can do a word search on this file, and will soon see what applications interest them. Of course, I know this file contains some overhead, but if you choose your search key well, the result will be better ...

Here is the list:
http://users.fulladsl.be/spb13810/linux/software.txt

Comments on typography are always welcome ... (I made this in a hurry, so I'll change it anyway)

(In fact, it should be easy to make a html, but I won't spend too much time now.)

Is there anybody that knows about this kind of text with all pkg included??
Of course, I know, if you have linux, you can start Synaptic, and do a search there, but non linux users can't do that, and this is like a paper dictionary: you look at a term, and you can let your eyes wonder around for other terms, so that you learn things you didn't expected.... (and you could search internet, or eg http://packages.ubuntu.com/edgy/ , but ... too much clicking involved ...)

PS: if you are lucky, this software exists for you PC/ windows or for your mac ...
But a linux install is less trouble, then you have ONE application which shows all 20000+ software packages, one click, and they are installed.
On a platform like Windows, you need to surf to 20000 websites, download implicitly, and install yourself. On Apple, you can use fink, and sometimes reach 5000 packages, but you need to be a half unix expert, so yo can better start of linux anyway ...
--
--

Shortwave transmissions in English, Francais, Nederlands, Deutsch,
Suid-Afrikaans, Chinese, Dansk, Urdu, Cantonese, Greek, Spanish,
Portuguese, ...
http://languageradio.tk Updated every 2-3 months.

4869. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 06:11:05 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1177135865.853963.321250@l77g2000hsb.googlegroups.com>
Source record: 42468

On Apr 20, 10:10 pm, Roy Lewallen <w...@eznec.com> wrote:
> Correction:
>
> Roy Lewallen wrote:
>
> > Superposition means the following: If f(x) is the result of excitation x
> > and f(y) is the result of excitation y, then the result of excitation (x
> > + y) is f(x + y). . .
>
> That should read:
>
> Superposition means the following: If f(x) is the result of excitation x
> and f(y) is the result of excitation y, then the result of excitation
> (x + y) is f(x) + f(y). . .
> ^^^^^^^^^^
> I apologize for the error. Thanks very much to David Ryeburn for
> spotting it.
>
> Roy Lewallen, W7EL

I guess that's the definition of linearity. I'm not sure I've heard
it called superposition before, but rather that the superposition
theorem is a direct result of the linearity of a system. I trust
that's a small definitional issue that doesn't really change what
you're saying.

Cheers,
Tom

4870. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 06:38:26 UTC
From: Alan Peake <adpeake@killspam.internode.on.net>
Message-ID: <4629B162.10207@killspam.internode.on.net>
Source record: 42467

Owen Duffy wrote:

> I can see that we can deal mathematicly with two or more coherent
> components thought of as travelling in the same direction on a line (by
> adding their voltages or currents algebraicly), but it seems to me that
> there is no way to isolate the components, and that questions whether
> they actually exist separately.

I reckon that if you can't see them, measure them separate them etc,
then they don't exist.
It's different to being in a null between two antennae. The signals
don't appear to exist where you are, but move directly away from either
antenna, and there they are. So they exist at the null even though you
can't see them there.
Alan

4871. Where does the far field start on a phased array?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 08:32:30 UTC
From: "Dave (from the UK)" <see-my-signature@southminster-branch-line.org.uk>
Message-ID: <4629cc1f@212.67.96.135>
Source record: 42469

First, I should state this is not a question about an amateur antenna system, but I'm hoping someone may know the answer.

Consider a phased array of antennas. There are some 30 or so antennas all in a line, as below, where "A" is an antenna and "-" indicates a space

A---A---A---A---A---A---A---A---A---A

The overall width of the array is D.

The radiation pattern varies as a function of distance from the antenna until one is in the far-field. But where does the far-field start for a phased array? Can one use the normal formula of

2 D^2 / lambda ?

If the width D is large (say 30 m) and the wavelength small (say 0.1 m), then the far field does not start for

2 * 30 * 30 / 0.1

18,000 m
= 18 km

i.e. the radiation pattern is a function of distance until you are some 18 km (about 11 miles) from the antenna.

If anyone can give me a link to a professional reference on this, scientific paper etc, that would be useful.

--
Dave (from the UK)

Please note my email address changes periodically to avoid spam.
It is always of the form: month-year@althorne.org
Hitting reply will work for a few months only - later set it manually.

http://chessdb.sourceforge.net/ - a Free open-source Chess Database

4872. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 08:52:14 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9919BFF63DEC3nonenowhere@61.9.191.5>
Source record: 42471

Roy Lewallen <w7el@eznec.com> wrote in
news:132j75hi0a4uocd@corp.supernews.com:

> Correction:
>
> Roy Lewallen wrote:
>>
>> Superposition means the following: If f(x) is the result of
>> excitation x and f(y) is the result of excitation y, then the result
>> of excitation (x + y) is f(x + y). . .
>
> That should read:
>
> Superposition means the following: If f(x) is the result of excitation
> x
> and f(y) is the result of excitation y, then the result of
> excitation
> (x + y) is f(x) + f(y). . .
> ^^^^^^^^^^^
> I apologize for the error. Thanks very much to David Ryeburn for
> spotting it.
>

Fine Roy, the maths is easy, but you don't discuss the eligible
quantities.

As I learned the superposition theoram applying to circuit analysis, it
was voltages or currents that could be superposed.

Presumably, for EM fields in space, the electric field strength and
magnetic field strength from multiple source can be superposed to obtain
resultant fields, as well as voltages or currents in any circuit elements
excited by those waves.

For avoidance of doubt, power is not a quantity to be superposed, though
presumably if it can be deconstructed to voltage or current or electric
field strength or magnetic field strength (though that may require
additional information), then those components may be superposed.

The resultant fields at a point though seem to not necessarily contain
sufficient information to infer the existence of a wave, just one wave,
or any specific number of waves, so the superposed resultant at a single
point is by itself of somewhat limited use. This one way process where
the resultant doesn't characterise the sources other than at the point
seems to support the existence of the source waves independently of each
other, and that there is no merging of the waves.

Is anything above contentious or just plain wrong?

Owen

4873. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 08:53:22 UTC
From: Mike Lucas <w5chr@bellsouth.net>
Message-ID: <SckWh.2910$np4.495@bignews4.bellsouth.net>
Source record: 42470

"Gene Fuller" wrote
>> Gene Fuller wrote:
>>> We are talking steady state, remember? You need to dig a bit deeper. I
>>> won't hold my breath waiting. I will give you extra credit for a vivid
>>> imagination, however.
>>
>> This is steady-state after the wave interaction. What
>> you guys don't seem to realize is that s11(a1) and
>> s12(a2) are continually changing, continually
>> interacting, and a1 & a2 are rotating phasors
>> changing with time.
>
> Cecil,
>
> Utter nonsense. Any setup that includes t0 or t=0 is not steady state.
>
>
> 73,
> Gene
> W4SZ

Gene: Perhaps Cecil should be using one of Art's equations that
include the cessation of time? (snork!)

Mike W5CHR

4874. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 10:36:14 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177151773.964409.267630@e65g2000hsc.googlegroups.com>
Source record: 42472

On Apr 20, 12:38 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > All true, and as long as you think of voltage and current waves
> > you won't get into trouble.
>
> I don't recall Maxwell's equations relying on "voltage and
> current waves".

You have that right. Just some simple differential equations.

> > The key point is that the line conditions did not change, so the
> > same reflections must be occuring and yet your explanation
> > claims that sometimes nothing is reflected and sometimes
> > all is reflected.
>
> If you put two signal generators equipped with circulator
> loads at each end of a transmission line, there are absolutely
> no reflections anywhere. Yet there is a forward wave and a
> reverse wave. We can cause a reverse wave when "sometimes
> nothing is reflected and sometimes all is reflected". The
> transmission line will not know the difference.

Rather a non-sequitor since we were discussing what was happening
at the generator end, but non-the-less true and demonstrates again
one of the greater weaknesses in your learnings. You really do need
to realize that there is no need for a circulator. Once you are beyond
this, many things will fall into place.

> > Did you read the same paper I read? I recall that the claim was a
> > conjugate match of the effective impedances AFTER tuning. The
> > systems under discussion here have not been tuned for maximum
> > power transfer.
>
> The existence of a conjugate match is irrelevant to our
> discussion. All that is relevant to our discussion is
> that the reflected waves does not see the generator
> source impedance.

There you go. Still stuck. You really should crack the books in search
of a reference to support your contention. You won't find one.

And the relevence of the conjugate match is that the conjugate
is the generator source impedance and it is the impedance that
the wave incident upon the generator sees.

> > Oh darn. A typo. I know it will be quoted over and over in subsequent
> > posts. So be it.
>
> Keith, arrogant omniscient beings, as you present yourself
> to be :-), do not make typos.
>
> > Of course not. But when the instaneous power is 0 for all instants
> > then no energy can be flowing.
>
> The instantaneous power is zero every 1/2WL in an EM wave.
> Therefore, according to you, EM waves cannot transfer energy
> or power. Good luck on that one.

I have certainly never said that. If you could point me to the words
that misled you into thinking that, I will attempt to clarify your
misunderstanding.

> > There is quite a difference between the instanteous power being
> > occasionally zero and being zero for all instances. Real enough?
>
> If the instantaneous power is zero for all space and time,
> an EM wave cannot exist.

My point exactly.

...Keith

4875. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 10:50:17 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177152617.901893.26160@q75g2000hsh.googlegroups.com>
Source record: 42473

On Apr 20, 12:46 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > It would be educational if you could describe one of these
> > experiments.
>
> I already did - Bruene's early 1990's QST article.

Sorry. Not a good enough description for any kind of analysis.

> > Remember, you are looking for a re-reflection of the reverse signal
> > at a generator whose source (output) impedance matches the line
> > characteristic impedance.
>
> It happened with your pet generator from which you quickly
> tried to divert attention. Zero power dissipation inside
> a "matched" source is hard to sweep under the rug, huh?

Nothing to sweep under the rug, I am afraid. It is key that the
dissipation depends on the design of the generator. Some
times those 'reverse watts' cause the dissipation to drop
to 0, sometimes they cause it to increase by a factor of 4,
sometimes they cause it to increase by the numerical value
of the 'reverse watts'. Pretty much hard to argue that those
'reverse watts' are real when their heating effect is so
variable.

> > Either it works, or it doesn't.
>
> Superposition works in some situations and doesn't work
> in others. For instance, it doesn't work with power.

I'd suggest you think of power as a quantity not a situation.
Superposition works for linear, time invariant circuits with
multiple sources. Check any text book. The generators and
lines under discussion meet these requirements.

I realize the results of superposition are inconvenient for
your explanations, but it would be better to examine your
explanations than to discard superposition. You will then
be free to use superposition to solve problems you
currently consider unsolvable.

...Keith

4876. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 11:37:05 UTC
From: Dave <noone@nowhere.com>
Message-ID: <BHmWh.762$sb.148@trndny05>
Source record: 42474

"K7ITM" <k7itm@msn.com> wrote in message
news:1177135865.853963.321250@l77g2000hsb.googlegroups.com...
> On Apr 20, 10:10 pm, Roy Lewallen <w...@eznec.com> wrote:
>> Correction:
>>
>> Roy Lewallen wrote:
>>
>> > Superposition means the following: If f(x) is the result of excitation
>> > x
>> > and f(y) is the result of excitation y, then the result of excitation
>> > (x
>> > + y) is f(x + y). . .
>>
>> That should read:
>>
>> Superposition means the following: If f(x) is the result of excitation x
>> and f(y) is the result of excitation y, then the result of excitation
>> (x + y) is f(x) + f(y). . .
>> ^^^^^^^^^^
>> I apologize for the error. Thanks very much to David Ryeburn for
>> spotting it.
>>
>> Roy Lewallen, W7EL
>
> I guess that's the definition of linearity. I'm not sure I've heard
> it called superposition before, but rather that the superposition
> theorem is a direct result of the linearity of a system. I trust
> that's a small definitional issue that doesn't really change what
> you're saying.
>
> Cheers,
> Tom
>

linearity of the system is VERY important. it is what prevents the
waves/fields from interacting and making something new. empty space is
linear, air is (normally) linear, conductors (like antennas) are linear.
consider a conductor in space. if 2 different waves are incident upon it
you can analyze each interaction separately and just add the results.
However, if there is a rusty joint in that conductor you must analyze the
two incident waves together and you end up with not only the sum of their
resultant fields, but also various mixing products and other new stuff. so
yes, linearity is a very important consideration when talking about multiple
waves or fields and assuming superposition is correct.

4877. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 11:46:01 UTC
From: Dave <noone@nowhere.com>
Message-ID: <ZPmWh.759$dM1.190@trndny07>
Source record: 42475

"Owen Duffy" <none@no.where> wrote in message
news:Xns9919BFF63DEC3nonenowhere@61.9.191.5...
> Roy Lewallen <w7el@eznec.com> wrote in
> news:132j75hi0a4uocd@corp.supernews.com:
>
>> Correction:
>>
>> Roy Lewallen wrote:
>>>
>>> Superposition means the following: If f(x) is the result of
>>> excitation x and f(y) is the result of excitation y, then the result
>>> of excitation (x + y) is f(x + y). . .
>>
>> That should read:
>>
>> Superposition means the following: If f(x) is the result of excitation
>> x
>> and f(y) is the result of excitation y, then the result of
>> excitation
>> (x + y) is f(x) + f(y). . .
>> ^^^^^^^^^^^
>> I apologize for the error. Thanks very much to David Ryeburn for
>> spotting it.
>>
>
> Fine Roy, the maths is easy, but you don't discuss the eligible
> quantities.
>
> As I learned the superposition theoram applying to circuit analysis, it
> was voltages or currents that could be superposed.
>
> Presumably, for EM fields in space, the electric field strength and
> magnetic field strength from multiple source can be superposed to obtain
> resultant fields, as well as voltages or currents in any circuit elements
> excited by those waves.
>
> For avoidance of doubt, power is not a quantity to be superposed, though
> presumably if it can be deconstructed to voltage or current or electric
> field strength or magnetic field strength (though that may require
> additional information), then those components may be superposed.
>
> The resultant fields at a point though seem to not necessarily contain
> sufficient information to infer the existence of a wave, just one wave,
> or any specific number of waves, so the superposed resultant at a single

> point is by itself of somewhat limited use. This one way process where
> the resultant doesn't characterise the sources other than at the point
> seems to support the existence of the source waves independently of each
> other, and that there is no merging of the waves.
>
> Is anything above contentious or just plain wrong?
>
> Owen

yes, superposition is meant to work directly on voltage, current, electric fields, and magnetic fields. it can be extended by adding appropriate extra phase terms to power or intensity as cecil prefers to use.

you are at least partially correct. a measurement at a single point at a single time can only give the sum of the fields at the instant of measurement. make a series of measurements at a point over time and you can infer the existance of different frequency waves passing the point, but not anything about their direction or possibly multiple components. add measurements at enought other points and you can resolve directional components, polarization, etc. assuming your points are properly distributed... this means that a small probe (like a scope probe) can only make a record of voltages/currents or fields at a single point and can't tell anything about direction. add a second probe and you could detect the direction of travel of waves on a wire.

4878. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 11:50:22 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <0UmWh.543$im2.160@newssvr22.news.prodigy.net>
Source record: 42476

Gene Fuller wrote:
> Cecil Moore wrote:
>> This is steady-state after the wave interaction. What
>> you guys don't seem to realize is that s11(a1) and
>> s12(a2) are continually changing, continually
>> interacting, and a1 & a2 are rotating phasors
>> changing with time.
>
> Utter nonsense. Any setup that includes t0 or t=0 is not steady state.

Gene, you obviously misunderstood what I said. There is
no t0 or t=0 in my above statement. It is just that the
delta-t doesn't change from the transient state to the
steady-state.

In an s-parameter analysis:
The normalized voltage, a1, equals Vi1/SQRT(Z0) where
'i' stands for incident voltage. a2 equals Vi2/SQRT(Z0).
These voltages are normally represented in phasor
notation but they can just as easily be represented
in exponential notation where a1 = Vi1*e^jwt+X and
a2 = Vi2*e^jwt+Y, where X and Y are constant phase
angles. Thus, the s-parameter equation becomes:

b1 = Vi1[cos(wt+X)]/SQRT(Z0) + Vi2[cos(wt+Y)]/SQRT(Z0) = 0

adding the delta-t "tick" gives:

b1 = Vi1{cos[w(t+delta-t)+X]}/SQRT(Z0) +
Vi2{cos[w(t+delta-t)+Y]}/SQRT(Z0) = 0

Vi1 obviously has to be an equal magnitude to Vi2 and
X and Y obviously have to be 180 degrees apart. Given
that, for every delta-t "tick" of time, the two real
normalized voltages sum to zero. The square of the
normalized RMS value gives average power in each
wave. The equation can be turned into a differential
equation by having delta-t approach zero in the limit.
--
73, Cecil http://www.w5dxp.com

4879. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 11:55:48 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <5ZmWh.544$im2.92@newssvr22.news.prodigy.net>
Source record: 42377

Roy Lewallen wrote:
> Superposition means the following: If f(x) is the result of excitation x
> and f(y) is the result of excitation y, then the result of excitation
> (x + y) is f(x) + f(y). . .

Now the big question is: Is superposition always reversible?
If not, it implies interaction between f(x) and f(y).
--
73, Cecil http://www.w5dxp.com

4880. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 11:58:22 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <v%mWh.547$im2.70@newssvr22.news.prodigy.net>
Source record: 42378

Alan Peake wrote:
>
> Owen Duffy wrote:
>> I can see that we can deal mathematicly with two or more coherent
>> components thought of as travelling in the same direction on a line
>> (by adding their voltages or currents algebraicly), but it seems to me
>> that there is no way to isolate the components, and that questions
>> whether they actually exist separately.
>
> I reckon that if you can't see them, measure them separate them etc,
> then they don't exist.
> It's different to being in a null between two antennae. The signals
> don't appear to exist where you are, but move directly away from either
> antenna, and there they are. So they exist at the null even though you
> can't see them there.

So is superposition always reversible? If not, that would
imply interaction between the superposed components.
--
73, Cecil http://www.w5dxp.com

4881. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 12:27:09 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <vqnWh.5891$H_5.4186@newssvr23.news.prodigy.net>
Source record: 42379

Owen Duffy wrote:
> For avoidance of doubt, power is not a quantity to be superposed, though
> presumably if it can be deconstructed to voltage or current or electric
> field strength or magnetic field strength (though that may require
> additional information), then those components may be superposed.

The single bit of additional information required is the phase
angle between the voltages (or currents or fields). Optical
physicists deduce the relative phase angle by the ratio of
intensity (power density) in the bright rings vs the dark rings.
We hams can deduce the relative phase angle by the ratio of
forward power (density) to reflected power (density). Our task
as hams looking at a one-dimensional transmission line is much
easier than the task of optical physicists looking at visible
light in three-dimensional space. Our transmitted CW signals are
coherent and collinear in a transmission line, something that
optical physicists can only dream of.

> The resultant fields at a point though seem to not necessarily contain
> sufficient information to infer the existence of a wave, just one wave,
> or any specific number of waves, so the superposed resultant at a single
> point is by itself of somewhat limited use. This one way process where
> the resultant doesn't characterise the sources other than at the point
> seems to support the existence of the source waves independently of each
> other, and that there is no merging of the waves.

That is the case in a majority of examples. But in the case
of two coherent collinear waves superposed in a one-dimensional
transmission line where the resultant is the same at every point,
we can safely assert that those two waves have ceased to have an
existence independent of each other. The idea of two waves
canceling all up and down the transmission line yet continuing
their separate existences until their combined zero energy level
is dissipated (or not) is a pipe dream. If ExB = 0, the energy
in those canceled waves went the other direction a long time ago
and those waves have ceased to exist in their original direction
of travel, i.e. they have interacted and canceled.

When two waves combine to a zero energy level, the pre-existing
energy in those two waves is "redistributed in the direction
of constructive interference". In a one-dimensional transmission
line, there are only two possible directions. If waves superpose
to zero energy in one direction, their energy components are
"redistributed" in the only other direction possible. If the energy
ceases to flow in the reverse direction, then it must flow in the

forward direction. That's why Pforward = Psource + Preflected.
Anything else would violate the conservation of energy principle.
--
73, Cecil http://www.w5dxp.com

4882. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 12:35:35 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <qynWh.5893$H_5.4297@newssvr23.news.prodigy.net>
Source record: 42380

Keith Dysart wrote:
> You really do need
> to realize that there is no need for a circulator.

So Tektronix can just abandon its circulator business
and kiss their circulator profits goodbye? When are
you going to patent your idea and get rich?

> There you go. Still stuck. You really should crack the books in search
> of a reference to support your contention. You won't find one.

And that is exactly why the argument has been raging for decades.
Humans have not yet acquired 100% of all knowledge. You seem to
claim that you have mastered that task but I seriously doubt it.

> And the relevence of the conjugate match is that the conjugate
> is the generator source impedance and it is the impedance that
> the wave incident upon the generator sees.

I see you have not yet read Walter Maxwell's article. The
generator source impedance is not what is seen by the reflected
waves.

> I have certainly never said that. If you could point me to the words
> that misled you into thinking that, I will attempt to clarify your
> misunderstanding.

Correct me if I'm wrong. I understood you to say that energy
cannot flow past an instantaneous zero energy point yet there
is an instantaneous zero energy point every 1/2WL in an EM
traveling wave.
--
73, Cecil http://www.w5dxp.com

4883. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 12:45:02 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132k1qfbelar3d8@corp.supernews.com>
Source record: 42381

Owen Duffy wrote:
>
> Fine Roy, the maths is easy, but you don't discuss the eligible
> quantities.
>
> As I learned the superposition theoram applying to circuit analysis, it
> was voltages or currents that could be superposed.
>
> Presumably, for EM fields in space, the electric field strength and
> magnetic field strength from multiple source can be superposed to obtain
> resultant fields, as well as voltages or currents in any circuit elements
> excited by those waves.
>
> For avoidance of doubt, power is not a quantity to be superposed, though
> presumably if it can be deconstructed to voltage or current or electric
> field strength or magnetic field strength (though that may require
> additional information), then those components may be superposed.
>
> The resultant fields at a point though seem to not necessarily contain
> sufficient information to infer the existence of a wave, just one wave,
> or any specific number of waves, so the superposed resultant at a single
> point is by itself of somewhat limited use. This one way process where
> the resultant doesn't characterise the sources other than at the point
> seems to support the existence of the source waves independently of each
> other, and that there is no merging of the waves.
>
> Is anything above contentious or just plain wrong?

No, I agree entirely, except for

>This one way process where
>the resultant doesn't characterise the sources other than at the point
>seems to support the existence of the source waves independently of
>each other, and that there is no merging of the waves.

which I don't understand. We lose information when we add or otherwise operate on two numbers to get one. (Which I think is what you might be saying.) Given a number which is the sum of two others, we can't tell from that sum alone what the two original numbers were. The same is naturally true of superposed or added, if you prefer, waves or fields. Power has the same problem (among others) -- given even an instantaneous power, we can't tell without some other information (such as the complex impedance) what the constituent voltage and current were.

Roy Lewallen, W7EL

4884. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 12:47:53 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ZJnWh.17402$JZ3.12010@newssvr13.news.prodigy.net>
Source record: 42382

Keith Dysart wrote:
> On Apr 20, 12:46 pm, Cecil Moore wrote:
>> I already did - Bruene's early 1990's QST article.
>
> Sorry. Not a good enough description for any kind of analysis.

Ignore it if you choose. That's when the present hoopla
began, at least in the amateur radio community. You can
follow the thread from that point to the present to see
what is happening in the present.

> Nothing to sweep under the rug, I am afraid. It is key that the
> dissipation depends on the design of the generator. Some
> times those 'reverse watts' cause the dissipation to drop
> to 0, sometimes they cause it to increase by a factor of 4,
> sometimes they cause it to increase by the numerical value
> of the 'reverse watts'. Pretty much hard to argue that those
> 'reverse watts' are real when their heating effect is so
> variable.

Not at all. The heating effect depends upon how much of
the reverse joules/sec are re-reflected. If the dissipation
drops to 0, that is prima facie evidence that all the
reflected joules/sec have been re-reflected. If the
dissipation increases by a factor of 4, that is prima facie
evidence that all of the reflected joules/sec are being
dissipated in the source along with all of the joules/sec
available from the source into a matched load. Anything
else would violate the conservation of energy principle.

> I'd suggest you think of power as a quantity not a situation.
> Superposition works for linear, time invariant circuits with
> multiple sources. Check any text book. The generators and
> lines under discussion meet these requirements.

But superposition obviously doesn't work at the source
point. One possible technical conclusion may be that
the dynamic active source is constant, fixed, and refuses
to be superposed (for any constant, fixed load). If that
is true, it would certainly stop the present raging debate
in its tracks.
--
73, Cecil http://www.w5dxp.com

4885. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 12:52:42 UTC
From: Dave <noone@nowhere.com>
Message-ID: <uOnWh.89$Rd.55@trndny08>
Source record: 42383

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:5ZmWh.544$im2.92@newssvr22.news.prodigy.net...
> Roy Lewallen wrote:
>> Superposition means the following: If f(x) is the result of excitation x
>> and f(y) is the result of excitation y, then the result of excitation (x
>> + y) is f(x) + f(y). . .
>
> Now the big question is: Is superposition always reversible?
> If not, it implies interaction between f(x) and f(y).
> --
> 73, Cecil http://www.w5dxp.com

as long as everything is linear, yes.

4886. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 13:01:06 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <kWnWh.5896$H_5.939@newssvr23.news.prodigy.net>
Source record: 42384

Dave wrote:
> yes, superposition is meant to work directly on voltage, current, electric
> fields, and magnetic fields. it can be extended by adding appropriate extra
> phase terms to power or intensity as cecil prefers to use.

That seems to be common knowledge except for some
(narrow-minded?) posters here. Powers do not superpose
but there is a method of adding power (densities)
that has been acceptable to physicists for at least
a century and may date back to Young, Fresnel, and
Huygens.
--
73, Cecil http://www.w5dxp.com

4887. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 13:07:41 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <v0oWh.5899$H_5.464@newssvr23.news.prodigy.net>
Source record: 42385

Roy Lewallen wrote:
> Given a number which is the sum of two others, we can't tell
> from that sum alone what the two original numbers were.

Seems as though those two numbers interacted and
then lost their separate identities, huh?
--
73, Cecil http://www.w5dxp.com

4888. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 13:23:56 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <MfoWh.1483$H_.1461@newssvr21.news.prodigy.net>
Source record: 42386

Dave wrote:
>> Now the big question is: Is superposition always reversible?
>> If not, it implies interaction between f(x) and f(y).
>
> as long as everything is linear, yes.

This is really interesting. Given the following:

b1 = s11(a1) + s12(a2) = 0

Let P1 = |s11(a1)|^2 = 1 joule/sec

Let P2 = |s12(a2)|^2 = 1 joule/sec

Therefore, Ptot = |b1|^2 = 0 joules/sec

Ptot = P1 + P2 + 2*SQRT(P1*P2)cos(180)

Ptot = 1 + 1 - 2 = 0 joules/sec = |b1|^2

Can one reverse the superposition whose result is
zero to recover the original two component waves?
If not, isn't that proof that the two original
component waves interacted?
--
73, Cecil http://www.w5dxp.com

4889. Re: Where does the far field start on a phased array?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 13:25:50 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1177161950.719005.248800@n59g2000hsh.googlegroups.com>
Source record: 42387

On 21 abr, 10:32, "Dave (from the UK)" <see-my-signat...@southminster-
branch-line.org.uk> wrote:
> First, I should state this is not a question about an amateur antenna
> system, but I'm hoping someone may know the answer.
>
> Consider a phased array of antennas. There are some 30 or so antennas
> all in a line, as below, where "A" is an antenna and "-" indicates a space
>
> A---A---A---A---A---A---A---A---A---A
>
> The overall width of the array is D.
>
> The radiation pattern varies as a function of distance from the antenna
> until one is in the far-field. But where does the far-field start for a
> phased array? Can one use the normal formula of
>
> 2 D^2 / lambda ?
>
> If the width D is large (say 30 m) and the wavelength small (say 0.1 m),
> then the far field does not start for
>
> 2 * 30 * 30 / 0.1
>
> 18,000 m
> = 18 km
>
> i.e. the radiation pattern is a function of distance until you are some
> 18 km (about 11 miles) from the antenna.
>
> If anyone can give me a link to a professional reference on this,
> scientific paper etc, that would be useful.
>
> --
> Dave (from the UK)
>
> Please note my email address changes periodically to avoid spam.
> It is always of the form: month-y...@althorne.org
> Hitting reply will work for a few months only - later set it manually.
>
> http://chessdb.sourceforge.net/- a Free open-source Chess Database

Hello,

Your formula for far field distance (Fraunhofer region) assumes a path
difference between the inner and outer antenna with respect to an

observation point of 1/16 lambda.

The 1/16 lambda (22.5 degrees) path difference is used by many experts (for example page 39 of "Antennas for all applications" 3rd edition [Kraus, Marhefka]).

Depending on your application and required accuracy, you can divert from the 1/16 lambda rule. For example when you taper the power distribution for your array (to get lower side lobes), the far field distance is not that far. If you accept a 1 dB error in main lob gain, you can go down to 25% of the far field distance formula. However when you want to measure a dip in the radiation pattern of (for example) -50 dBi, you might need a larger distance.

For your array, you can calculate the effect of distance on radiation pattern in a spread sheet program.

Best regards,

Wim
PA3DJS

4890. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 14:03:47 UTC
From: Dave <noone@nowhere.com>
Message-ID: <7RoWh.109$Zm.79@trndny03>
Source record: 42388

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:MfoWh.1483$H_.1461@newssvr21.news.prodigy.net...
> Dave wrote:
>>> Now the big question is: Is superposition always reversible?
>>> If not, it implies interaction between f(x) and f(y).
>>
>> as long as everything is linear, yes.
>
> This is really interesting. Given the following:
>
> b1 = s11(a1) + s12(a2) = 0
>
> Let P1 = |s11(a1)|^2 = 1 joule/sec
>
> Let P2 = |s12(a2)|^2 = 1 joule/sec
>
> Therefore, Ptot = |b1|^2 = 0 joules/sec
>
> Ptot = P1 + P2 + 2*SQRT(P1*P2)cos(180)
>
> Ptot = 1 + 1 - 2 = 0 joules/sec = |b1|^2
>
> Can one reverse the superposition whose result is
> zero to recover the original two component waves?
> If not, isn't that proof that the two original
> component waves interacted?
> --
> 73, Cecil http://www.w5dxp.com

no, because you have done a non-linear operation on them by converting to
powers. obviously at the start 'a1' and 'a2' are separate.

4891. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 14:12:54 UTC
From: Dave <noone@nowhere.com>
Message-ID: <GZoWh.94$Rd.40@trndny08>
Source record: 42389

"Dave" <noone@nowhere.com> wrote in message news:7RoWh.109$Zm.79@trndny03...
>
> "Cecil Moore" <nospam@w5dxp.com> wrote in message
> news:MfoWh.1483$H_.1461@newssvr21.news.prodigy.net...
>> Dave wrote:
>>>> Now the big question is: Is superposition always reversible?
>>>> If not, it implies interaction between f(x) and f(y).
>>>
>>> as long as everything is linear, yes.
>>
>> This is really interesting. Given the following:
>>
>> b1 = s11(a1) + s12(a2) = 0
>>
>> Let P1 = |s11(a1)|^2 = 1 joule/sec
>>
>> Let P2 = |s12(a2)|^2 = 1 joule/sec
>>
>> Therefore, Ptot = |b1|^2 = 0 joules/sec
>>
>> Ptot = P1 + P2 + 2*SQRT(P1*P2)cos(180)
>>
>> Ptot = 1 + 1 - 2 = 0 joules/sec = |b1|^2
>>
>> Can one reverse the superposition whose result is
>> zero to recover the original two component waves?
>> If not, isn't that proof that the two original
>> component waves interacted?
>> --
>> 73, Cecil http://www.w5dxp.com
>
> no, because you have done a non-linear operation on them by converting to
> powers. obviously at the start 'a1' and 'a2' are separate.
>
>
i should expand a bit more. all your equations above have done is shown
that at the point where you are doing your analysis s11(a1) and s12(a2),
which add up to 0... also produce a net 0 power at that point. this is as
expected for destructive interference AT THAT POINT. as such your s
parameter analysis is insufficient to separate the individual components
after you combine them into a power. however, at the begining they are
obviously separate waves since you have represented them with separate input
values, and given a linear transfer function for your point on the wire, or
in space, they can always be kept separate. it is only your act of

calculating the power at that point that combines them.

4892. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 14:24:41 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <J8pWh.64608$VU4.40512@bgtnsc05-news.ops.worldnet.att.net>
Source record: 42390

K7ITM wrote:
> On Apr 20, 10:10 pm, Roy Lewallen <w...@eznec.com> wrote:
>> Correction:
>>
>> Roy Lewallen wrote:
>>
>>> Superposition means the following: If f(x) is the result of excitation x
>>> and f(y) is the result of excitation y, then the result of excitation (x
>>> + y) is f(x + y). . .
>> That should read:
>>
>> Superposition means the following: If f(x) is the result of excitation x
>> and f(y) is the result of excitation y, then the result of excitation
>> (x + y) is f(x) + f(y). . .
>> ^^^^^^^^^^
>> I apologize for the error. Thanks very much to David Ryeburn for
>> spotting it.
>>
>> Roy Lewallen, W7EL
>
> I guess that's the definition of linearity. I'm not sure I've heard
> it called superposition before, but rather that the superposition
> theorem is a direct result of the linearity of a system. I trust
> that's a small definitional issue that doesn't really change what
> you're saying.
>
> Cheers,
> Tom
>

Tom,

For most purposes the terms superposition and linearity are
interchangeable. However, for the purists there is a difference.

A system that is deemed linear requires that it has the properties of
both superposition and scalability. These properties are essentially the
same for simple systems, but they are not necessarily the same when
considering complex values. I found some clear examples in a book, "The
Science of Radio", by Paul Nahin.

One example, y(t)=Re{x(t)} describes a system which obeys superposition,
but not scaling. Hint: try a scaling factor of "j". That system is not
linear.

Another example is y(t)=[1/x(t)]*[dx/dt]^2. That system obeys scaling,
but not superposition. Again, it is not linear.

The bottom line is that superposition is necessary, but not sufficient
to ensure linearity.

You are correct that the definitional issue is not relevant to the
current RRAA discussion.

73,
Gene
W4SZ

4893. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 14:32:07 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <HfpWh.339256$5j1.277278@bgtnsc04-news.ops.worldnet.att.net>
Source record: 42391

Cecil Moore wrote:
> Gene Fuller wrote:
>> Cecil Moore wrote:
>>> This is steady-state after the wave interaction. What
>>> you guys don't seem to realize is that s11(a1) and
>>> s12(a2) are continually changing, continually
>>> interacting, and a1 & a2 are rotating phasors
>>> changing with time.
>>
>> Utter nonsense. Any setup that includes t0 or t=0 is not steady state.
>
> Gene, you obviously misunderstood what I said. There is
> no t0 or t=0 in my above statement. It is just that the
> delta-t doesn't change from the transient state to the
> steady-state.
>
> In an s-parameter analysis:
> The normalized voltage, a1, equals Vi1/SQRT(Z0) where
> 'i' stands for incident voltage. a2 equals Vi2/SQRT(Z0).
> These voltages are normally represented in phasor
> notation but they can just as easily be represented
> in exponential notation where a1 = Vi1*e^jwt+X and
> a2 = Vi2*e^jwt+Y, where X and Y are constant phase
> angles. Thus, the s-parameter equation becomes:
>
> b1 = Vi1[cos(wt+X)]/SQRT(Z0) + Vi2[cos(wt+Y)]/SQRT(Z0) = 0
>
> adding the delta-t "tick" gives:
>
> b1 = Vi1{cos[w(t+delta-t)+X]}/SQRT(Z0) +
> Vi2{cos[w(t+delta-t)+Y]}/SQRT(Z0) = 0
>
> Vi1 obviously has to be an equal magnitude to Vi2 and
> X and Y obviously have to be 180 degrees apart. Given
> that, for every delta-t "tick" of time, the two real
> normalized voltages sum to zero. The square of the
> normalized RMS value gives average power in each
> wave. The equation can be turned into a differential
> equation by having delta-t approach zero in the limit.

Cecil,

I should have know better than to read this with a cup of coffee in my hand. I just snorted coffee all over my keyboard.

8-)

73,
Gene
W4SZ

4894. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 14:55:49 UTC
From: Chuck <no.spam@no.spam.at.all>
Message-ID: <1177167430_19843@sp12lax.superfeed.net>
Source record: 42392

Owen Duffy wrote:
> There has been much discussion about wave cancellation, anihalation,
> interaction etc. The discussion was initially about waves confined to a
> transmission line (but would apply also to a waveguide in a sense) and
> then progressed to radiation in free space.
>
> Let me initially explore the case of radiation in free space. I am
> talking about radio waves and the radiation far field.
>
> If we have two widely separated antennas radiating coherent radio waves
> don't they each radiate waves that travel independently through space. (I
> have specified wide separation so as to make the effect of one antenna on
> the other insignificant.
>
> If we were to place a receiving antenna at a point in space to couple
> energy from the waves, the amount of energy available from the antenna is
> the superposition of the response of the antenna to the wave from each
> source. This is quite different to saying that the electric field (or the
> magnetic field) at that point is the superposition of the field resulting
> from each antenna as is demonstrated by considering the response of
> another recieving antenna with different directivity (relative to the two
> sources) to the first receiving antenna.
>
> A practical example of this is that an omni directional receiving antenna
> may be located at a point where a direct wave and a reflected wave result
> in very low received power at the antenna, whereas a directional antenna
> that favours one or other of the waves will result in higher received
> power. This indicates that both waves are independent and available to
> the receiving antenna, the waves do not cancel in space, but rather the
> superposition occurs in the antenna.
>
> Though we frequently visualise nodes and antinodes in space, or talk of
> nulls in space (eg have you ever noticed that when you stop a car at
> traffic lights, you are smack in the middle of a null), whereas it seems
> to me that the realisation of a null involves the response of the
> receiving antenna.
>
> This explanation IMHO is more consistent with the way antennas behave
> than the concept that waves superpose in space, it allows waves to
> radiate outwards from a source, passing through each other without
> affecting each other. Whilst we routinely look at plots of the
> directivity of an antenna, and assume that the plotted directivity is
> merely a function of polar angle, we overlook that the plotted pattern
> assumes an isotropic probe at a distance very large compared to the

> dimensions of the antenna (array). Tracing the position of a pattern
> minimum in towards the array may well yield a curved path rather than a
> straight line, and a curved path is inconsistent with waves anihalating
> each other or redistributing energy near the antenna and radiating
> outwards in true radial direction from some virtual antenna centre.
>
> So, it seems to me that coherent waves from separated sources travel
> independently, and the response of the probe used to observe the waves is
> the superposition of the probe's response to each wave. (A further
> complication is that the probe (a receiving antenna) will "re-radiate"
> energy based on its (net) response to the incoming waves.)
>
> Now, considering transmission lines, do the same principles apply?
>
> A significant difference with uniform TEM transmission lines is that
> waves are constrained to travel in only two different directions.
>
> Considering the steady state:
>
> If at some point two or more coherent waves travelling a one direction,
> those waves will undergo the same phase change and attenuation with
> distance as each other and they must continue in the same direction
> (relative to the line), and the combined response in some circuit element
> on which they are incident where superposition is valid (eg a circuit
> node) will always be as if the two waves had been superposed... but the
> response is not due to wave superposition but superposition of the
> responses of the circuit element to the waves. It is however convenient,
> if not strictly correct to think of the waves as having superposed.
>
> That convenience extends to ignoring independent coherent waves that
> would net to a zero response. For example, if we were to consider a
> single stub matching scheme, though one there might consider that
> multiple reflected waves arrive at the source, if they net to zero
> response, then it is convenient to regard that in the steady state there
> are no reflected waves, the source response is as if there were no
> reflected waves. An alternative view of that configuration is that
> superposition in the circuit node that joins the stub, the line to the
> load and the line to the source results in conditions at that end of the
> source line that do not require a reflected wave to satisfy boundary
> conditions at that point, and there really is no reflected wave.
>
> Steady state analysis is sufficiently accurate and appropriate to
> analysis of many scenarios, and the convenience extends to simplified
> mathematics. It seems that the loose superposition of waves is part of
> that convenience, but it is important to remember the underlying
> principles and to consciously assess the validity of model
> approximations.
>
> Comments?
>

> Owen
>
>

If a probe is confined to the null
"space" consisting of the plane between
the antennas, it seems clear it cannot
distinguish between radiation from the
two antennas.

But no probe so constrained can detect
radiation from either antenna alone (or
from any other radiating source).

Seems somewhat tautological then that
the probe cannot be designed to
distinguish between the two antennas.

If the assumption so constrains the
probe to fatal infirmities under any
circumstances, then the observance of
failure in a particular circumstance is
void of information.

No?

Chuck

-----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

4895. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 15:05:29 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <XKpWh.2426$ns5.2151@newssvr17.news.prodigy.net>
Source record: 42393

Dave wrote:
> "Cecil Moore" wrote:
>> Can one reverse the superposition whose result is
>> zero to recover the original two component waves?
>> If not, isn't that proof that the two original
>> component waves interacted?
>
> no, because you have done a non-linear operation on them by converting to
> powers. obviously at the start 'a1' and 'a2' are separate.

If V^2/Z0 and I^2*R cannot be reverse superposed
in reality, doesn't that imply than neither can V
and I be reverse superposed in reality?

Doesn't a real world EM wave require ExB joules/sec
for it to exist and to have an associated voltage
and current?
--
73, Cecil http://www.w5dxp.com

4896. Re: screwdriver vs. tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 15:06:43 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns99195286E7818doldridgsprintca@64.59.135.159>
Source record: 42394

"JIMMIE" <JIMMIEDEE123@YAHOO.COM> wrote in
news:1176516308.038391.175620@w1g2000hsg.googlegroups.com:

> On Apr 13, 9:13 pm, Dave Oldridge <doldr...@leavethisoutshaw.ca>
> wrote:
>> Cecil Moore <nos...@w5dxp.com> wrote
>> innews:t7dTh.16158$Um6.9395@newssvr12.news.prodigy.net:
>>
>> > Dave Oldridge wrote:
>> >> Yep....a GOOD screwdriver with a really high-Q coil will run rings
>> >> around most other short antennas. Especially if you use a
>> >> capacity hat. But for mobile operation while travelling, that
>> >> gets a bit bulky and hard to tame, physically.
>>
>> > Not at all, Dave. $5 worth of PVC pipe works wonders.
>> > It's those 5-inch coil diameters that give the problem!!! Takes a
>> > sturdy
>> mount for those.
>>
>> --
>> Dave Oldridge+
>> ICQ 1800667
>
> HAs anyone ever tried using a long whip with a screwdriver matching
> network. For example I have a telescoping 18ft whip and I was
> wondering how it might work with it. I have never used a screwdriver
> antenna before and the whip collapses to a little over 6ft.

Should work fine. I know a fellow who put a wire on the end.

Just which frequencies you'll cover will vary, though.

--
Dave Oldridge+
ICQ 1800667

4897. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 15:07:44 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <2NpWh.2428$ns5.1172@newssvr17.news.prodigy.net>
Source record: 42395

Dave wrote:
> i should expand a bit more. all your equations above have done is shown
> that at the point where you are doing your analysis s11(a1) and s12(a2),
> which add up to 0... also produce a net 0 power at that point. this is as
> expected for destructive interference AT THAT POINT. as such your s
> parameter analysis is insufficient to separate the individual components
> after you combine them into a power. however, at the begining they are
> obviously separate waves since you have represented them with separate input
> values, and given a linear transfer function for your point on the wire, or
> in space, they can always be kept separate. it is only your act of
> calculating the power at that point that combines them.

True, but we also know that the power is zero at every point
between the Z0-match and the source. That gives us an
infinite number of points with which to work and we still
cannot reverse superpose the two original superposed waves.
--
73, Cecil http://www.w5dxp.com

4898. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 15:15:32 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <oUpWh.1499$H_.534@newssvr21.news.prodigy.net>
Source record: 42396

Gene Fuller wrote:
> I should have know better than to read this with a cup of coffee in my
> hand. I just snorted coffee all over my keyboard.

Your highly technical rebuttal of my posting is noted.
Have you ever seen the equation?

The integral of e to the x = function of u to the n

```
__
|_
__|e^x = F(u^n)
```

--
73, Cecil http://www.w5dxp.com

4899. reflection of radio waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 15:20:02 UTC
From: suresh <sureshknight@gmail.com>
Message-ID: <1177168802.377407.98540@y5g2000hsa.googlegroups.com>
Source record: 42397

hi
they say that when a radio wave hits a reflective surface and bounces
back it under goes a 180 degrees phase shift .

1,what exactly is the reason for this phase change, is it because of
the change in direction or any thing else.

2,does this phase shift of 180 degrees mean a shift in polarity(ie
from +ve to -ve and vice versa)

4900. Re: reflection of radio waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 16:05:22 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1177171522.412719.211630@d57g2000hsg.googlegroups.com>
Source record: 42398

On Apr 21, 8:20 am, suresh <sureshkni...@gmail.com> wrote:
> hi
> they say that when a radio wave hits a reflective surface and bounces
> back it under goes a 180 degrees phase shift .
>
> 1,what exactly is the reason for this phase change, is it because of
> the change in direction or any thing else.
>
> 2,does this phase shift of 180 degrees mean a shift in polarity(ie
> from +ve to -ve and vice versa)

Google can be your friend. Please learn to use it. One thing I'd add to the paragraph below is that the metal creates what's commonly called a "boundary condition." In this case, it enforces the electric field in the metal to be (essentially) zero...which means that right next to the metal surface, whatever electric field there is must be perpendicular to the metal. That will/can help you understand the "angle of incidence equals angle of reflection" thing. Rather than typing in a similar answer, here's something that looks pretty good from www.physicsforums.com:

"Specular (mirror) reflection by metals of electromagnetic (EM) waves, including light, is not a quantum process. There are not absorbed and reemitted photons.
An EM wave has an alternating electric field that oscillates at the frequency of the wave. The limit condition of electric fields and perfect conductors is that the electric field in the perfect conductor must be zero. If not, the current should be infinite.
When free electrons in a metal "feel" an alternating electric field, they began to oscillate at the same frequency as the field. An oscillating electron radiates an EM wave polarized in the direction of its movement. That is, with the electric field parallel to the movement. This EM wave is radiates in all directions, with a maximum in the plane perpendicular to movement and a zero in the direction of movement.
In a perfect conductor, the amplitude of the emitted EM wave is identical to the incident wave. In a real metal the emitted wave is slightly smaller than the incident one.
The phase of the emitted EM wave is such that at the metal surface and in the metal side, the addition of the two waves is zero. In the incident wave side the two waves travel in opposite directions. Seen from outside one has the impression that the wave coming from the metal is the reflection of the incoming wave. It has the same frequency and amplitude. But, in reality, it is a wave that has been emitted by the metal electrons.

When the electric field is parallel to the surface of the mirror, the reemitted wave has the same polarization. When it is not the case the polarization of the reemitted wave is a little trickier.
There is not need of metals to obtain a "metallic" reflection: free electrons suffice. There are a lot of them in the ionospheric plasma. The ionosphere reflects radio waves at low radio frequencies (under a few MHz). And some metals can be transparent to light. The potassium is transparent to near UV.
Real metals are not perfect and their conductivity is frequency dependant. But except copper and gold, they reflect fairly uniformly in the visible band."

4901. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 16:22:58 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1177172578.929449.97890@p77g2000hsh.googlegroups.com>
Source record: 42399

On Apr 21, 7:24 am, Gene Fuller <W4SZzzz...@att.net> wrote:
> K7ITM wrote:
> > On Apr 20, 10:10 pm, Roy Lewallen <w...@eznec.com> wrote:
> >> Correction:
>
> >> Roy Lewallen wrote:
>
> >>> Superposition means the following: If f(x) is the result of excitation x
> >>> and f(y) is the result of excitation y, then the result of excitation (x
> >>> + y) is f(x + y). . .
> >> That should read:
>
> >> Superposition means the following: If f(x) is the result of excitation x
> >> and f(y) is the result of excitation y, then the result of excitation
> >> (x + y) is f(x) + f(y). . .
> >> ^^^^^^^^^^^
> >> I apologize for the error. Thanks very much to David Ryeburn for
> >> spotting it.
>
> >> Roy Lewallen, W7EL
>
> > I guess that's the definition of linearity. I'm not sure I've heard
> > it called superposition before, but rather that the superposition
> > theorem is a direct result of the linearity of a system. I trust
> > that's a small definitional issue that doesn't really change what
> > you're saying.
>
> > Cheers,
> > Tom
>
> Tom,
>
> For most purposes the terms superposition and linearity are
> interchangeable. However, for the purists there is a difference.
>
> A system that is deemed linear requires that it has the properties of
> both superposition and scalability. These properties are essentially the
> same for simple systems, but they are not necessarily the same when
> considering complex values. I found some clear examples in a book, "The
> Science of Radio", by Paul Nahin.
>
> One example, y(t)=Re{x(t)} describes a system which obeys superposition,
> but not scaling. Hint: try a scaling factor of "j". That system is not
> linear.

>
> Another example is y(t)=[1/x(t)]*[dx/dt]^2. That system obeys scaling,
> but not superposition. Again, it is not linear.
>
> The bottom line is that superposition is necessary, but not sufficient
> to ensure linearity.
>
> You are correct that the definitional issue is not relevant to the
> current RRAA discussion.
>
> 73,
> Gene
> W4SZ

Thanks, Gene--those examples are helpful. I'll retract what I posted last night.

Based on the "necessary but not sufficient" statement above, we can say that superposition does hold in a linear system, so if we specify a linear system, we do have that guarantee.

Cheers,
Tom

4902. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 16:40:26 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <_7rWh.3578$rO7.1057@newssvr25.news.prodigy.net>
Source record: 42400

Gene Fuller wrote:
> I should have know better than to read this with a cup of coffee in my
> hand. I just snorted coffee all over my keyboard.

Gene, I've got an experiment for you. Go to:

http://micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/waveinteractions/index.html

and set one phase to 0 and the other phase to 180 degrees.
Then get an index card and cover up everything to the
left except one point on each wave. All you see is those
two single points moving up and down. That gives you a
visual idea of how s11(a1) and s12(a2) originate and are
canceled at a Z0-match *point*. Plot those points back
in time and you will have a history of the canceled waves
from which you can compute average power density as
|s11(a1)|^2 and |s12(a2|^2.
--
73, Cecil http://www.w5dxp.com

4903. Lengths of radials for Diamond X-3200A

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 20:13:25 UTC
From: "Rick (W-A-one-R-K-T)" <get.my.email@from.qrz.com>
Message-ID: <pan.2007.04.21.20.13.24.337527@from.qrz.com>
Source record: 42401

I seem to have lost the radials for my Diamond X-3200A 144/220/440 triband vertical, and so I'm going to have to make some more.

Can anyone tell me what the length of the radials is supposed to be?

I'm guessing 19" but it seemed to me they were shorter than that.

Thanks...

4904. Re: Where does the far field start on a phased array?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 21:30:20 UTC
From: "Dave (from the UK)" <see-my-signature@southminster-branch-line.org.uk>
Message-ID: <462a826e@212.67.96.135>
Source record: 42402

Wimpie wrote:

> Hello,
>
> Your formula for far field distance (Fraunhofer region) assumes a path
> difference between the inner and outer antenna with respect to an
> observation point of 1/16 lambda.

Someone has said that the formula I gave is not valid for a phased array.

His comment (about the 2 D^2/lambda) is below:

That estimation does not apply in this case. It can be considered to be
valid for aperture antennas which is not the case here. It would only
require to have the transmitting antenna illuminating the pleased array
within its 3dB mainlobe which of course is by far the case at a distance
of 3000m or even more.

I'm not to bothered about the odd factor of two. I have seen a
derivation of the formula, but it was based on a rectangular aperture,
not an array of them. It don't know if that may mean the equation is
just not appropriate at all.

Using that forumal puts the far-field distance at about 10 km in my
case. Using someone elses idea, puts it at only a few hundred meters.
There is at least a factor of 10 difference.
--
Dave (from the UK)

Please note my email address changes periodically to avoid spam.
It is always of the form: month-year@althorne.org
Hitting reply will work for a few months only - later set it manually.

http://chessdb.sourceforge.net/ - a Free open-source Chess Database

4905. Re: Where does the far field start on a phased array?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 21:33:52 UTC
From: "Dave (from the UK)" <see-my-signature@southminster-branch-line.org.uk>
Message-ID: <462a8342@212.67.96.135>
Source record: 42403

Dave (from the UK) wrote:

> If anyone can give me a link to a professional reference on this,
> scientific paper etc, that would be useful.
>
>

Hi all again

W4ZCB emailed me about this, but my attempts to reply have failed.
Anyway, W4ZCB suggested his paper, which has a nice physical (non
mathematical) explanation of the far field.

http://www.setileague.org/articles/hps_ham.htm
http://www.setileague.org/articles/ham/farfield.pdf

Unfortunately, it does not solve my particular problem.

--
Dave (from the UK)

Please note my email address changes periodically to avoid spam.
It is always of the form: month-year@althorne.org
Hitting reply will work for a few months only - later set it manually.

http://chessdb.sourceforge.net/ - a Free open-source Chess Database

4906. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 21:41:01 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132l17ei6b00nb4@corp.supernews.com>
Source record: 42404

Dave wrote:
> "Cecil Moore" <nospam@w5dxp.com> wrote in message
> . . .

I'm very sorry to see that Cecil has arrived to divert what was an interesting and informative discussion to yet another one of his endless argumentative junk science threads. Oh, well, it was nice while it lasted.

Roy Lewallen, W7EL

4907. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 21:42:55 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132l1b0lavcs81d@corp.supernews.com>
Source record: 42405

K7ITM wrote:
>
> Thanks, Gene--those examples are helpful. I'll retract what I posted
> last night.
>
> Based on the "necessary but not sufficient" statement above, we can
> say that superposition does hold in a linear system, so if we specify
> a linear system, we do have that guarantee.

And my thanks to both of you.

Roy Lewallen, W7EL

4908. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 22:08:08 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns991A52C227CA3nonenowhere@61.9.191.5>
Source record: 42406

"Dave" <noone@nowhere.com> wrote in news:ZPmWh.759$dM1.190@trndny07:

>
> "Owen Duffy" <none@no.where> wrote in message
> news:Xns9919BFF63DEC3nonenowhere@61.9.191.5...
>> Roy Lewallen <w7el@eznec.com> wrote in
>> news:132j75hi0a4uocd@corp.supernews.com:
>>
>>> Correction:
>>>
>>> Roy Lewallen wrote:
>>>>
>>>> Superposition means the following: If f(x) is the result of
>>>> excitation x and f(y) is the result of excitation y, then the
>>>> result of excitation (x + y) is f(x + y). . .
>>>
>>> That should read:
>>>
>>> Superposition means the following: If f(x) is the result of
>>> excitation x
>>> and f(y) is the result of excitation y, then the result of
>>> excitation
>>> (x + y) is f(x) + f(y). . .
>>> ^^^^^^^^^^
>>> I apologize for the error. Thanks very much to David Ryeburn for
>>> spotting it.
>>>
>>
>> Fine Roy, the maths is easy, but you don't discuss the eligible
>> quantities.
>>
>> As I learned the superposition theoram applying to circuit analysis,
>> it was voltages or currents that could be superposed.
>>
>> Presumably, for EM fields in space, the electric field strength and
>> magnetic field strength from multiple source can be superposed to
>> obtain resultant fields, as well as voltages or currents in any
>> circuit elements excited by those waves.
>>
>> For avoidance of doubt, power is not a quantity to be superposed,
>> though presumably if it can be deconstructed to voltage or current or
>> electric field strength or magnetic field strength (though that may
>> require additional information), then those components may be
>> superposed.

>>
>> The resultant fields at a point though seem to not necessarily
>> contain sufficient information to infer the existence of a wave, just
>> one wave, or any specific number of waves, so the superposed
>> resultant at a single point is by itself of somewhat limited use.
>> This one way process where the resultant doesn't characterise the
>> sources other than at the point seems to support the existence of the
>> source waves independently of each other, and that there is no
>> merging of the waves.
>>
>> Is anything above contentious or just plain wrong?
>>
>> Owen
>
> yes, superposition is meant to work directly on voltage, current,
> electric fields, and magnetic fields. it can be extended by adding
> appropriate extra phase terms to power or intensity as cecil prefers
> to use.
>
> you are at least partially correct. a measurement at a single point
> at a single time can only give the sum of the fields at the instant of
> measurement. make a series of measurements at a point over time and

Dave, I was continuing in the assumed context of coherent sources.

> you can infer the existance of different frequency waves passing the
> point, but not anything about their direction or possibly multiple
> components. add measurements at enought other points and you can
> resolve directional components, polarization, etc. assuming your
> points are properly distributed... this means that a small probe
> (like a scope probe) can only make a record of voltages/currents or
> fields at a single point and can't tell anything about direction. add
> a second probe and you could detect the direction of travel of waves
> on a wire.

Yes, I understand.... Thanks.

4909. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 22:24:54 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <WawWh.65649$VU4.44761@bgtnsc05-news.ops.worldnet.att.net>
Source record: 42407

Cecil Moore wrote:
> Gene Fuller wrote:
>> I should have know better than to read this with a cup of coffee in my
>> hand. I just snorted coffee all over my keyboard.
>
> Gene, I've got an experiment for you. Go to:
>
> http://micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/waveinteractions/index.html
>
>
> and set one phase to 0 and the other phase to 180 degrees.
> Then get an index card and cover up everything to the
> left except one point on each wave. All you see is those
> two single points moving up and down. That gives you a
> visual idea of how s11(a1) and s12(a2) originate and are
> canceled at a Z0-match *point*. Plot those points back
> in time and you will have a history of the canceled waves
> from which you can compute average power density as
> |s11(a1)|^2 and |s12(a2|^2.

Cecil,

You are going to pull a brain muscle by stretching so much. Are you suggesting that two wiggling points on a web page are the key to understanding the universe?

Here's a thought experiment for you. Read the message by Tom, K7ITM, where he copied a quote from physicsforums.com. See if you can figure out how those waves you insist are created and then quickly canceled (delta-t later) might have never existed in the first place. Hint: waves don't interact with each other, but they do interact with materials containing electrons. (I believe that covers quite a few materials.)

73,
Gene
W4SZ

4910. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 22:31:08 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns991A56A86530Anonenowhere@61.9.191.5>
Source record: 42408

Chuck <no.spam@no.spam.at.all> wrote in
news:1177167430_19843@sp12lax.superfeed.net:

...
> Seems somewhat tautological then that
> the probe cannot be designed to
> distinguish between the two antennas.
>
> If the assumption so constrains the
> probe to fatal infirmities under any
> circumstances, then the observance of
> failure in a particular circumstance is
> void of information.

Chuck, that is emerging from the subsequent discussion.

Owen

4911. Re: Where does the far field start on a phased array?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-21 23:13:41 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1177197221.440496.317080@n76g2000hsh.googlegroups.com>
Source record: 42409

On Apr 21, 4:32 am, "Dave (from the UK)" <see-my-
signat...@southminster-branch-line.org.uk> wrote:
> First, I should state this is not a question about an amateur antenna
> system, but I'm hoping someone may know the answer.
>
> Consider a phased array of antennas. There are some 30 or so antennas
> all in a line, as below, where "A" is an antenna and "-" indicates a space
>
> A---A---A---A---A---A---A---A---A---A
>
> The overall width of the array is D.
>
> The radiation pattern varies as a function of distance from the antenna
> until one is in the far-field. But where does the far-field start for a
> phased array? Can one use the normal formula of
>
> 2 D^2 / lambda ?
>
> If the width D is large (say 30 m) and the wavelength small (say 0.1 m),
> then the far field does not start for
>
> 2 * 30 * 30 / 0.1
>
> 18,000 m
> = 18 km
>
> i.e. the radiation pattern is a function of distance until you are some
> 18 km (about 11 miles) from the antenna.
>
> If anyone can give me a link to a professional reference on this,
> scientific paper etc, that would be useful.
>
> --
> Dave (from the UK)
>
> Please note my email address changes periodically to avoid spam.
> It is always of the form: month-y...@althorne.org
> Hitting reply will work for a few months only - later set it manually.
>
> http://chessdb.sourceforge.net/- a Free open-source Chess Database

This sounds very much like an arrangement for a radar antenna that
operates a little above 1Ghz with 32 dipole assemblies space out over
approximately 10 meters. The far field is eatablished at about 2km on

this antenna.

Jimmie

4912. Re: Flexible/Durable FM Antenna for Jeep?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 00:04:08 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1177200248.337772.92920@n76g2000hsh.googlegroups.com>
Source record: 42410

On Apr 20, 8:35 am, i...@jinenkanseigi.com wrote:
> > what band(s)?
>
> > --
> > 73 for now
> > Buck, N4PGWwww.lumpuckeroo.com
>
> I'm not really sure - standard AM and FM reception, but mostly FM
> (around 88 to 108 MHz?).

Its been a long time since I did any 4 wheeling but I had the same problem back in the 70s and found that replacing the stock antenna with a 4 ft fiberglass top loaded CB antenna worked great. Seems like back then they had a mount just for doing this that replaced the factory antenna. Dont know if you can still get one or not. My nephew does this sort of thing and after replacing a couple of CD players he keeps all his music on an iPOD and plugs it into his broken CD player.

Jimmie

Jimmie

4913. Re: Where does the far field start on a phased array?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 00:40:12 UTC
From: "Dave (from the UK)" <see-my-signature@southminster-branch-line.org.uk>
Message-ID: <462aaeed@212.67.96.135>
Source record: 42411

JIMMIE wrote:

> This sounds very much like an arrangement for a radar antenna that
> operates a little above 1Ghz with 32 dipole assemblies space out over
> approximately 10 meters. The far field is eatablished at about 2km on
> this antenna.
>
> Jimmie

No, it is not that at all, but if you have a reference to the antenna
you describe, I would be interested. This is wider and a higher frequency.

--
Dave (from the UK)

Please note my email address changes periodically to avoid spam.
It is always of the form: month-year@althorne.org
Hitting reply will work for a few months only - later set it manually.

http://chessdb.sourceforge.net/ - a Free open-source Chess Database

4914. Re: Where does the far field start on a phased array?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 01:34:42 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1177205682.738952.140280@y5g2000hsa.googlegroups.com>
Source record: 42412

On Apr 21, 8:40 pm, "Dave (from the UK)" <see-my-
signat...@southminster-branch-line.org.uk> wrote:
> JIMMIE wrote:
> > This sounds very much like an arrangement for a radar antenna that
> > operates a little above 1Ghz with 32 dipole assemblies space out over
> > approximately 10 meters. The far field is eatablished at about 2km on
> > this antenna.
>
> > Jimmie
>
> No, it is not that at all, but if you have a reference to the antenna
> you describe, I would be interested. This is wider and a higher frequency.
>
> --
> Dave (from the UK)
>
> Please note my email address changes periodically to avoid spam.
> It is always of the form: month-y...@althorne.org
> Hitting reply will work for a few months only - later set it manually.
>
> http://chessdb.sourceforge.net/- a Free open-source Chess Database

The antenna I was refering to is knon as an ATCRBS antenna or an SSR
antenna. I coouldnt find a lot of info right off but there were a lot
of references t oIEEE xplorer. If you belong to that Im sure you can
find some information.

Like chess? send me an email and I will connect you will a friend who
has been known to give a challenging game or two.

Jimmie

4915. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 02:07:54 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177207674.855786.159350@b58g2000hsg.googlegroups.com>
Source record: 42413

On 19 Apr, 19:41, Richard Clark <kb7...@comcast.net> wrote:
> On 19 Apr 2007 16:26:33 -0700, art <aun...@insightbb.com> wrote:
>
> > As far as going with you to review Feynman forget it. If
> >you can find proof of anything relevent fine it would give a good
> >starting point as to why antenna engineers declined to pursue the
> >discovery.
>
> Hi Art,
>
> Feynman merely confirmed the math of 70 years of antenna design before
> him. Nothing has altered since 1963, dynamic magnetic fields are
> still defined by Maxwell's (Heaviside's) equations, and static
> magnetic fields are still defined by Gauss' equations. Any discussion
> of the "cessation of time" immediately casts all work into Maxwell's
> (Heaviside's) math.
>
> Nothing had to be invented because Maxwell (Heaviside) had done the
> basic math long before antennas were ever discovered. In fact, about
> 190 years ago Augustin-Jean Fresnel beat them all to the punch without
> a flicker of electricity or magnetism ever entering the picture.
>
> Antenna engineers have been using Fresnel math too. Amateur radio
> operators respond to it every time they complain of picket-fencing on
> 2M. That math is contained in EVERY antenna modeler that offers
> radiation characteristics.
>
> 73's
> Richard Clark, KB7QHC

4916. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 02:40:35 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177209635.785299.170250@q75g2000hsh.googlegroups.com>
Source record: 42414

On 19 Apr, 19:41, Richard Clark <kb7...@comcast.net> wrote:
> On 19 Apr 2007 16:26:33 -0700, art <aun...@insightbb.com> wrote:
>
> > As far as going with you to review Feynman forget it. If
> >you can find proof of anything relevent fine it would give a good
> >starting point as to why antenna engineers declined to pursue the
> >discovery.
>
> Hi Art,
>
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> him. Nothing has altered since 1963, dynamic magnetic fields are
> still defined by Maxwell's (Heaviside's) equations, and static
> magnetic fields are still defined by Gauss' equations. Any discussion
> of the "cessation of time" immediately casts all work into Maxwell's
> (Heaviside's) math.
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> Nothing had to be invented because Maxwell (Heaviside) had done the
> basic math long before antennas were ever discovered. In fact, about
> 190 years ago Augustin-Jean Fresnel beat them all to the punch without
> a flicker of electricity or magnetism ever entering the picture.
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> Antenna engineers have been using Fresnel math too. Amateur radio
> operators respond to it every time they complain of picket-fencing on
> 2M. That math is contained in EVERY antenna modeler that offers
> radiation characteristics.
>
> 73's
> Richard Clark, KB7QHC

It was Gauss who started a progression from statics to
electromagnetics by defining a clustered array as being in equilibrium
within a closed surface in his law of statics
Nobody used this law in the design of a electromagnetic array. There
were mathematical
equations in existance that linked statics and electromagnetic
functions in mathematical terms but there was never a clue as to how
to demonstrate it. Only Gauss gave an "at rest" example of such an
array with his law of statics but even he did not continue with his
line of thought with respect to static particles as being at rest on a
radiating array where the condition of equilibrium could be stated. If
Gauss had continued with his line of thought by being aware of
radiation in terms of radio I am quite sure he would have continued
the exercise with the addition of time. However it is my understanding

that at that time he was residing in Italy and was more interested in other things. I do not recall Gauss, Maxwell and other masters making a point of using such a cluster as one of maximum efficiency with respect to radiation. Nor do I recall any mention where scientists have used such an example in print and either lauding or decrying its properties in the light that the ratio of elements vs boom length does not apply and where a Gaussian array was an example of a non scalar array. I am sure that it is possible after the event that many clever people played with such arrays and like you decided it wasn't worth writing about and so forgot about it.
There are also people who never linked the subject of statics with the subject of antennas
as mentioned on this newsgroup and I don't remember seeing such an array in Krauss and Jasik or even the ARRL antenna books which to me is a real puzzle since you apparently have known about the hints that Gauss supplied for maximum efficiency radiating arrays for many years. So I think the time has come since I have described the antenna in detail that somebody should come forward and share with all exactly where this application to antennas was reviewed in print or the IEEE or equivalent so that we can all benefit from this peer review.

4917. HF vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 02:51:04 UTC
From: Paul Bailey <pbailey04@charter.net>
Message-ID: <1177210264.116257.327550@l77g2000hsb.googlegroups.com>
Source record: 42415

Have recently rcvd a very old HF vertical antenna. It has 4 traps of various lengths and overall lenth is about 30-33 feet total. Cannot figure out what brand it is. Donor has no clue. It also has rings on several separators for guy lines. I thought it was an old Hygain, but nothing in their current catalog looks like it. Best guess is that this antenna is about 35-40 yrs old and even wonder if it's worth the effort to try to assemble as it is in parts and there were no instructions. Found out from donor that it was only used as a listener, i.e. never was transmitted on... Making me even more suspicious of its reliability to use!
Any one with any ideas/thoughts---would be greatly appreciated!!

4918. HF vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 02:54:32 UTC
From: Paul Bailey <pbailey04@charter.net>
Message-ID: <1177210472.459493.305370@b75g2000hsg.googlegroups.com>
Source record: 42416

Have recently rcvd a very old HF vertical antenna. It has 4 traps of various lengths and overall lenth is about 30-33 feet total. Cannot figure out what brand it is. Donor has no clue. It also has rings on several separators for guy lines. I thought it was an old Hygain, but nothing in their current catalog looks like it. Best guess is that this antenna is about 35-40 yrs old and even wonder if it's worth the effort to try to assemble as it is in parts and there were no instructions. Found out from donor that it was only used as a listener, i.e. never was transmitted on... Making me even more suspicious of its reliability to use!
Any one with any ideas/thoughts---would be greatly appreciated!!

4919. Re: Where does the far field start on a phased array?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 03:07:13 UTC
From: "Harold E. Johnson" <W4ZCB@mchsi.com>
Message-ID: <BjAWh.8101$n_.4635@attbi_s21>
Source record: 42417

> W4ZCB emailed me about this, but my attempts to reply have failed. Anyway,
> W4ZCB suggested his paper, which has a nice physical (non mathematical)
> explanation of the far field.
>
> http://www.setileague.org/articles/hps_ham.htm
> http://www.setileague.org/articles/ham/farfield.pdf
>
> Unfortunately, it does not solve my particular problem.
>
> --
> Dave (from the UK)

Hmmmmmmmmmm. Sorry about the one way skip, my ISP apparently doesn't like your ISP. Happens occasionally. Glad you found Pauls article, was going to be a bear for me to scan it for about the 10th time.

So, I give up, what IS your particular problem? As stated, the far field depends on the antenna gain.

W4ZCB

4920. measurement success

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 04:49:05 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <JPCdnaqkN_XedLfbnZ2dnUVZ_sqdnZ2d@comcast.com>
Source record: 42418

All,

As many of you may recall I have been trying measure and improve a loaded vertical on 80 meters. The antenna is permanently mounted on a radial field. The issue has been measuring and improving the performance of that system. The predicted values are for the antenna element to have a low impedance in the range of 6 to 10 Ohms. The ground is added to a total impedance of 48 to 54 Ohms, depending on moisture.

As part of that process to determine the actual measurements I created a 2 meter model. The element is a loaded vertical from the ARRL handbook. The ground is set of shortened radials. That antenna measured a reflected power of 6.9 db at resonance. This calculates to an antenna system impedance of about 18 Ohms. This is the range of the answer I was looking for in the 80 meter antenna.

This is a good result. It confirms the range of predicted values for a loaded vertical. The next step is to measure the actual 80 meter antenna. That will result is a good ground measurement and support ground a radial system.

- Dan

4921. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 07:22:10 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <p82m23t5nl6d7ae2osgmlt35ckg72aj4rl@4ax.com>
Source record: 42419

On 21 Apr 2007 19:40:35 -0700, art <aunwin@insightbb.com> wrote:

>However it is my understanding
>that at that time he was residing in Italy and was more interested in
>other things.

Hi Art,

An Italian by the name of Marconi was interested in exactly those kind of things. Other Italians by the Bellini and Tosi designed sloping elements fed by what by description would be called a goniometer. By adjusting the coupling of coils they could send/receive signals at any angle. This was all going on nearly 100 years ago.

Coils, Gauss. Sloping elements, clusters. Any angle, through coupling. Sound familiar?

>somebody should come forward and share with all exactly
>where this application to antennas was reviewed in print or the IEEE
>or equivalent so that we can all benefit from this peer review.

There was no such thing as the IEEE back then. Before the IEEE it was the IRE. There was no such thing as the IRE back then either. Before the IRE there were Ham magazines. There was no such thing as Ham radio back then either. Marconi won the Nobel prize in Physics for this 98 years ago. His peers were Nobel Laureates. You want publications? Try the Nobel Lectures, Physics 1901-1921, Elsevier Publishing Company, Amsterdam. If you can read Italian, then Bellini and Tosi's work is available there too. English translations abound on the Internet.

73's
Richard Clark, KB7QHC

4922. Re: Where does the far field start on a phased array?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 09:38:34 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1177234714.783524.102580@e65g2000hsc.googlegroups.com>
Source record: 42420

On 21 abr, 23:30, "Dave (from the UK)" <see-my-signat...@southminster-branch-line.org.uk> wrote:
> Wimpie wrote:
> > Hello,
>
> > Your formula for far field distance (Fraunhofer region) assumes a path
> > difference between the inner and outer antenna with respect to an
> > observation point of 1/16 lambda.
>
> Someone has said that the formula I gave is not valid for a phased array.
>
> His comment (about the 2 D^2/lambda) is below:
>
> -----
> That estimation does not apply in this case. It can be considered to be
> valid for aperture antennas which is not the case here. It would only
> require to have the transmitting antenna illuminating the pleased array
> within its 3dB mainlobe which of course is by far the case at a distance
> of 3000m or even more.
> ------
>
> I'm not to bothered about the odd factor of two. I have seen a
> derivation of the formula, but it was based on a rectangular aperture,
> not an array of them. It don't know if that may mean the equation is
> just not appropriate at all.
>
> Using that forumal puts the far-field distance at about 10 km in my
> case. Using someone elses idea, puts it at only a few hundred meters.
> There is at least a factor of 10 difference.
> --
> Dave (from the UK)
>
> Please note my email address changes periodically to avoid spam.
> It is always of the form: month-y...@althorne.org
> Hitting reply will work for a few months only - later set it manually.
>
> http://chessdb.sourceforge.net/- a Free open-source Chess Database

Hi Dave,

Whether or not the formula is applicable, depends on many factors as mentioned in my previous posting.

For a broadside array, the formula holds with same accuracy as for continuous aperture antennas. In my antenna courses I use the

broadside array approach to derive the 2B^2/lambda formula.

For an end-fire case, the situation is different. When you are interested in main lobe gain only (so not the complete radiation pattern), you can reduce the distance significantly. The reason for that is that when you come closer to the antenna, the path difference doesn't change; the amplitude contribution of each array element is of importance now. However when you need to know the complete pattern (including broadside directions), you need the large distance.

It is just a matter of change in path length difference amplitude unbalance when you come too close to the antenna. If you keep this in mind, you can figure out the measuring distance for you application (for example with a spread sheet).

I would reserve the term "far field distance" for that distance where the complete radiation pattern does not change with measuring distance. In that case, the 2B^2/lambda formula is a good rule of thumb.

Best regards,

Wim
PA3DJS

4923. Re: reflection of radio waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 10:02:28 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1177236148.894361.130750@y5g2000hsa.googlegroups.com>
Source record: 42421

On 21 abr, 17:20, suresh <sureshkni...@gmail.com> wrote:
> hi
> they say that when a radio wave hits a reflective surface and bounces
> back it under goes a 180 degrees phase shift .
>
> 1,what exactly is the reason for this phase change, is it because of
> the change in direction or any thing else.
>
> 2,does this phase shift of 180 degrees mean a shift in polarity(ie
> from +ve to -ve and vice versa)

Hi Suresh,

Whether 180 degrees phase shift occurs, depends on the properties of the reflector, the frequency and angle of incidence. Phase shift does no mean change in polarization.

When you really want to know it all, search for "fresnel(l) equations" or take a physics book on Electro Magnetics. A related issue is "(pseudo) Brewster angle".

Keep in mind that physic books refer "angle of incidence" with respect to the normal of the reflecting plane and radio engineers many times use elevation angle as angle of incidence. Also when radio engineers speak of "vertical polarized" wave reflection on earth's surface, physicists do speak of "parallel polarization". They call "horizontal polarization", "normal polarization".

Best regards,

Wim
PA3DJS

4924. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 10:24:31 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177237471.940451.128020@d57g2000hsg.googlegroups.com>
Source record: 42422

On Apr 21, 8:35 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > I have certainly never said that. If you could point me to the words
> > that misled you into thinking that, I will attempt to clarify your
> > misunderstanding.
>
> Correct me if I'm wrong. I understood you to say that energy
> cannot flow past an instantaneous zero energy point yet there
> is an instantaneous zero energy point every 1/2WL in an EM
> traveling wave.

Actually I said a zero power point, but you are essentially
correct. If the zero power point is stationary then no energy
can be flowing. When energy is flowing, either there is no
zero power point, or the zero power point is moving as well.

At a given point on the line, when the voltage or current is
always zero then no energy is flowing. When energy is
flowing, the voltage and current will not always be zero at
that point.

There can also be a voltage and current but they can be
90 degrees out of phase so no net energy flows. In this
case, energy will flow first forward then backwards with
an average of zero.

...Keith

4925. Re: Where does the far field start on a phased array?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 10:25:51 UTC
From: "Dave (from the UK)" <see-my-signature@southminster-branch-line.org.uk>
Message-ID: <462b3830@212.67.96.135>
Source record: 42423

Wimpie wrote:

> Hi Dave,

Hi Wim

> Whether or not the formula is applicable, depends on many factors as
> mentioned in my previous posting.

> For a broadside array, the formula holds with same accuracy as for
> continuous aperture antennas. In my antenna courses I use the
> broadside array approach to derive the 2B^2/lambda formula.

My situation is very odd. As I said at the start, this is not an amateur antenna.

The array of "antennas" are not designed to work as one nice antennas, but are an essentially random(ish) collection of radiating centres. (However, they are all energised from the same signal source). So they can be considered like a phased array, as they are regularly spaced all in one long line.

Hence my original diagram

A---A---A---A---A---A---A---A---A---A

accurately describes the situation. Each "A" is an antenna. The amplitude and phase can be arbitrary.

I do *not* want them to behave as a nice phased array with decent gain and low side-lobes! Each antennas is radiating an *unwanted* signal. But the fact remains that the gain could conceivably be high under some circumstances, which would create interference.

Hence I need to test this.

> I would reserve the term "far field distance" for that distance where
> the complete radiation pattern does not change with measuring
> distance. In that case, the 2B^2/lambda formula is a good rule of
> thumb.

In this case, I am interested in any direction. The direction of the main lobe will be essentially random.

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Dave (from the UK)

Please note my email address changes periodically to avoid spam.
It is always of the form: month-year@althorne.org

Hitting reply will work for a few months only - later set it manually.

http://chessdb.sourceforge.net/ - a Free open-source Chess Database

4926. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 11:06:53 UTC
From: Dave <noone@nowhere.com>
Message-ID: <hlHWh.7391$bZ2.6803@trndny01>
Source record: 42424

"art" <aunwin@insightbb.com> wrote in message
news:1177209635.785299.170250@q75g2000hsh.googlegroups.com...
> On 19 Apr, 19:41, Richard Clark <kb7...@comcast.net> wrote:
>> On 19 Apr 2007 16:26:33 -0700, art <aun...@insightbb.com> wrote:
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>> > As far as going with you to review Feynman forget it. If
>> >you can find proof of anything relevent fine it would give a good
>> >starting point as to why antenna engineers declined to pursue the
>> >discovery.
>>
>> Hi Art,
>>
>> Feynman merely confirmed the math of 70 years of antenna design before
>> him. Nothing has altered since 1963, dynamic magnetic fields are
>> still defined by Maxwell's (Heaviside's) equations, and static
>> magnetic fields are still defined by Gauss' equations. Any discussion
>> of the "cessation of time" immediately casts all work into Maxwell's
>> (Heaviside's) math.
>>
>> Nothing had to be invented because Maxwell (Heaviside) had done the
>> basic math long before antennas were ever discovered. In fact, about
>> 190 years ago Augustin-Jean Fresnel beat them all to the punch without
>> a flicker of electricity or magnetism ever entering the picture.
>>
>> Antenna engineers have been using Fresnel math too. Amateur radio
>> operators respond to it every time they complain of picket-fencing on
>> 2M. That math is contained in EVERY antenna modeler that offers
>> radiation characteristics.
>>
>> 73's
>> Richard Clark, KB7QHC
>
> It was Gauss who started a progression from statics to
> electromagnetics by defining a clustered array as being in equilibrium
> within a closed surface in his law of statics
> Nobody used this law in the design of a electromagnetic array. There
> were mathematical
> equations in existance that linked statics and electromagnetic
> functions in mathematical terms but there was never a clue as to how
> to demonstrate it. Only Gauss gave an "at rest" example of such an
> array with his law of statics but even he did not continue with his
> line of thought with respect to static particles as being at rest on a
> radiating array where the condition of equilibrium could be stated. If
> Gauss had continued with his line of thought by being aware of

> radiation in terms of radio I am quite sure he would have continued
> the exercise with the addition of time. However it is my understanding
> that at that time he was residing in Italy and was more interested in
> other things. I do not recall Gauss, Maxwell and other masters making
> a point of using such a cluster as one of maximum efficiency with
> respect to radiation. Nor do I recall any mention where scientists
> have used such an example in print and either lauding or decrying its
> properties in the light that the ratio of elements vs boom length does
> not apply and where a Gaussian array was an example of a non scalar
> array. I am sure that it is possible after the event that many clever
> people played with such arrays and like you decided it wasn't worth
> writing about and so forgot about it.
> There are also people who never linked the subject of statics with the
> subject of antennas
> as mentioned on this newsgroup and I don't remember seeing such an
> array in Krauss and Jasik or even the ARRL antenna books which to me
> is a real puzzle since you apparently have known about the hints that
> Gauss supplied for maximum efficiency radiating arrays for many years.
> So I think the time has come since I have described the antenna in
> detail that somebody should come forward and share with all exactly
> where this application to antennas was reviewed in print or the IEEE
> or equivalent so that we can all benefit from this peer review.
>

it probably hasn't been because nobody has bothered to write a reviewable paper on it... why don't you work on that and get back to us when you get it through peer review and it gets published.

4927. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 11:21:35 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177240895.435002.249020@d57g2000hsg.googlegroups.com>
Source record: 42425

On Apr 21, 8:47 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Nothing to sweep under the rug, I am afraid. It is key that the
> > dissipation depends on the design of the generator. Some
> > times those 'reverse watts' cause the dissipation to drop
> > to 0, sometimes they cause it to increase by a factor of 4,
> > sometimes they cause it to increase by the numerical value
> > of the 'reverse watts'. Pretty much hard to argue that those
> > 'reverse watts' are real when their heating effect is so
> > variable.
>
> Not at all. The heating effect depends upon how much of
> the reverse joules/sec are re-reflected. If the dissipation
> drops to 0, that is prima facie evidence that all the
> reflected joules/sec have been re-reflected. If the
> dissipation increases by a factor of 4, that is prima facie
> evidence that all of the reflected joules/sec are being
> dissipated in the source along with all of the joules/sec
> available from the source into a matched load. Anything
> else would violate the conservation of energy principle.

So you expect that some of the reverse wave is reflected at the
generator and yet experiment has shown that none of the
reverse wave is reflected at the generator when the generator]
source impedance is the same as the line characteristic
impedance. I am curious as to why you ignore these
experimental results.

> > I'd suggest you think of power as a quantity not a situation.
> > Superposition works for linear, time invariant circuits with
> > multiple sources. Check any text book. The generators and
> > lines under discussion meet these requirements.
>
> But superposition obviously doesn't work at the source
> *point*. One possible technical conclusion may be that
> the dynamic active source is constant, fixed, and refuses
> to be superposed (for any constant, fixed load). If that
> is true, it would certainly stop the present raging debate
> in its tracks.

As you noted previously, it does not matter whether the
reverse wave is created by a reflection or another generator.
So the experiment has been done with a generator at both
ends of the line and the results are entirely consistent with
the results predicted using the generator source impedance

to compute the amount of reflection. I am curious as to
why you ignore these results.

And, of course, there results are consistent with the analysis
described in any basic text book on transmission lines.

...Keith

4928. Re: Where does the far field start on a phased array?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 12:15:09 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <hIIWh.2214$no.914@trnddc02>
Source record: 42426

"Dave (from the UK)" <see-my-signature@southminster-branch-line.org.uk>
wrote in message news:462b3830@212.67.96.135...
> Wimpie wrote:
>
>> Hi Dave,
>
> Hi Wim
>
>> Whether or not the formula is applicable, depends on many factors as
>> mentioned in my previous posting.
>
>> For a broadside array, the formula holds with same accuracy as for
>> continuous aperture antennas. In my antenna courses I use the
>> broadside array approach to derive the 2B^2/lambda formula.
>
> My situation is very odd. As I said at the start, this is not an amateur
> antenna.
>
> The array of "antennas" are not designed to work as one nice antennas, but
> are an essentially random(ish) collection of radiating centres. (However,
> they are all energised from the same signal source). So they can be
> considered like a phased array, as they are regularly spaced all in one
> long line.
>
> Hence my original diagram
>
> A---A---A---A---A---A---A---A---A---A
>
> accurately describes the situation. Each "A" is an antenna. The amplitude
> and phase can be arbitrary.
>
> I do *not* want them to behave as a nice phased array with decent gain and
> low side-lobes! Each antennas is radiating an *unwanted* signal. But the
> fact remains that the gain could conceivably be high under some
> circumstances, which would create interference.
>
> Hence I need to test this.
>
>> I would reserve the term "far field distance" for that distance where
>> the complete radiation pattern does not change with measuring
>> distance. In that case, the 2B^2/lambda formula is a good rule of
>> thumb.
>
> In this case, I am interested in any direction. The direction of the main

> lobe will be essentially random.
>
> --
> Dave (from the UK)
>

Hi Dave

I'm curious about two things.

1 - Do you intend to actually make and record measurements of the radiated field, or do you want to determine the minimum distance at which the measurements can be made?
2 - What prevents the use of a computer modeling program to predict the pattern?

Jerry

4929. Re: Where does the far field start on a phased array?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 13:12:30 UTC
From: "Dave (from the UK)" <see-my-signature@southminster-branch-line.org.uk>
Message-ID: <462b5f3f@212.67.96.135>
Source record: 42227

Jerry Martes wrote:

> Hi Dave
>
> I'm curious about two things.
>
> 1 - Do you intend to actually make and record measurements of the
> radiated field, or do you want to determine the minimum distance at which
> the measurements can be made?

yes

> 2 - What prevents the use of a computer modeling program to predict the
> pattern?

nothing. I think that will be done. But a theoetical analysis would be
nice if possible.

>
> Jerry
>
>

--
Dave (from the UK)

Please note my email address changes periodically to avoid spam.
It is always of the form: month-year@althorne.org
Hitting reply will work for a few months only - later set it manually.

http://chessdb.sourceforge.net/ - a Free open-source Chess Database

4930. Re: Where does the far field start on a phased array?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 13:27:07 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1177248427.228303.174180@b58g2000hsg.googlegroups.com>
Source record: 42228

On 22 abr, 12:25, "Dave (from the UK)" <see-my-signat...@southminster-
branch-line.org.uk> wrote:
> Wimpie wrote:
> > Hi Dave,
>
> Hi Wim
>
> > > Whether or not the formula is applicable, depends on many factors as
> > > mentioned in my previous posting.
> > > For a broadside array, the formula holds with same accuracy as for
> > > continuous aperture antennas. In my antenna courses I use the
> > > broadside array approach to derive the 2B^2/lambda formula.
>
> My situation is very odd. As I said at the start, this is not an amateur
> antenna.
>
> The array of "antennas" are not designed to work as one nice antennas,
> but are an essentially random(ish) collection of radiating centres.
> (However, they are all energised from the same signal source). So they
> can be considered like a phased array, as they are regularly spaced all
> in one long line.
>
> Hence my original diagram
>
> A---A---A---A---A---A---A---A---A---A
>
> accurately describes the situation. Each "A" is an antenna. The
> amplitude and phase can be arbitrary.
>
> I do *not* want them to behave as a nice phased array with decent gain
> and low side-lobes! Each antennas is radiating an *unwanted* signal. But
> the fact remains that the gain could conceivably be high under some
> circumstances, which would create interference.
>
> Hence I need to test this.
>
> > I would reserve the term "far field distance" for that distance where
> > the complete radiation pattern does not change with measuring
[all text deleted]

Hi Dave,

I don't know what you are going to do with the array. As long as you
understand how a radiation pattern (whether within or outside the far
field distance) can be calculated based on the array elements, you

should be able to find a comfortable distance. I think references to scientific documents will not help you any further, maybe a physics book on electromagnetism or a specialized book on beam forming antennas may help you.

If your organization is not able to do this in-house, you might hire an expert.

Best regards,

Wim
PA3DJS

4931. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 13:39:38 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177249178.289270.69860@p77g2000hsh.googlegroups.com>
Source record: 42229

On 22 Apr, 04:06, "Dave" <n...@nowhere.com> wrote:
> "art" <aun...@insightbb.com> wrote in message
>
> news:1177209635.785299.170250@q75g2000hsh.googlegroups.com...
>
>
>
>
>
> > On 19 Apr, 19:41, Richard Clark <kb7...@comcast.net> wrote:
> >> On 19 Apr 2007 16:26:33 -0700, art <aun...@insightbb.com> wrote:
>
> >> > As far as going with you to review Feynman forget it. If
> >> >you can find proof of anything relevent fine it would give a good
> >> >starting point as to why antenna engineers declined to pursue the
> >> >discovery.
>
> >> Hi Art,
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> >> Feynman merely confirmed the math of 70 years of antenna design before
> >> him. Nothing has altered since 1963, dynamic magnetic fields are
> >> still defined by Maxwell's (Heaviside's) equations, and static
> >> magnetic fields are still defined by Gauss' equations. Any discussion
> >> of the "cessation of time" immediately casts all work into Maxwell's
> >> (Heaviside's) math.
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> >> Nothing had to be invented because Maxwell (Heaviside) had done the
> >> basic math long before antennas were ever discovered. In fact, about
> >> 190 years ago Augustin-Jean Fresnel beat them all to the punch without
> >> a flicker of electricity or magnetism ever entering the picture.
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> >> Antenna engineers have been using Fresnel math too. Amateur radio
> >> operators respond to it every time they complain of picket-fencing on
> >> 2M. That math is contained in EVERY antenna modeler that offers
> >> radiation characteristics.
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> >> Richard Clark, KB7QHC
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> > It was Gauss who started a progression from statics to
> > electromagnetics by defining a clustered array as being in equilibrium
> > within a closed surface in his law of statics
> > Nobody used this law in the design of a electromagnetic array. There
> > were mathematical

> > equations in existance that linked statics and electromagnetic
> > functions in mathematical terms but there was never a clue as to how
> > to demonstrate it. Only Gauss gave an "at rest" example of such an
> > array with his law of statics but even he did not continue with his
> > line of thought with respect to static particles as being at rest on a
> > radiating array where the condition of equilibrium could be stated. If
> > Gauss had continued with his line of thought by being aware of
> > radiation in terms of radio I am quite sure he would have continued
> > the exercise with the addition of time. However it is my understanding
> > that at that time he was residing in Italy and was more interested in
> > other things. I do not recall Gauss, Maxwell and other masters making
> > a point of using such a cluster as one of maximum efficiency with
> > respect to radiation. Nor do I recall any mention where scientists
> > have used such an example in print and either lauding or decrying its
> > properties in the light that the ratio of elements vs boom length does
> > not apply and where a Gaussian array was an example of a non scalar
> > array. I am sure that it is possible after the event that many clever
> > people played with such arrays and like you decided it wasn't worth
> > writing about and so forgot about it.
> > There are also people who never linked the subject of statics with the
> > subject of antennas
> > as mentioned on this newsgroup and I don't remember seeing such an
> > array in Krauss and Jasik or even the ARRL antenna books which to me
> > is a real puzzle since you apparently have known about the hints that
> > Gauss supplied for maximum efficiency radiating arrays for many years.
> > So I think the time has come since I have described the antenna in
> > detail that somebody should come forward and share with all exactly
> > where this application to antennas was reviewed in print or the IEEE
> > or equivalent so that we can all benefit from this peer review.
>
> it probably hasn't been because nobody has bothered to write a reviewable
> paper on it... why don't you work on that and get back to us when you get it
> through peer review and it gets published.- Hide quoted text -
>
> - Show quoted text -

No David, if people were aware of it there would be endless books
about it. Think about what this newsgroup has said. If you have a
mathematical equation you cannot add the unit of time to BOTH sides of
that equation! How dumb can you get and these people view themselves
as antenna experts who demand mathematical proof. David my intent is
to expose them for what they are. Look at what Richard stated in
response to my posting, you have to dig a bit and then take a guess at
what he is talking about but he mentions "coupling" as being the meat
of his reply. But most people are aware that if an array is in
equilibrium then there is no coupling ! Coupling with respect to
antennas the subject at hand requires elements to attract or deflect
such it allows for focussing of radiation.Equilibrium is a state where
such actions do not exist. Another person gets irate because the terms
polarity and polarization were used in a single posting regarding

antennas since one of these terms he had a disliking for(I don't know which one). And then there was that hulla balloo about the introduction of statics in connection with kinetic and potential energy as if that was sacrelidge . Then there was that time when all stated that the Yagi was a most efficient radiator when they pushed aside the notion that interaction between elements was not a measure of inefficiency. They also went into denial that a cluster in equilibrium presented the ultimate in efficiency as coupling did not exist.And it goes on and on David. And the more they talk the more they expose themselves for what they are. What I am doing by staying on subject is laborious to say the least but when posters retrieve all the writings about potential and kinetic energy by Maxwell that many ignored including Terman and many others but they knew about all along will all come out
to the amateur fraternity and they will be exposed. That is my aim in what I do and when my writings are published it will be there for all to see that contrary rationilisation by this group is generally a bunch of hooey by illiterates and the sole reason why accepted experts in the field of antennas are noticable by their absence.
Art

4932. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 13:50:52 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177249852.737534.228380@d57g2000hsg.googlegroups.com>
Source record: 42230

On 21 Apr, 15:31, Owen Duffy <n...@no.where> wrote:
> Chuck <no.s...@no.spam.at.all> wrote innews:1177167430_19843@sp12lax.superfeed.net:
>
> ...
>
> > Seems somewhat tautological then that
> > the probe cannot be designed to
> > distinguish between the two antennas.
>
> > If the assumption so constrains the
> > probe to fatal infirmities under any
> > circumstances, then the observance of
> > failure in a particular circumstance is
> > void of information.
>
> Chuck, that is emerging from the subsequent discussion.
>
> Owen

Waves pass thru each other without interaction!
If intra action occurred then multiple radio conversations at the same
time could not occur.
Why 50 odd posts to state the obvious?

4933. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 14:09:23 UTC
From: Dave <noone@nowhere.com>
Message-ID: <n0KWh.1668$oo5.1601@trndny06>
Source record: 42231

"art" <aunwin@insightbb.com> wrote in message
news:1177249178.289270.69860@p77g2000hsh.googlegroups.com...
> On 22 Apr, 04:06, "Dave" <n...@nowhere.com> wrote:
>> "art" <aun...@insightbb.com> wrote in message
>>
>> news:1177209635.785299.170250@q75g2000hsh.googlegroups.com...
>>
>>
>>
>>
>>
>> > On 19 Apr, 19:41, Richard Clark <kb7...@comcast.net> wrote:
>> >> On 19 Apr 2007 16:26:33 -0700, art <aun...@insightbb.com> wrote:
>>
>> >> > As far as going with you to review Feynman forget it. If
>> >> >you can find proof of anything relevent fine it would give a good
>> >> >starting point as to why antenna engineers declined to pursue the
>> >> >discovery.
>>
>> >> Hi Art,
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>> >> Feynman merely confirmed the math of 70 years of antenna design before
>> >> him. Nothing has altered since 1963, dynamic magnetic fields are
>> >> still defined by Maxwell's (Heaviside's) equations, and static
>> >> magnetic fields are still defined by Gauss' equations. Any discussion
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>> >> (Heaviside's) math.
>>
>> >> Nothing had to be invented because Maxwell (Heaviside) had done the
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>> >> 190 years ago Augustin-Jean Fresnel beat them all to the punch without
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>> >> Antenna engineers have been using Fresnel math too. Amateur radio
>> >> operators respond to it every time they complain of picket-fencing on
>> >> 2M. That math is contained in EVERY antenna modeler that offers
>> >> radiation characteristics.
>>
>> >> 73's
>> >> Richard Clark, KB7QHC
>>
>> > It was Gauss who started a progression from statics to
>> > electromagnetics by defining a clustered array as being in equilibrium
>> > within a closed surface in his law of statics

>> > Nobody used this law in the design of a electromagnetic array. There
>> > were mathematical
>> > equations in existance that linked statics and electromagnetic
>> > functions in mathematical terms but there was never a clue as to how
>> > to demonstrate it. Only Gauss gave an "at rest" example of such an
>> > array with his law of statics but even he did not continue with his
>> > line of thought with respect to static particles as being at rest on a
>> > radiating array where the condition of equilibrium could be stated. If
>> > Gauss had continued with his line of thought by being aware of
>> > radiation in terms of radio I am quite sure he would have continued
>> > the exercise with the addition of time. However it is my understanding
>> > that at that time he was residing in Italy and was more interested in
>> > other things. I do not recall Gauss, Maxwell and other masters making
>> > a point of using such a cluster as one of maximum efficiency with
>> > respect to radiation. Nor do I recall any mention where scientists
>> > have used such an example in print and either lauding or decrying its
>> > properties in the light that the ratio of elements vs boom length does
>> > not apply and where a Gaussian array was an example of a non scalar
>> > array. I am sure that it is possible after the event that many clever
>> > people played with such arrays and like you decided it wasn't worth
>> > writing about and so forgot about it.
>> > There are also people who never linked the subject of statics with the
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>> > as mentioned on this newsgroup and I don't remember seeing such an
>> > array in Krauss and Jasik or even the ARRL antenna books which to me
>> > is a real puzzle since you apparently have known about the hints that
>> > Gauss supplied for maximum efficiency radiating arrays for many years.
>> > So I think the time has come since I have described the antenna in
>> > detail that somebody should come forward and share with all exactly
>> > where this application to antennas was reviewed in print or the IEEE
>> > or equivalent so that we can all benefit from this peer review.
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>> it probably hasn't been because nobody has bothered to write a reviewable
>> paper on it... why don't you work on that and get back to us when you get
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>> through peer review and it gets published.- Hide quoted text -
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> No David, if people were aware of it there would be endless books
> about it. Think about what this newsgroup has said. If you have a
> mathematical equation you cannot add the unit of time to BOTH sides of
> that equation! How dumb can you get and these people view themselves
> as antenna experts who demand mathematical proof. David my intent is
> to expose them for what they are. Look at what Richard stated in
> response to my posting, you have to dig a bit and then take a guess at
> what he is talking about but he mentions "coupling" as being the meat
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> such actions do not exist. Another person gets irate because the terms
> polarity and polarization were used in a single posting regarding
> antennas since one of these terms he had a disliking for(I don't know
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> equilibrium presented the ultimate in efficiency as coupling did not
> exist.And it goes on and on David. And the more they talk the more
> they expose themselves for what they are. What I am doing by staying
> on subject is laborious to say the least but when posters retrieve all
> the writings about potential and kinetic energy by Maxwell that many
> ignored including Terman and many others but they knew about all along
> will all come out
> to the amateur fraternity and they will be exposed. That is my aim in
> what I do and when my writings are published it will be there for all
> to see that contrary rationilisation by this group is generally a
> bunch of hooey by illiterates and the sole reason why accepted experts
> in the field of antennas are noticable by their absence.
> Art
>

unfortunately much of engineering requires equations. if you can't write
the equations well enough to explain the concept then you are going to have
a hard time selling it to the engineering community. you may be able to
convince some lay people that you have a new concept, like the EH and other
'new concept' charlatans have, but in the long run it won't fly.

4934. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 15:02:47 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <qqtm239k94ib93g3ndvjjfjh11tp3lvr0g@4ax.com>
Source record: 42232

On Sun, 22 Apr 2007 11:06:53 GMT, "Dave" <noone@nowhere.com> wrote:

>it probably hasn't been because nobody has bothered to write a reviewable
>paper on it...

Hi Dave,

As I've already pointed out, this was done a long time ago and is in
the library.

20 years after that work, better designs came down the pike - namely
the Yagi. How many folks are writing "reviewable papers" about that
design? Not many since Isbell some nearly 50 years ago.

73's
Richard Clark, KB7QHC

4935. Re: Lengths of radials for Diamond X-3200A

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 15:08:40 UTC
From: The Shadow <Repose@Zilch.com>
Message-ID: <hUKWh.2595$Fk2.55@newsfe08.phx>
Source record: 42233

The parts list is at URL:
http://www.rfparts.com/diamond/pdfdocs/Parts%20Lists/X3200A%20list.pdf

But doesn't show length -- the radial part number is Radial Element - Part#
80306A
Maybe contact RF Parts at :
RF PARTS COMPANY

435 S. Pacific Street . San Marcos, CA 92078 . (760) 744-0900

Good Luck

Lamont

"Rick (W-A-one-R-K-T)" <get.my.email@from.qrz.com> wrote in message
news:pan.2007.04.21.20.13.24.337527@from.qrz.com...
>
> I seem to have lost the radials for my Diamond X-3200A 144/220/440 triband
> vertical, and so I'm going to have to make some more.
>
> Can anyone tell me what the length of the radials is supposed to be?
>
> I'm guessing 19" but it seemed to me they were shorter than that.
>
> Thanks...
>

4936. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 15:56:30 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177257390.224616.233520@e65g2000hsc.googlegroups.com>
Source record: 42234

On 22 Apr, 07:09, "Dave" <n...@nowhere.com> wrote:
> "art" <aun...@insightbb.com> wrote in message
>
> news:1177249178.289270.69860@p77g2000hsh.googlegroups.com...
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> >> > On 19 Apr, 19:41, Richard Clark <kb7...@comcast.net> wrote:
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> > to see that contrary rationilisation by this group is generally a
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> the equations well enough to explain the concept then you are going to have
> a hard time selling it to the engineering community. you may be able to
> convince some lay people that you have a new concept, like the EH and other
> 'new concept' charlatans have, but in the long run it won't fly.- Hide quoted text -
>
> - Show quoted text -

The equations were explained quite well by Dr John Davis some time ago
on this newsgroup.
Some even say that they knew about this all along! Some are not
interested in anything only in aurgueing. David this newsgroup is
about antennas and radiation, virtual this orimaginary that is for
people that just want to argue. Just look at the simple dipole where
we cannot accept it being efficient other than at 90 degree multiples.
Engineers look at a vectorial reconstruction of radiation and find
that the resultant vector is not and cannot be inline and parallel to
the radiator itself ,so they decide to ignor the fact and move on to
another subject.
You would think that a group of engineers would be interested in why
in the world would we not be interested in the final vectors
characteristics such as to where it was pointing!
You would also think that engineers would be interested in antenna

design which by not involving interaction such as focussing does not produce side lobes or provides bandwidth characteristics that are in synch with each other but no the interest lies more in trying to kill the messenger where true engineers are trying to build on this information given and present it in their good time. The fact is that Maxwell stated many years ago the interconnective aspect and I gave an extension to Gaussian law that expounds on an array in equilibrium which shows simplicity at it's best what Maxwell enunciated. Nowhere is there writings with samples of the simplicity of this arrangement in the multiplicity of radiation books available
and since the majority are not capable of individual thought that they have to await the printing of a more modern book which they can point to for reference. Remember Gausses law was based on static particles at rest not caring one iota upon the dormant parts on what they are resting on or part of by describing them being in a state of equilibrium with a state of potential energy. It is for engineers to review a transition from potential energy to kinetic energy of these particles where when time is removed the initial equation still stands. This I have provided an example which existing antenna computing programs concurr with. In addition the sample describes the near field as being a separate entity to its self and where the radiation field does not begin within the confines of the radiator itself where coupling interferes with the separation of potential energy and kinetic energy formation.
Best regards
Art

4937. Re: Where does the far field start on a phased array?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 16:39:49 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <pdMWh.965$A72.187@trnddc07>
Source record: 42235

"Dave (from the UK)" <see-my-signature@southminster-branch-line.org.uk>
wrote in message news:462b5f3f@212.67.96.135...
> Jerry Martes wrote:
>
>> Hi Dave
>>
>> I'm curious about two things.
>>
>> 1 - Do you intend to actually make and record measurements of the
>> radiated field, or do you want to determine the minimum distance at which
>> the measurements can be made?
>
> yes
>
>> 2 - What prevents the use of a computer modeling program to predict
>> the pattern?
>
> nothing. I think that will be done. But a theoetical analysis would be
> nice if possible.
>
>>
>> Jerry
>
>
> --
> Dave (from the UK)

Hi Dave

Would you consider building a scale model of this array to allow a polar
orbiting satellite to be the illuminator?
I get some pretty good radiation pattern plots at VHF, using Patrik Tast's
SignalPlotter program and NOAA satellites.

Jerry

4938. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 18:15:35 UTC
From: richardharrison@webtv.net
Message-ID: <26149-462BA647-108@storefull-3258.bay.webtv.net>
Source record: 42237

Art Unwin wrote:
"It was Gauss who started a progression from statics to
eletromagnetics by defining a clustered array as being in equilibrium
within a closed surface in his law of equilibrium.

Clustered array rings a bell! Is clustered array Art`s idea of a
Gaussian antenna?

J.D. Kraus wrote on page 185 of his 3rd edition of "Antennas" (a must
have):

"I delved into a monumental treatise on "Directional Antennas" by George
H. Brown of RCA. Buried deep in the article was, to me, an astonishing
calculation which indicated that parallel linear dipoles with spacings
of 0.125 wavelengths or less had higher gains than customary larger
spacings."

Terman in his 1955 opus gives the caveat, on page 906:

"A characteristic of all close-spaced arrays is that as the ratio of
size to antenna gain is reduced, the radiation resistance also goes
down---. The result is a practical limit to the amount of gain that can
be achieved in a compact antenna system, since as the resistance goes
down the fraction of the total power dissipated in the antenna loss goes
up. The Yagi antenna of Fig. 12-39, and the corner reflector, represent
about the best that can be achieved in a practical way with respect to
directive gain in a compact antenna array."

True today as it was more than 50 years ago.

Best regards, Richard Harrison, KB5WZI

4939. Re: Where does the far field start on a phased array?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 18:20:07 UTC
From: "Dave (from the UK)" <see-my-signature@southminster-branch-line.org.uk>
Message-ID: <462ba758@212.67.96.135>
Source record: 42236

Jerry Martes wrote:
> Hi Dave
>
> Would you consider building a scale model of this array to allow a polar
> orbiting satellite to be the illuminator?

It's not really practical to do that for various reasons. The structure
is not a nice conventional antenna that can be scaled up/down size.

> I get some pretty good radiation pattern plots at VHF, using Patrik Tast's
> SignalPlotter program and NOAA satellites.
>
> Jerry

That's a concept I have not heard of before. But for me to work at VHF,
I'd need to make the structure larger by a factor of 10, so it would be
several hundred metres long.

--
Dave (from the UK)

Please note my email address changes periodically to avoid spam.
It is always of the form: month-year@althorne.org
Hitting reply will work for a few months only - later set it manually.

http://chessdb.sourceforge.net/ - a Free open-source Chess Database

4940. Re: Where does the far field start on a phased array?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 18:53:23 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <DaOWh.5999$Fs6.4080@trnddc03>
Source record: 42238

"Dave (from the UK)" <see-my-signature@southminster-branch-line.org.uk>
wrote in message news:462ba758@212.67.96.135...
> Jerry Martes wrote:
>> Hi Dave
>>
>> Would you consider building a scale model of this array to allow a
>> polar orbiting satellite to be the illuminator?
>
> It's not really practical to do that for various reasons. The structure is
> not a nice conventional antenna that can be scaled up/down size.
>
>> I get some pretty good radiation pattern plots at VHF, using Patrik
>> Tast's SignalPlotter program and NOAA satellites.
>>
>> Jerry
>
> That's a concept I have not heard of before. But for me to work at VHF,
> I'd need to make the structure larger by a factor of 10, so it would be
> several hundred metres long.
>
>
> --
> Dave (from the UK)

Hi Dave

You are not restricted to VHF. It is possible that there is a polar
orbiting satellite transmitting continuously on the frequency you are
interested in. NOAA satellites transmit continuously at about half the
frequency range you refer to.

Jerry

4941. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 19:35:55 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177270555.040559.64660@e65g2000hsc.googlegroups.com>
Source record: 42239

On 22 Apr, 11:15, richardharri...@webtv.net (Richard Harrison) wrote:
> Art Unwin wrote:
>
> "It was Gauss who started a progression from statics to
> eletromagnetics by defining a clustered array as being in equilibrium
> within a closed surface in his law of equilibrium.
>
> Clustered array rings a bell! Is clustered array Art`s idea of a
> Gaussian antenna?

Richard you should be able to do better than that! A cluster does not
have to have a dimensional reference such as element spacings, It is a
random arangement of parts, that is any parts, not just radiating
elements. Have you heard about cancer clusters and the like?.
>
> J.D. Kraus wrote on page 185 of his 3rd edition of "Antennas" (a must
> have):
>
> "I delved into a monumental treatise on "Directional Antennas" by George
> H. Brown of RCA. Buried deep in the article was, to me, an astonishing
> calculation which indicated that parallel linear dipoles with spacings
> of 0.125 wavelengths or less had higher gains than customary larger
> spacings."

And he was incorrect with respect to spacings and parallelism and
maximum gain. His observations were purely within the confines of
radiating arrays with parasitic elements only and has nothing to do
with non parasitic arrays. Again Richard you are taking things out of
context since the arrays refered to were not in equilibrium. Period.
Is it possible he can come back to life and write a third volume so
that he can put into todays perspective what many achieved after his
demise that he knew all about before he died? Or are you implying
that nothing new has been found with respect to antennas after he died
by your own personal experience?
>
> Terman in his 1955 opus gives the caveat, on page 906:
>
> "A characteristic of all close-spaced arrays is that as the ratio of
> size to antenna gain is reduced, the radiation resistance also goes
> down---. The result is a practical limit to the amount of gain that can
> be achieved in a compact antenna system, since as the resistance goes
> down the fraction of the total power dissipated in the antenna loss goes
> up. The Yagi antenna of Fig. 12-39, and the corner reflector, represent
> about the best that can be achieved in a practical way with respect to
> directive gain in a compact antenna array."

Again Richard you are taking things out of context! And frankly you
are doing it more in an accelerating fashion when compared to your
age.. Terman is refering to close spaced arrays of the parasitic form,
even mentions corner reflectors. Termans phrase of practical
gain is a term often used in the design of parasitic arrays where
practical versus theoretical cannot be attained. Nowhere does Terman
acknoweledge the name of Maxwell,Lorenz e.t.c. in his writings
completly ignoring their contributions in a measure of self
angrandizement.
If he had acknoweledged the works of Gauss he may well as arrived at
arrays in equilibrium
but he could not or would not acknoweledge the works of the masters,
probably because they were European.
Within the envelope of his personal knoweledge what he said 50 years
ago was and is true to those who deny todays advances of science.You
cannot hold on to verbal tails of yesteryear in an effort to impress
those who are skilled in the present day state of the art. Did Terman
discuss satelittes, wifi, the impact of Einstein with respect to
antennas or potential momentum? Ofcourse not, he was not aware of them
because he was of an older generation and his books contain lot of
stuff that is completely out of date in line with cave mans readings.
>

> True today as it was more than 50 years ago.

It just amazes me how you old timers reach back to their school days
and books used in an effort to elevate their own generation by quoting
old books as the testimony that all is known about antennas. This is
akin to sayingt that by their own experience the teachings of Terman
was all encompasing which they themselves could not improve apon which
is very plausable considering the deteriation of brain power of the
constituent members. If you relied on memory instead of personal
thought in you exam days then it becomes obvious that your
position in scientific life will descend faster than you age. If you
are going to continue quoting the written word it is critical that you
write down what the subject matter is so that you don't forget it and
get confused.
Regards
Art
>

> Best regards, Richard Harrison, KB5WZI

4942. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 20:59:38 UTC
From: Dave <noone@nowhere.com>
Message-ID: <_0QWh.4187$sb.1299@trndny05>
Source record: 42240

"art" <aunwin@insightbb.com> wrote in message
news:1177257390.224616.233520@e65g2000hsc.googlegroups.com...
> Remember Gausses law was based on static particles
> at rest not caring one iota upon the dormant parts on what they are
> resting on or part of by describing them being in a state of
> equilibrium with a state of potential energy.

the only antenna with particles at rest is one that isn't transmitting or
receiving... not much use in my opinion.

4943. Re: HF vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 21:04:56 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <462bcdec$0$16658$4c368faf@roadrunner.com>
Source record: 42241

"Paul Bailey" <pbailey04@charter.net> wrote in message
news:1177210472.459493.305370@b75g2000hsg.googlegroups.com...
> Have recently rcvd a very old HF vertical antenna. It has 4 traps of
> various lengths and overall lenth is about 30-33 feet total. Cannot
> figure out what brand it is. Donor has no clue. It also has rings on
> several separators for guy lines. I thought it was an old Hygain, but
> nothing in their current catalog looks like it. Best guess is that
> this antenna is about 35-40 yrs old and even wonder if it's worth the
> effort to try to assemble as it is in parts and there were no
> instructions. Found out from donor that it was only used as a
> listener, i.e. never was transmitted on... Making me even more
> suspicious of its reliability to use!
> Any one with any ideas/thoughts---would be greatly appreciated!!
>

Put it up and check it out you may luck out. If not remove all the traps and put a tapped loading coil on the bottom so you can tune it to your favorite band. I know of 1 guy that had bad traps so he took them out rplacing them with fiberglass rods. When he wants to change bands he tilts it over and connects jumpers across the fiberglass sections.

Jimmie

4944. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 21:19:49 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177276789.668977.148230@n76g2000hsh.googlegroups.com>
Source record: 42242

On 22 Apr, 08:02, Richard Clark <kb7...@comcast.net> wrote:
> On Sun, 22 Apr 2007 11:06:53 GMT, "Dave" <n...@nowhere.com> wrote:
> >it probably hasn't been because nobody has bothered to write a reviewable
> >paper on it...
>
> Hi Dave,
>
> As I've already pointed out, this was done a long time ago and is in
> the library.
>
Richard you lie so often that are getting very fluent with your
imagination. I often laugh when you tried to suggest that you put the
Dr straight regarding mathematics. Also when you suggested that you
knew about gaussian antennas long ago but you are a bit confused about
whether you thought you launched the idea yourself or you saw
something written about it but with your flowery writing you have been
unable to communicate its actual origins. I also laugh at your attempt
to apply for a patent! Nothing like the patents written by Edison on
the back of a napkin. You wrote in your normal flowery language so the
examiner would be confused about what you were claiming, and like the
nose of pinochio your patent grew and grew and grew in size the
examiners sent it to Field and Stream thinking it applied in some way
to weed aplications.
Ofcourse it got back to the patent office and as you said it was to
big and volumous to fit into any enclosure the PTO had on hand and as
you said they put in on the floor where it gathered dust because the
examiner couldn't or didn't want to find it. Tell the group what that
patent number was so they can read it for themselves tho you never did
say if a patent was granted and whether the title was clear enough so
it could be placed into the correct category. Richard you are in a
imaginary world when you say you believe, think,know, that a
dissertation on Gaussian arrays has already been written when most
realise when reading your posts you have no idea what the concept is
about in the first place so you will never ever be able to recall the
underpinnings for what you are claiming credit for. So really it will
be no different to the many other things you have said or claimed
because your prose concealed all so succesfully. Richard you are the
Andy Cap of the antenna world and pretty good at it I might say.
Art

snip
Snip
>
> 73's

> Richard Clark, KB7QHC

4945. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 21:25:10 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177277110.842979.197210@o5g2000hsb.googlegroups.com>
Source record: 42243

On 22 Apr, 13:59, "Dave" <n...@nowhere.com> wrote:
> "art" <aun...@insightbb.com> wrote in message
>
> news:1177257390.224616.233520@e65g2000hsc.googlegroups.com...
> > Remember Gausses law was based on static particles
>
> > at rest not caring one iota upon the dormant parts on what they are
> > resting on or part of by describing them being in a state of
> > equilibrium with a state of potential energy.
>
> the only antenna with particles at rest is one that isn't transmitting or
> receiving... not much use in my opinion.

Your opinion is noted David. What other quotations of the masters do
you feel should be dissed in your opinion ?
Art

4946. Counterpoise direction vs. Signal direction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 21:30:13 UTC
From: mm58@earthlink.net
Message-ID: <1177277413.425296.74250@l77g2000hsb.googlegroups.com>
Source record: 42244

With respect to an HF vertical whose base is about 10' above ground,
and a ~ 30' wire counterpoise held just off the ground: Does the
direction that the wire is layed out affect the directional gain/
pattern of the antenna? Just curious...

Mike
KD7VRG

4947. Re: Counterpoise direction vs. Signal direction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 22:08:57 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132nn7re8m02lc8@corp.supernews.com>
Source record: 42245

mm58@earthlink.net wrote:
> With respect to an HF vertical whose base is about 10' above ground,
> and a ~ 30' wire counterpoise held just off the ground: Does the
> direction that the wire is layed out affect the directional gain/
> pattern of the antenna? Just curious...

Yes. The "counterpoise" is just as much a part of the antenna as the "antenna". Giving it that label doesn't prevent it from radiating or interacting with the antenna. The wire from the base of the antenna to the "counterpoise" wire is also part of the antenna and will radiate. The presence of the lossy ground will reduce the effect that the "counterpoise" wire direction has, but it will still have an effect.

You can find out just how much an effect it will have by using one of the readily available modeling programs. The free EZNEC demo available from http://eznec.com would be adequate to get a fair idea.

Roy Lewallen, W7EL

4948. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 22:34:16 UTC
From: richardharrison@webtv.net
Message-ID: <24153-462BE2E8-664@storefull-3252.bay.webtv.net>
Source record: 42246

Art wrote:
"Again, Richard you are taking things out of context since the arrays referred to were not in equilibrium.'

I noted no acceleration nor motion. As a firm believer in the conservation of energy I`m sure that the antenna, on average, received no more energy than it emitted or conducted away. That is balance or equilibrium.

Art also wrote:
"Terman was referring to close spaced of the parasitic form, even mentions corner reflectors."

Yes, and he also mentions the Yagi array. But I believe Terman meant to say the best antenna gains of the day, for the antenna`s size, regardless of direct or parasitic drive, were obtained from corner reflector and Yagi antennas. That hasn`t changed but it certainly may. But, Kraus, whose invention, the W8JK array, has two dipole elements spaced 0.125 wavelengths apart and driven 180-degrees out of phase, certainly has no parasitic element. That was certainly on his mind when he wrote the comments on page 185 in "Antennas". On the facing page, 184, he diagrams two antennas, the W8JK and a stack of two dipoles which are driven in-phase, not out-of phase like the W8JK.

Low radiation resistance is a consequence of tight coupling between the closely-spaced elements. This makes the coupling to the array likely lossy in making impedance transformations necessary to match the array to the transmission line. Kraus has some suggestions on how to make these arrays more compatible with their transmission lines.

Best regards, Richard Harrison, KB5WZI

4949. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 22:55:41 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <462be7e4$0$24769$4c368faf@roadrunner.com>
Source record: 42247

"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:24153-462BE2E8-664@storefull-3252.bay.webtv.net...
> Art wrote:
> "Again, Richard you are taking things out of context since the arrays
> referred to were not in equilibrium.'
>
> I noted no acceleration nor motion. As a firm believer in the
> conservation of energy I`m sure that the antenna, on average, received
> no more energy than it emitted or conducted away. That is balance or
> equilibrium.
>
> Art also wrote:
> "Terman was referring to close spaced of the parasitic form, even
> mentions corner reflectors."
>
> Yes, and he also mentions the Yagi array. But I believe Terman meant to
> say the best antenna gains of the day, for the antenna`s size,
> regardless of direct or parasitic drive, were obtained from corner
> reflector and Yagi antennas. That hasn`t changed but it certainly may.
> But, Kraus, whose invention, the W8JK array, has two dipole elements
> spaced 0.125 wavelengths apart and driven 180-degrees out of phase,
> certainly has no parasitic element. That was certainly on his mind when
> he wrote the comments on page 185 in "Antennas". On the facing page,
> 184, he diagrams two antennas, the W8JK and a stack of two dipoles which
> are driven in-phase, not out-of phase like the W8JK.
>
> Low radiation resistance is a consequence of tight coupling between the
> closely-spaced elements. This makes the coupling to the array likely
> lossy in making impedance transformations necessary to match the array
> to the transmission line. Kraus has some suggestions on how to make
> these arrays more compatible with their transmission lines.
>
> Best regards, Richard Harrison, KB5WZI
>

I f this were a hospital you couldnt distinguish the doctors from the
patients.. LMAO

Jimmie

4950. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 23:34:28 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177284868.432443.300790@b75g2000hsg.googlegroups.com>
Source record: 42248

On 22 Apr, 15:34, richardharri...@webtv.net (Richard Harrison) wrote:
> Art wrote:
>
> "Again, Richard you are taking things out of context since the arrays
> referred to were not in equilibrium.'
>
> I noted no acceleration nor motion. As a firm believer in the
> conservation of energy I`m sure that the antenna, on average, received
> no more energy than it emitted or conducted away. That is balance or
> equilibrium.

No Richard that is called reprocity not equilibrium. Getting desparate
aren't you?
>
> Art also wrote:
>
> "Terman was referring to close spaced of the parasitic form, even
> mentions corner reflectors."
>
> Yes, and he also mentions the Yagi array. But I believe Terman meant to
> say
So he didn't say what you think he meant to say.......hmmm!

the best antenna gains of the day,
could be, he wasn't aware of Gaussian arrays was he?

for the antenna`s size,
> regardless of direct or parasitic drive, were obtained from corner
> reflector and Yagi antennas. That hasn`t changed but it certainly may.
Let me assure you it has changed much as you want to bresist change.

> But, Kraus, whose invention, the W8JK array, has two dipole elements
> spaced 0.125 wavelengths apart and driven 180-degrees out of phase,
> certainly has no parasitic element. That was certainly on his mind when
> he wrote the comments on page 185 in "Antennas". On the facing page,
> 184, he diagrams two antennas, the W8JK and a stack of two dipoles which
> are driven in-phase, not out-of phase like the W8JK.

If both dipoles were separate entities where only one was driven and
both entities
were resonant then it is representitive of a Gaussian array assuming
both elements were not parallel or planar. I will leave you to decide
if it was an example of a Gaussian array.

>
> Low radiation resistance is a consequence of tight coupling between the

> closely-spaced elements. This makes the coupling to the array likely
> lossy in making impedance transformations necessary to match the array
> to the transmission line.
This is a statement connected to Yagi's or similar type parasitic
arrays
Are you like Terman who meant to say something different? How can you
be a mind reader
if you do the same thing yourself?

Kraus has some suggestions on how to make
> these arrays more compatible with their transmission lines.

That's nice. What am I suppose to do with that statement? Did you
intend to say something else like it was true 50 years ago so it is
also true now?

Art
>
> Best regards, Richard Harrison, KB5WZI

4951. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-22 23:42:40 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177285360.463112.104260@p77g2000hsh.googlegroups.com>
Source record: 42249

On 22 Apr, 15:55, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
> "Richard Harrison" <richardharri...@webtv.net> wrote in message
>
> news:24153-462BE2E8-664@storefull-3252.bay.webtv.net...
>
>
>
>
>
> > Art wrote:
> > "Again, Richard you are taking things out of context since the arrays
> > referred to were not in equilibrium.'
>
> > I noted no acceleration nor motion. As a firm believer in the
> > conservation of energy I`m sure that the antenna, on average, received
> > no more energy than it emitted or conducted away. That is balance or
> > equilibrium.
>
> > Art also wrote:
> > "Terman was referring to close spaced of the parasitic form, even
> > mentions corner reflectors."
>
> > Yes, and he also mentions the Yagi array. But I believe Terman meant to
> > say the best antenna gains of the day, for the antenna`s size,
> > regardless of direct or parasitic drive, were obtained from corner
> > reflector and Yagi antennas. That hasn`t changed but it certainly may.
> > But, Kraus, whose invention, the W8JK array, has two dipole elements
> > spaced 0.125 wavelengths apart and driven 180-degrees out of phase,
> > certainly has no parasitic element. That was certainly on his mind when
> > he wrote the comments on page 185 in "Antennas". On the facing page,
> > 184, he diagrams two antennas, the W8JK and a stack of two dipoles which
> > are driven in-phase, not out-of phase like the W8JK.
>
> > Low radiation resistance is a consequence of tight coupling between the
> > closely-spaced elements. This makes the coupling to the array likely
> > lossy in making impedance transformations necessary to match the array
> > to the transmission line. Kraus has some suggestions on how to make
> > these arrays more compatible with their transmission lines.
>
> > Best regards, Richard Harrison, KB5WZI
>
> I f this were a hospital you couldnt distinguish the doctors from the
> patients.. LMAO
>

> Jimmie- Hide quoted text -
>
> - Show quoted text -

Jimmie you may reach the same age as Richard(you are nearly 80 years old aren't you) so you better start thinking ahead. There are different types of institutions you know and who knows what type you are assigned to.
Art

4952. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 00:12:00 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <hRSWh.809$im2.606@newssvr22.news.prodigy.net>
Source record: 42250

Gene Fuller wrote:
> You are going to pull a brain muscle by stretching so much. Are you
> suggesting that two wiggling points on a web page are the key to
> understanding the universe?

No, just wave cancellation. If the graphic is completely
incorrect, as you say, why did they publish it?
--
73, Cecil http://www.w5dxp.com

4953. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 00:15:19 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <oUSWh.810$im2.178@newssvr22.news.prodigy.net>
Source record: 42251

Keith Dysart wrote:
> If the zero power point is stationary then no energy
> can be flowing.

Time for you to review EM waves, Keith. There is a zero
power point in every EM traveling wave every 1/2WL where
the E-field and H-field are both zero at the same time.
--
73, Cecil http://www.w5dxp.com

4954. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 00:18:34 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <rXSWh.811$im2.715@newssvr22.news.prodigy.net>
Source record: 42252

Keith Dysart wrote:
> So you expect that some of the reverse wave is reflected at the
> generator and yet experiment has shown that none of the
> reverse wave is reflected at the generator when the generator]
> source impedance is the same as the line characteristic
> impedance. I am curious as to why you ignore these
> experimental results.

Those "experimental results" paper-only results are a figment
of your imagination. You zero energy level source proved just
the opposite.
--
73, Cecil http://www.w5dxp.com

4955. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 00:21:13 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <WZSWh.812$im2.653@newssvr22.news.prodigy.net>
Source record: 42253

Roy Lewallen wrote:
> I'm very sorry to see that Cecil has arrived to divert what was an
> interesting and informative discussion to yet another one of his endless
> argumentative junk science threads. Oh, well, it was nice while it lasted.

This from the person who used standing-wave current to
measure the phase shift through a loading coil knowing
all the while that standing-wave current has an
unvarying phase. I cannot think of any worse junk
science than trying to hoodwink the uninitiated.
--
73, Cecil http://www.w5dxp.com

4956. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 00:38:20 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177288700.356444.217690@p77g2000hsh.googlegroups.com>
Source record: 42254

On 5 Mar, 10:04, Roy Lewallen <w...@eznec.com> wrote:
> There's no direct way to measure the total power being radiated other
> than sampling the field at many points in all directions and
> integrating. "Reflected" power is not power that isn't transmitted. You
> can find the power being applied to the antenna by subtracting the
> "reverse" or "reflected" power from the "forward" power, but that tells
> you nothing about what fraction is radiated and what fraction lost as heat.
>
> Roy Lewallen, W7EL
>

I believe this to be untrue.
If an array is in equilibrium you have skin depth that give you a
resistance figure as well as d.c. resistance . You also know power
input thus all input and output power is therefore known. Pray tell
what energy cannot be accounted for?
Remember radiation does not begin to occur until the arbitary border
is punctured thus at that time it can be considered as output.
Movement of flux cannot begin until the clock starts
or time begins So now you have a beginning. An enclosed arbitary
border that containes energy and a end section that represents
radiation. You could also use the potential momentum theorem to
determine the exit proportions of electric and magnetic particles to
generate a electromagnetic field as well determining what particles
return to the radiator to serve in the formation of skin depth or
radiation resistance which serves to augument time changing current as
well as accounting for decay. All this requires a smattering of
understanding with respect to Einstein law of relativity which most
will probably tend to dismiss as hog wash especially those who view
the subject of static particles as being useless.
The answer Roy gave is only applicable when an array has parasitics
that either deflect or attract energy with respect to polarity(Walter
note the use of the word "polarity" with respect to antennas)
Ofcourse some will drop back to point out Pointings Vector so this
could be interesting.
If you want to disagree start off with a resonant dipole to ensure
applicability of ones auguments.

Art Unwin

>
> Wayne wrote:
> > When the subject of antenna efficiency comes up, it often involves a
> > discussion of ground losses on verticals. What about, for example, a
> > dipole? Could one calculate "power out/power in" by measuring the VSWR and

> > declaring that everything not reflected was transmitted? It would seem more
> > accurate to actually measure power out and power in, but that introduces
> > inaccuracies by having to calibrate the setup. Thoughts?- Hide quoted text -
>
> - Show quoted text -

4957. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 01:18:20 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <462c0953$0$17182$4c368faf@roadrunner.com>
Source record: 42255

"art" <aunwin@insightbb.com> wrote in message
news:1177288700.356444.217690@p77g2000hsh.googlegroups.com...
> On 5 Mar, 10:04, Roy Lewallen <w...@eznec.com> wrote:
>> There's no direct way to measure the total power being radiated other
>> than sampling the field at many points in all directions and
>> integrating. "Reflected" power is not power that isn't transmitted. You
>> can find the power being applied to the antenna by subtracting the
>> "reverse" or "reflected" power from the "forward" power, but that tells
>> you nothing about what fraction is radiated and what fraction lost as
>> heat.
>>
>> Roy Lewallen, W7EL
>>
>
>
> I believe this to be untrue.
> If an array is in equilibrium you have skin depth that give you a
> resistance figure as well as d.c. resistance . You also know power
> input thus all input and output power is therefore known. Pray tell
> what energy cannot be accounted for?
> Remember radiation does not begin to occur until the arbitary border
> is punctured thus at that time it can be considered as output.
> Movement of flux cannot begin until the clock starts
> or time begins So now you have a beginning. An enclosed arbitary
> border that containes energy and a end section that represents
> radiation. You could also use the potential momentum theorem to
> determine the exit proportions of electric and magnetic particles to
> generate a electromagnetic field as well determining what particles
> return to the radiator to serve in the formation of skin depth or
> radiation resistance which serves to augument time changing current as
> well as accounting for decay. All this requires a smattering of
> understanding with respect to Einstein law of relativity which most
> will probably tend to dismiss as hog wash especially those who view
> the subject of static particles as being useless.
> The answer Roy gave is only applicable when an array has parasitics
> that either deflect or attract energy with respect to polarity(Walter
> note the use of the word "polarity" with respect to antennas)
> Ofcourse some will drop back to point out Pointings Vector so this
> could be interesting.
> If you want to disagree start off with a resonant dipole to ensure
> applicability of ones auguments.
>
> Art Unwin
>

>

Art
Roy said "There's no direct way to measure" , what you are describing isnt a direct way.

Jimmie

4958. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 01:34:01 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1177292041.823957.74020@o5g2000hsb.googlegroups.com>
Source record: 42256

On Apr 20, 5:34 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Jim Kelley wrote:
> > There is no support for your claim.
>
> There is plenty of support for my claim, Jim, but you
> deleted it. I will simply repost it over and over until
> you respond.
>
> Given the following experiment with two signal generators
> equipped with circulators and load resistors - the generators
> are phased-locked to ensure coherency. The two feedlines
> are of equal electrical lengths.
>
> SGCL1 is turned on. SGCL2 is turned off.
>
> 100W | 25W
> 50 ohm---50 ohm line---+---291.4 ohm line---291.4 ohm
> SGCL1 <--Prev1 | SGCL2
>
> What is Pref1 before SGCL2 is turned on? What is Pref1
> after SGCL2 is turned on? Did Pref1 change after SGCL2
> is turned on?
>
> Since Pref1 *NEVER* encounters the impedance discontinuity
> how can it possibly be affected by SGCL2 being turned on?
> This is a perfect example of wave interaction.
> --
> 73, Cecil http://www.w5dxp.com

It's not an example of anything other than newsgroup rhetoric, Cecil.
Buy a good RF data acquisition system, all the equipment listed in
your problem, and run the experiment. I'd be happy to discuss the
results with you afterward.

73, Jim AC6XG

4959. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 01:56:05 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <mc4o23hfk7df29tftqgto7mh2gfa475hk9@4ax.com>
Source record: 42257

On 22 Apr 2007 14:19:49 -0700, art <aunwin@insightbb.com> wrote:

>Also when you suggested that you
>knew about gaussian antennas long ago

Hi Art,

I bought a Goniometer at my first Ham auction in 1966. Only 41 years ago, but it was only 50 years old then (the concept, not the goniometer), and now the topic has been around for so long that most have forgotten it like the sand that surrounds the Sphinx.

Can you explain how the Goniometer, the conceptual child of Bennetti and Tosi?

73's
Richard Clark, KB7QHC

4960. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 02:23:06 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <bMUWh.4177$ns5.3917@newssvr17.news.prodigy.net>
Source record: 42258

Jim Kelley wrote:
> It's not an example of anything other than newsgroup rhetoric, Cecil.
> Buy a good RF data acquisition system, all the equipment listed in
> your problem, and run the experiment. I'd be happy to discuss the
> results with you afterward.

Translation: I am clueless to explain one of the most
simple of experiments involving s-parameters.
--
73, Cecil http://www.w5dxp.com

4961. Re: HF vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 02:37:03 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <mq6o23584l9qi8abf3cjgcq2okk0b58fsn@4ax.com>
Source record: 42259

On 21 Apr 2007 19:51:04 -0700, Paul Bailey <pbailey04@charter.net>
wrote:

>Have recently rcvd a very old HF vertical antenna. It has 4 traps of
>various lengths and overall lenth is about 30-33 feet total. Cannot
>figure out what brand it is. Donor has no clue. It also has rings on
>several separators for guy lines. I thought it was an old Hygain, but
>nothing in their current catalog looks like it. Best guess is that
>this antenna is about 35-40 yrs old and even wonder if it's worth the
>effort to try to assemble as it is in parts and there were no
>instructions. Found out from donor that it was only used as a
>listener, i.e. never was transmitted on... Making me even more
>suspicious of its reliability to use!
>Any one with any ideas/thoughts---would be greatly appreciated!!

Chances are it is 40-80 meters. First set it up with the smallest
trap near bottom and have them get larger as they go up, if you
haven't done so already.

Then test for 10 meters. If there is a decent match, fine tune it by
adjusting the lower trap up or down until it is good. Next, 15
meters, then 20 meters, then 40 meters with the top of the pole.

As someone else said, you may get luck with the first shot.

Buck
N4PGW

--
73 for now
Buck, N4PGW
www.lumpuckeroo.com

4962. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 02:41:02 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <462c1cca$0$17199$39cecf19@news.twtelecom.net>
Source record: 42260

Jimmie D wrote:

> "Richard Harrison" <richardharrison@webtv.net> wrote in message
> news:24153-462BE2E8-664@storefull-3252.bay.webtv.net...
>
>>Art wrote:
>>"Again, Richard you are taking things out of context since the arrays
>>referred to were not in equilibrium.'
>>
>>I noted no acceleration nor motion. As a firm believer in the
>>conservation of energy I`m sure that the antenna, on average, received
>>no more energy than it emitted or conducted away. That is balance or
>>equilibrium.
>>
>>Art also wrote:
>>"Terman was referring to close spaced of the parasitic form, even
>>mentions corner reflectors."
>>
>>Yes, and he also mentions the Yagi array. But I believe Terman meant to
>>say the best antenna gains of the day, for the antenna`s size,
>>regardless of direct or parasitic drive, were obtained from corner
>>reflector and Yagi antennas. That hasn`t changed but it certainly may.
>>But, Kraus, whose invention, the W8JK array, has two dipole elements
>>spaced 0.125 wavelengths apart and driven 180-degrees out of phase,
>>certainly has no parasitic element. That was certainly on his mind when
>>he wrote the comments on page 185 in "Antennas". On the facing page,
>>184, he diagrams two antennas, the W8JK and a stack of two dipoles which
>>are driven in-phase, not out-of phase like the W8JK.
>>
>>Low radiation resistance is a consequence of tight coupling between the
>>closely-spaced elements. This makes the coupling to the array likely
>>lossy in making impedance transformations necessary to match the array
>>to the transmission line. Kraus has some suggestions on how to make
>>these arrays more compatible with their transmission lines.
>>
>>Best regards, Richard Harrison, KB5WZI
>>
>
>
> I f this were a hospital you couldnt distinguish the doctors from the
> patients.. LMAO
>
> Jimmie
>

>

If you are implying that Richard is incorrect in his statements and that
Art has even a tiny clue about reality, you are sadly mistaken.

You should study a bit about the subject before you criticize the "Doctors".

tom
K0TAR

4963. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 03:01:15 UTC
From: jawod <jawod@fuse.net>
Message-ID: <462C217B.1090503@fuse.net>
Source record: 42262

>>
>
>
> I f this were a hospital you couldnt distinguish the doctors from the
> patients.. LMAO
>
> Jimmie
>
>

There are no Doctors, only patients.
Art refers to Richard as Andy Cap, an ancient reference even to me (and I am 52). Richard takes the bait every time.

Fanning the flames of borderline lunacy can keep newsgroups busy basically forever. A true perpetual motion machine. I am, of course, quoting Heaviside.

4964. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 03:01:23 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <462c2178$0$17198$4c368faf@roadrunner.com>
Source record: 42261

"Tom Ring" <news0003@taring.org> wrote in message
news:462c1cca$0$17199$39cecf19@news.twtelecom.net...
> Jimmie D wrote:
>
>> "Richard Harrison" <richardharrison@webtv.net> wrote in message
>> news:24153-462BE2E8-664@storefull-3252.bay.webtv.net...
>>
>>>Art wrote:
>>>"Again, Richard you are taking things out of context since the arrays
>>>referred to were not in equilibrium.'
>>>
>>>I noted no acceleration nor motion. As a firm believer in the
>>>conservation of energy I`m sure that the antenna, on average, received
>>>no more energy than it emitted or conducted away. That is balance or
>>>equilibrium.
>>>
>>>Art also wrote:
>>>"Terman was referring to close spaced of the parasitic form, even
>>>mentions corner reflectors."
>>>
>>>Yes, and he also mentions the Yagi array. But I believe Terman meant to
>>>say the best antenna gains of the day, for the antenna`s size,
>>>regardless of direct or parasitic drive, were obtained from corner
>>>reflector and Yagi antennas. That hasn`t changed but it certainly may.
>>>But, Kraus, whose invention, the W8JK array, has two dipole elements
>>>spaced 0.125 wavelengths apart and driven 180-degrees out of phase,
>>>certainly has no parasitic element. That was certainly on his mind when
>>>he wrote the comments on page 185 in "Antennas". On the facing page,
>>>184, he diagrams two antennas, the W8JK and a stack of two dipoles which
>>>are driven in-phase, not out-of phase like the W8JK.
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>>>Low radiation resistance is a consequence of tight coupling between the
>>>closely-spaced elements. This makes the coupling to the array likely
>>>lossy in making impedance transformations necessary to match the array
>>>to the transmission line. Kraus has some suggestions on how to make
>>>these arrays more compatible with their transmission lines.
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>>>Best regards, Richard Harrison, KB5WZI
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>>
>>
>> I f this were a hospital you couldnt distinguish the doctors from the
>> patients.. LMAO
>>

>> Jimmie
>
> If you are implying that Richard is incorrect in his statements and that
> Art has even a tiny clue about reality, you are sadly mistaken.
>
> You should study a bit about the subject before you criticize the
> "Doctors".
>
> tom
> K0TAR
>

Not what I am implying at all, that wouldnt be funny. I only wish I knew as much about antennas as Richard.

I only recently obtained copies of books by Krauss and Terman and have begin to intensify my studies of the subject.

While on the subject, I obtained my first class FCC license in 73 and the material in Terman seems to fit very closly with the study material I had. Is there a connection between the test and Terman's book?

Jimmie

4965. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 03:13:26 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177298006.037119.285880@o5g2000hsb.googlegroups.com>
Source record: 42263

On 22 Apr, 19:41, Tom Ring <news0...@taring.org> wrote:
> Jimmie D wrote:
> > "Richard Harrison" <richardharri...@webtv.net> wrote in message
> >news:24153-462BE2E8-664@storefull-3252.bay.webtv.net...
>
> >>Art wrote:
> >>"Again, Richard you are taking things out of context since the arrays
> >>referred to were not in equilibrium.'
>
> >>I noted no acceleration nor motion. As a firm believer in the
> >>conservation of energy I`m sure that the antenna, on average, received
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> >>equilibrium.
>
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> >>mentions corner reflectors."
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> >>Yes, and he also mentions the Yagi array. But I believe Terman meant to
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> Art has even a tiny clue about reality, you are sadly mistaken.

>
> You should study a bit about the subject before you criticize the "Doctors".
>
> tom
> K0TAR- Hide quoted text -
>
> - Show quoted text -

Tom ,you should not hit Jimmie for not studying what you believe to be critical. To often you have shown yourself to be ignorant of the finer details of radiation that you are accusing Jimmie of not being knoweledgable about. Regarding what Richard stated you did not give one iota of evidence that his comments were correct possibly because you are devoid of any knoweledge around which you could consider a debate. Tom once again you show your ignorance about antennas and radiation to the World. Wasn't it you who was so vociforace in your critisisms when the MIT doctor came aboard with his mathematical analysis? Was it not you who stated you cannot add the measure of time to both sides of an equation infering that equilibrium is thus abandoned? You really should have obtained an understanding of algebra before embarking on a realm of finger pointing at the old age of the mid eighties.
You can talk the talk when you prove that you can walk the walk and that can't be done if you have a crippled mind.
Art

4966. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 03:19:29 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177298368.979433.293590@n76g2000hsh.googlegroups.com>
Source record: 42264

On 22 Apr, 18:18, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
> "art" <aun...@insightbb.com> wrote in message
>
> news:1177288700.356444.217690@p77g2000hsh.googlegroups.com...
>
>
>
>
>
> > On 5 Mar, 10:04, Roy Lewallen <w...@eznec.com> wrote:
> >> There's no direct way to measure the total power being radiated other
> >> than sampling the field at many points in all directions and
> >> integrating. "Reflected" power is not power that isn't transmitted. You
> >> can find the power being applied to the antenna by subtracting the
> >> "reverse" or "reflected" power from the "forward" power, but that tells
> >> you nothing about what fraction is radiated and what fraction lost as
> >> heat.
>
> >> Roy Lewallen, W7EL
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> > I believe this to be untrue.
> > If an array is in equilibrium you have skin depth that give you a
> > resistance figure as well as d.c. resistance . You also know power
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> > what energy cannot be accounted for?
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> > or time begins So now you have a beginning. An enclosed arbitary
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> > radiation resistance which serves to augument time changing current as
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> > understanding with respect to Einstein law of relativity which most
> > will probably tend to dismiss as hog wash especially those who view
> > the subject of static particles as being useless.
> > The answer Roy gave is only applicable when an array has parasitics
> > that either deflect or attract energy with respect to polarity(Walter
> > note the use of the word "polarity" with respect to antennas)
> > Ofcourse some will drop back to point out Pointings Vector so this
> > could be interesting.

> > If you want to disagree start off with a resonant dipole to ensure
> > applicability of ones auguments.
>
> > Art Unwin
>
> Art
> Roy said "There's no direct way to measure" , what you are describing isnt a
> direct way.
>
> Jimmie- Hide quoted text -
>
> - Show quoted text -

I stand corrected. You cannot wet your finger and stick it up into the
air expecting that one could obtain a direct measure of radiation.
Most observant of you Jimmie
Art

4967. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 03:25:05 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <462c2708$0$21250$39cecf19@news.twtelecom.net>
Source record: 42265

Jimmie D wrote:

>>>I f this were a hospital you couldnt distinguish the doctors from the
>>>patients.. LMAO
>>>
>>>Jimmie
>>
>>If you are implying that Richard is incorrect in his statements and that
>>Art has even a tiny clue about reality, you are sadly mistaken.
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>>You should study a bit about the subject before you criticize the
>>"Doctors".
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>>tom
>>K0TAR
>>
>
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> Not what I am implying at all, that wouldnt be funny. I only wish I knew as
> much about antennas as Richard.
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> I only recently obtained copies of books by Krauss and Terman and have begin
> to intensify my studies of the subject.
>
> While on the subject, I obtained my first class FCC license in 73 and the
> material in Terman seems to fit very closly with the study material I had.
> Is there a connection between the test and Terman's book?
>
> Jimmie
>
>

Well, then I won't comment anymore. Did you buy the license?

tom
K0TAR

4968. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 03:33:36 UTC
From: richardharrison@webtv.net
Message-ID: <10571-462C2910-810@storefull-3257.bay.webtv.net>
Source record: 42268

Jimmie D reported Roy Lewallen to write:
"There is no direct way to measure the total power being radiated other than sampling the field at many points in all directions and integrating."

That sounds right to me. An approximation is sometimes made by taking 36 samples of field strength in volts per meter at 10-fegrees of azimuth intervals at the same distance from the central antenna system. Each of these sample values is squared and the sum of these squared samples is divided by 36, the number of samples, to get their average. The square poot of this quotient is then the average field strength at that distance from the antenna. A true average signal strength should be the same as the value an isotropic antenna would radiate at a given distance.

Knowing the field strength, one could calculate the watts per square meter of the envelope of radiation at a given distance and total the watts per square meter of all the squares to get the total power being radiated.

Since 1960, I`ve used the Bird wattmeter satisfactorily to get the total power being delivered by the transmitter and radiated by the antenna. It should be the same if the transmission line and antenna have low losses. It is simply the difference between the forward power indication and the reverse power indication. Many lines and antennas have very high efficiencies.

Best regards, Richard Harrison, KB5WZI

4969. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 03:41:56 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <8WVWh.347973$5j1.171898@bgtnsc04-news.ops.worldnet.att.net>
Source record: 42266

Cecil Moore wrote:
> Keith Dysart wrote:
>> If the zero power point is stationary then no energy
>> can be flowing.
>
> Time for you to review EM waves, Keith. There is a zero
> power point in every EM traveling wave every 1/2WL where
> the E-field and H-field are both zero at the same time.

Cecil,

Four questions:

* Does your IEEE dictionary have an entry for "stationary"?

* Which part of "every EM traveling wave" is stationary?

* Do you actually read any of the messages to which you respond?

* Do you want to retract your answer?

8-)

73,
Gene
W4SZ

4970. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 03:44:37 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <FYVWh.347986$5j1.150200@bgtnsc04-news.ops.worldnet.att.net>
Source record: 42267

Cecil Moore wrote:
> Gene Fuller wrote:
>> You are going to pull a brain muscle by stretching so much. Are you
>> suggesting that two wiggling points on a web page are the key to
>> understanding the universe?
>
> No, just wave cancellation. If the graphic is completely
> incorrect, as you say, why did they publish it?

Cecil,

I did not say the graphic was incorrect, but rather that it is
irrelevant. It correctly shows the addition of two sine waves.

Big deal.

73,
Gene
W4SZ

4971. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 04:05:06 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns991B8F47FC58Dnonenowhere@61.9.191.5>
Source record: 42269

richardharrison@webtv.net (Richard Harrison) wrote in news:10571-462C2910-810@storefull-3257.bay.webtv.net:

> Jimmie D reported Roy Lewallen to write:
> "There is no direct way to measure the total power being radiated other
> than sampling the field at many points in all directions and
> integrating."
>
> That sounds right to me. An approximation is sometimes made by taking
36
> samples of field strength in volts per meter at 10-fegrees of azimuth
> intervals at the same distance from the central antenna system. Each of
> these sample values is squared and the sum of these squared samples is
> divided by 36, the number of samples, to get their average. The square
> poot of this quotient is then the average field strength at that
> distance from the antenna. A true average signal strength should be the
> same as the value an isotropic antenna would radiate at a given
> distance.

Is that true?

Firstly you seem to assume that your 36 samples around the azimut circle adequately fulfill Roy's "sampling the field at many points in all directions", surely he mean't all elevation angles as well as all azimuth angles.

Secondly, your suggestion that the average field strength (presumably for a 100% efficient antenna) at zero elevation is the same as for an isotropic antenna at the same distance seems to preclude the antenna having directivity in the elevation dimension.

Owen

4972. Re: Gaussian statics law

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 04:09:46 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <462c3181$0$27018$4c368faf@roadrunner.com>
Source record: 42270

"Tom Ring" <news0003@taring.org> wrote in message
news:462c2708$0$21250$39cecf19@news.twtelecom.net...
> Jimmie D wrote:
>
>>>>I f this were a hospital you couldnt distinguish the doctors from the
>>>>patients.. LMAO
>>>>
>>>>Jimmie
>>>
>>>If you are implying that Richard is incorrect in his statements and that
>>>Art has even a tiny clue about reality, you are sadly mistaken.
>>>
>>>You should study a bit about the subject before you criticize the
>>>"Doctors".
>>>
>>>tom
>>>K0TAR
>>>
>>
>>
>> Not what I am implying at all, that wouldnt be funny. I only wish I knew
>> as much about antennas as Richard.
>>
>> I only recently obtained copies of books by Krauss and Terman and have
>> begin to intensify my studies of the subject.
>>
>> While on the subject, I obtained my first class FCC license in 73 and the
>> material in Terman seems to fit very closly with the study material I
>> had.
>> Is there a connection between the test and Terman's book?
>>
>> Jimmie
>
> Well, then I won't comment anymore. Did you buy the license?
>
> tom
> K0TAR

No I wish I had had the book then, I took a course(before Bash) at the time
that also seemed to follow Terman. When I went up to Atlanta to take thes
test I only thought I was giong to take the parts for the second class
license and passed the test for first class also. I felt like I didnt know
my own name when I was finished and had no clue whether or not I had passed
even the second class portion. I really didnt believe I had. Funny thing is

I have never used the license. Stiil just skiming the books but Terman seems a little elementary now and Kraus is going to require me to bone up on my calculus, something else I havent used since 1979. Hell I dont even know why I am bothering, fine cooking and ballroom dancing are much more important to me now.

Jimmie

4973. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 04:36:53 UTC
From: dansawyeror <dansawyeror@comcast.net>
Message-ID: <hdmdnc1zzc16qrHbnZ2dnUVZ_oupnZ2d@comcast.com>
Source record: 42271

Owen,

These examples are quite different. Experiments in one cannot be used to make an inference in the other. One is electric flow, the other is photons. The physics are not even close to the same. Which one do you want to talk about?

- Dan

Owen Duffy wrote:
> There has been much discussion about wave cancellation, anihalation,
> interaction etc. The discussion was initially about waves confined to a
> transmission line (but would apply also to a waveguide in a sense) and
> then progressed to radiation in free space.
>
> Let me initially explore the case of radiation in free space. I am
> talking about radio waves and the radiation far field.
>
> If we have two widely separated antennas radiating coherent radio waves
> don't they each radiate waves that travel independently through space. (I
> have specified wide separation so as to make the effect of one antenna on
> the other insignificant.
>
> If we were to place a receiving antenna at a point in space to couple
> energy from the waves, the amount of energy available from the antenna is
> the superposition of the response of the antenna to the wave from each
> source. This is quite different to saying that the electric field (or the
> magnetic field) at that point is the superposition of the field resulting
> from each antenna as is demonstrated by considering the response of
> another recieving antenna with different directivity (relative to the two
> sources) to the first receiving antenna.
>
> A practical example of this is that an omni directional receiving antenna
> may be located at a point where a direct wave and a reflected wave result
> in very low received power at the antenna, whereas a directional antenna
> that favours one or other of the waves will result in higher received
> power. This indicates that both waves are independent and available to
> the receiving antenna, the waves do not cancel in space, but rather the
> superposition occurs in the antenna.
>
> Though we frequently visualise nodes and antinodes in space, or talk of
> nulls in space (eg have you ever noticed that when you stop a car at
> traffic lights, you are smack in the middle of a null), whereas it seems
> to me that the realisation of a null involves the response of the
> receiving antenna.

>
> This explanation IMHO is more consistent with the way antennas behave
> than the concept that waves superpose in space, it allows waves to
> radiate outwards from a source, passing through each other without
> affecting each other. Whilst we routinely look at plots of the
> directivity of an antenna, and assume that the plotted directivity is
> merely a function of polar angle, we overlook that the plotted pattern
> assumes an isotropic probe at a distance very large compared to the
> dimensions of the antenna (array). Tracing the position of a pattern
> minimum in towards the array may well yield a curved path rather than a
> straight line, and a curved path is inconsistent with waves anihalating
> each other or redistributing energy near the antenna and radiating
> outwards in true radial direction from some virtual antenna centre.
>
> So, it seems to me that coherent waves from separated sources travel
> independently, and the response of the probe used to observe the waves is
> the superposition of the probe's response to each wave. (A further
> complication is that the probe (a receiving antenna) will "re-radiate"
> energy based on its (net) response to the incoming waves.)
>
> Now, considering transmission lines, do the same principles apply?
>
> A significant difference with uniform TEM transmission lines is that
> waves are constrained to travel in only two different directions.
>
> Considering the steady state:
>
> If at some point two or more coherent waves travelling a one direction,
> those waves will undergo the same phase change and attenuation with
> distance as each other and they must continue in the same direction
> (relative to the line), and the combined response in some circuit element
> on which they are incident where superposition is valid (eg a circuit
> node) will always be as if the two waves had been superposed... but the
> response is not due to wave superposition but superposition of the
> responses of the circuit element to the waves. It is however convenient,
> if not strictly correct to think of the waves as having superposed.
>
> That convenience extends to ignoring independent coherent waves that
> would net to a zero response. For example, if we were to consider a
> single stub matching scheme, though one there might consider that
> multiple reflected waves arrive at the source, if they net to zero
> response, then it is convenient to regard that in the steady state there
> are no reflected waves, the source response is as if there were no
> reflected waves. An alternative view of that configuration is that
> superposition in the circuit node that joins the stub, the line to the
> load and the line to the source results in conditions at that end of the
> source line that do not require a reflected wave to satisfy boundary
> conditions at that point, and there really is no reflected wave.
>
> Steady state analysis is sufficiently accurate and appropriate to

> analysis of many scenarios, and the convenience extends to simplified
> mathematics. It seems that the loose superposition of waves is part of
> that convenience, but it is important to remember the underlying
> principles and to consciously assess the validity of model
> approximations.
>
> Comments?
>
> Owen
>
>

4974. Propagation in a conductor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 07:14:18 UTC
From: Richard <nearlynews_email@ntlworld.com>
Message-ID: <5934m1F2ipe8pU1@mid.individual.net>
Source record: 42272

Electrons move in a conductor very slowly. Far, far, below the speed of
light.

So, when you put a voltage or a source of electrons (which have charge and
eminate their own tiny electric field) at one end of a conductor, what
exactly propagates through the conductor, so that the voltage at
the end of the conductor appears (i.e. becomes measurable) in a
time suggesting propagation of the voltage (or charge) at near light speed?

4975. Re: Counterpoise direction vs. Signal direction

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 07:50:08 UTC
From: "P.Gregory" <hoonz@bigpond.com>
Message-ID: <QyZWh.18145$M.9836@news-server.bigpond.net.au>
Source record: 42273

Sure does , and on a same but different but still another story , those big rigs / semi's /truck trailers /big lorry's ect , i have listened heaps when they mobile on 40/80m and when i knew of their direction in which that they were heading /facing and with the vertical on the bull/roo bar on the front of vehikle nearly ALL the time the signal was much stronger when THEY were driving away from the rx antenna i was using , implying the ground/radial/trailer was the actual raditor?....Paul

<mm58@earthlink.net> wrote in message
news:1177277413.425296.74250@l77g2000hsb.googlegroups.com...
> With respect to an HF vertical whose base is about 10' above ground,
> and a ~ 30' wire counterpoise held just off the ground: Does the
> direction that the wire is layed out affect the directional gain/
> pattern of the antenna? Just curious...
>
> Mike
> KD7VRG
>

4976. Re: Propagation in a conductor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 08:20:47 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132or314depsh0b@corp.supernews.com>
Source record: 42274

Richard wrote:
> Electrons move in a conductor very slowly. Far, far, below the speed
>of light.
>
> So, when you put a voltage or a source of electrons (which have charge
> and eminate their own tiny electric field) at one end of a conductor,
> what exactly propagates through the conductor, so that the voltage at
> the end of the conductor appears (i.e. becomes measurable) in a time
> suggesting propagation of the voltage (or charge) at near light speed?
>

Charge.

Put a row of marbles or ball bearings on a table. Roll another one so it strikes the near end of the row, and notice that one leaves the far end very quickly. A unit of momentum (a rolling ball) hits the near end, and that unit of momentum propagates to the far end and appears in the form of a rolling ball there, much more quickly than the balls themselves roll. In this case, the momentum of the ball is propagating very quickly from one end to the other.

Similarly, a unit of charge (analogous to the momentum of the rolling ball) propagates much faster than the electrons. Put a unit of charge in one end, and a unit of charge pops out the other at near the speed of light, while the electrons themselves move at something like a few miles per hour.

Roy Lewallen, W7EL

4977. Re: Propagation in a conductor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 09:58:31 UTC
From: LA4RT Jon Kåre Hellan <dev@null.com>
Message-ID: <1m8xcjjttk.fsf@persaunet.uninett.no>
Source record: 42275

Roy Lewallen <w7el@eznec.com> writes:

> Similarly, a unit of charge (analogous to the momentum of the rolling
> ball) propagates much faster than the electrons. Put a unit of charge
> in one end, and a unit of charge pops out the other at near the speed
> of light, while the electrons themselves move at something like a few
> miles per hour.

Not only do electrons only move at a few miles per hour.
The electricity the power company makes us pay for is actually
alternating current. And that means that the same electrons are being
pushed into our house wiring, and then pulled out of it, over and over
again. And yet we have to pay as if the electricity were
new. Disgusing!

:-)

73 de LA4RT Jon

4978. Re: HF vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 10:09:56 UTC
From: Ed Cregger <ecregger@homtail.com>
Message-ID: <EA%Wh.13456$XU4.261@bignews8.bellsouth.net>
Source record: 42276

"Jimmie D" <GFENDER@carolina.rr.com> wrote in message
news:462bcdec$0$16658$4c368faf@roadrunner.com...
>
> "Paul Bailey" <pbailey04@charter.net> wrote in message
> news:1177210472.459493.305370@b75g2000hsg.googlegroups.com...
>> Have recently rcvd a very old HF vertical antenna. It has
>> 4 traps of
>> various lengths and overall lenth is about 30-33 feet
>> total. Cannot
>> figure out what brand it is. Donor has no clue. It also
>> has rings on
>> several separators for guy lines. I thought it was an
>> old Hygain, but
>> nothing in their current catalog looks like it. Best
>> guess is that
>> this antenna is about 35-40 yrs old and even wonder if
>> it's worth the
>> effort to try to assemble as it is in parts and there
>> were no
>> instructions. Found out from donor that it was only used
>> as a
>> listener, i.e. never was transmitted on... Making me even
>> more
>> suspicious of its reliability to use!
>> Any one with any ideas/thoughts---would be greatly
>> appreciated!!
>>
>
> Put it up and check it out you may luck out. If not remove
> all the traps and put a tapped loading coil on the bottom
> so you can tune it to your favorite band. I know of 1 guy
> that had bad traps so he took them out rplacing them with
> fiberglass rods. When he wants to change bands he tilts it
> over and connects jumpers across the fiberglass sections.

Or, take out the traps, replace with conductive material
(tubing) and mount an autotuner at the base. Don't forget
the radials.

Ed Cregger, NM2K

4979. Re: gamma match 70cm handheld

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 10:21:24 UTC
From: Kurt <ksaves2@sbcglobal.net>
Message-ID: <wa4Xh.892$Ea5.162@newssvr19.news.prodigy.net>
Source record: 42289

Kurt wrote:
> Jerry Martes wrote:
>
>> "Kurt" <ksaves2@sbcglobal.net> wrote in message
>> news:LFySh.1941$w41.800@newssvr19.news.prodigy.net...
>>
>>> Jimmie D wrote:
>>>
>>>> Kurt wrote:
>>>>
>>>> Well, I had set the program to optimize the antenna for 433Mhz
>>>> as that is what I was going to start with on my tracking transmitter.
>>>> Plugged the Yagi into my handheld, set the power to low, set the fwd
>>>> indication on my SWR meter and then did the ref reading. I was shocked
>>>> to see that it was 1:1.2. Set it up to 450Mhz and saw it was 1:1. For
>>>> this new ham, it was pretty surprising for a first project.
>>>>
>>>> This is exactly why I never trusted gamma matches on 70 cm. I
>>>> consistently got nearly perfectly flat matches all the way across
>>>> the band using a gamma match. This usally something aint right. and
>>>> the antenna is probably radiating more in the infra-red region than
>>>> at the desire frequency. No doubt there are others more skilled than
>>>> I who can make it work For me the quagi has worked to damned well
>>>> for me to bother.
>>>>
>>>> Jimmie.
>>>
>>>
>>> Thanks for the info Jimmie. I gotta find a 70cm repeater in a
>>> reasonable range and see if I can get some signal reports. As
>>> mentioned, I was tentatively going to use this for RDF so in actuality
>>> I could just connect it to a handheld scanner. I was told though if an
>>> antenna demonstrated a good SWR on transmitting it should be good for
>>> receiving. Sounds like that may not be the truth though judging by your
>>> experience.
>>>
>>> Kurt
>>
>>
>>
>> Hi Kurt
>>
>> The local repeater is a good source of a test signal, as you
>> indicate. In addition, have you considered looking for an amateur

>> satellite on 435MHz? AMSAT has alot of satellite pass prediction
>> information.
>>
>> Jerry
>>
> Haven't considered any satellite attempts but I did try to pick up that
> spacesuit they tossed out of the ISS. Saw the ISS streaking across the
> sky, which was cool, but didn't hear anything on my scanner with a
> simple rubber duck. (Wonder why? sic) :-) That was before I was trying
> to study for a ticket.
> I'll have to look into it. I suspect if I could hear the beacon I would
> be pointing in the right direction then call a CQ and see if I get a reply?
>
> Kurt

Did a radio test with a 10mW beeline transmitter. Put it up in a tree at 8' and had houses and car dealers in front of me. Lost reception with an aftermarket Diamond antenna on the H/T at .6mi. Bought some stuff at a large store like Walmart and put the homemade 7 Element beam on the H/T in the parking lot.Opened the squelch up and sure enough, I could readily discern the beeping and hear my callsign and voltage readings that were transmitted in Morse at 1.3 miles. Had a great F/B ratio so I could get a bearing. Works good for fringe stuff. Have a loop for closer in bearing determinations.

Kurt

4980. Re: Propagation in a conductor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 10:22:57 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132p282qkg4npdf@corp.supernews.com>
Source record: 42277

LA4RT Jon Kï¿½re Hellan wrote:
>
> Not only do electrons only move at a few miles per hour.
> The electricity the power company makes us pay for is actually
> alternating current. And that means that the same electrons are being
> pushed into our house wiring, and then pulled out of it, over and over
> again. And yet we have to pay as if the electricity were
> new. Disgusing!
>
> :-)

They must be charging us for the pushing rather than for the electrons.

Roy Lewallen, W7EL

4981. Re: Watson W-881

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 10:43:54 UTC
From: Iain Kelly <no.spam@m0pcb.co.uk>
Message-ID: <f0i2l7$s5g$2@netty.york.ac.uk>
Source record: 42278
Cross-posted to: uk.radio.amateur,rec.radio.amateur.antenna

Iain Kelly wrote:
> Just on the off chance does anyone know what these antennas have inside
> them?
>
> I could do with knowing and am not really in a position right now to
> pull one apart and find out.
>
> To me logic says they're just simple monopoles, and they definitely
> don't present 50 Ohms across the frequency coverage in the specification
> (25-1900MHz), which suggests to me that there isn't any matching network
> in the base.
>
> I've stuck one on my analyser, but of course that wouldn't show up any
> matching network, though it does show the main resonance at 145MHz ;-)
>
> Comments would be appreciated. :-)
>

For reference it would seem they're centre fed dipoles with lumped
element elements. That's what I was told anyway. :-)

Iain, M0PCB/AD5XI

4982. Re: Propagation in a conductor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 10:59:19 UTC
From: Chuck <no.spam@no.spam.at.all>
Message-ID: <1177326038_26639@sp12lax.superfeed.net>
Source record: 42279

LA4RT Jon Kï¿½re Hellan wrote:

> Not only do electrons only move at a few miles per hour.
> The electricity the power company makes us pay for is actually
> alternating current. And that means that the same electrons are being
> pushed into our house wiring, and then pulled out of it, over and over
> again. And yet we have to pay as if the electricity were
> new. Disgusing!

Electrons DO move quickly in a conductor
but most of that motion is in random
directions. Electron drift, the motion
of particular electrons from one end of
a conductor to the other, is slow as
described.

FWIW, for most AC appliances and their
conductors, electron drift may be so
slow that electrons entering one side of
the plug never reach the other side
before a polarity reversal of the AC.

Chuck

-----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

4983. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 11:56:03 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <n91Xh.11976$YL5.3144@newssvr29.news.prodigy.net>
Source record: 42280

Gene Fuller wrote:
> * Does your IEEE dictionary have an entry for "stationary"?

I'm afraid you have been taken in by my devil's
advocate argument based on Keith's faulty concepts.
If what he says is true about standing waves, then
the same concepts apply to traveling waves. If there
are no traveling wave energy components being transferred
when two traveling waves are flowing in opposite
directions, then it logically follows that there can
be no traveling wave energy component being transferred
when one traveling wave is flowing in one direction.

The *NET* energy flow is zero in a standing wave.
But the component energy flow in the underlying EM
waves is alive and well and flowing right through
those current and voltage nodes without even knowing
that they are there. The illusion of zero energy flow
in EM traveling waves is one of the problems with
shortcuts. EM waves have a set of boundary conditions
that must be satisfied for them to exist. One of
those conditions is that they must necessarily
travel at c(VF). "Stationary" is not possible for
any single EM wave. Nobody has been able to provide
an example of a standing wave without the underlying
forward and reverse EM traveling wave components
(not even you) :-). Another condition for the existence
of an EM traveling wave is that it has an associated
energy level without which it cannot exist.

A stationary EM wave is a contradiction in terms,
an oxymoron. EM waves cannot stand still
and exist only as a concept in the human mind.
It is an illusionary temporarily superposed profile
of two waves that, in reality, are moving in opposite
directions at c(VF) and have absolutely *NO* effect on
each other. The forward EM wave possesses direction
and momentum that doesn't change until it encounters
a physical impedance discontinuity. The reverse EM
wave possesses direction and momentum that doesn't
change until it encounters a physical impedance
discontinuity. Anything else would violate the laws
of physics.
--
73, Cecil, w5dxp.com

--
73, Cecil http://www.w5dxp.com

4984. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 12:04:41 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <th1Xh.11977$YL5.8318@newssvr29.news.prodigy.net>
Source record: 42281

Gene Fuller wrote:
> I did not say the graphic was incorrect, but rather that it is
> irrelevant. It correctly shows the addition of two sine waves.

OK, if it is irrelevant, why did they publish it?
Why do they talk about "redistribution" of energy
in other directions during a destructive interference
event? Doesn't changing the direction and momentum of
a wave qualify as "interaction"?

And when those two sine waves are coherent, of equal
amplitude, and opposite phase, they permanently *CANCEL*
each other. Doesn't that satisfy the definition of
"interacting"?

I see you have been strangely silent on my example of
s11(a1) originating and flowing away from the impedance
discontinuity only to be canceled by s12(a2) when it
flows through the impedance discontinuity and encounters
the s11(a1) wave flowing away from the impedance
discontinuity. How can the effect of one wave on the
other not be interaction when both are flowing away
from the impedance discontinuity and are *NEVER*
incident upon any impedance discontinuity?
--
73, Cecil http://www.w5dxp.com

4985. Re: Flexible/Durable FM Antenna for Jeep?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 12:05:32 UTC
From: info@jinenkanseigi.com
Message-ID: <1177329932.082775.101950@o5g2000hsb.googlegroups.com>
Source record: 42282

> Its been a long time since I did any 4 wheeling but I had the same
> problem back in the 70s and found that replacing the stock antenna
> with a 4 ft fiberglass top loaded CB antenna worked great. Seems like
> back then they had a mount just for doing this that replaced the
> factory antenna. Dont know if you can still get one or not. My nephew
> does this sort of thing and after replacing a couple of CD players he
> keeps all his music on an iPOD and plugs it into his broken CD player.
>
> Jimmie

So a CB antenna will work with AM/FM as well? I'm already running a
CB with a 4' antenna - any chance I could use some sort of splitter
and have that one antenna serve both the CB and the AM/FM radio, or
will that screw something up?

4986. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 12:06:49 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <tj1Xh.11978$YL5.3938@newssvr29.news.prodigy.net>
Source record: 42283

Owen Duffy wrote:
> Firstly you seem to assume that your 36 samples around the azimut circle
> adequately fulfill Roy's "sampling the field at many points in all
> directions", surely he mean't all elevation angles as well as all azimuth
> angles.

What is the hourly rental charge on a helicopter? :-)
--
73, Cecil http://www.w5dxp.com

4987. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 12:23:10 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <Ly1Xh.883$im2.383@newssvr22.news.prodigy.net>
Source record: 42284

dansawyeror wrote:
> These examples are quite different. Experiments in one cannot be used to
> make an inference in the other. One is electric flow, the other is
> photons. The physics are not even close to the same. Which one do you
> want to talk about?

Current flow in lumped circuits is assumed to take
place instantaneously, i.e. faster than light speed.
In a DC steady-state, there is no acceleration of
carriers and therefore, no photonic particle flow so
the above shortcut works in that case. It doesn't
work in RF distributed networks where photon generation
and absorption never ceases. One of the boundary
conditions for EM wave flow is that is can never exceed
the speed of light c(VF).

One needs to know when one's model has become invalid
for the task at hand.
--
73, Cecil http://www.w5dxp.com

4988. Re: Propagation in a conductor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 12:48:16 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <iW1Xh.884$im2.450@newssvr22.news.prodigy.net>
Source record: 42285

Roy Lewallen wrote:
> Similarly, a unit of charge (analogous to the momentum of the rolling
> ball) propagates much faster than the electrons. Put a unit of charge in
> one end, and a unit of charge pops out the other at near the speed of
> light, while the electrons themselves move at something like a few miles
> per hour.

That works for DC steady-state. For DC transient-state, photons come into play because the electrons have been accelerated by the DC leading-edge step function. The DC impulse during the transient-state is photonic energy in action, i.e. electromagnetic wave action.

When a DC impulse is first applied to a transmission line, the ratio of its E-field to H-field is fixed at Z0 indicating that the energy transfer is photonic. During DC steady-state the ratio of its E-field to H-field is fixed by the load indicating that the energy transfer is electronic.

For EM waves in free space or in a transmission line, photonic generation and absorption never ceases because the electrons are being continually accelerated and decelerated. The cloud of photons is what transfers most of the energy and the electronic analogy breaks down.

It is a mistake to use a DC steady-state analogy for EM waves. EM waves must obey a strict set of boundary conditions including a ratio of E-field to H-field that always depends upon the medium.
--
73, Cecil http://www.w5dxp.com

4989. Re: Propagation in a conductor

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 12:50:02 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <XX1Xh.885$im2.743@newssvr22.news.prodigy.net>
Source record: 42286

LA4RT Jon Kï¿½re Hellan wrote:
> Not only do electrons only move at a few miles per hour.
> The electricity the power company makes us pay for is actually
> alternating current. And that means that the same electrons are being
> pushed into our house wiring, and then pulled out of it, over and over
> again. And yet we have to pay as if the electricity were
> new. Disgusing!

Well Jon, you can get the best of the power company
by pushing back. If you push back hard enough, your
KWH meter will run backwards. :-)
--
73, Cecil http://www.w5dxp.com

4990. Re: Independence of waves

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 14:43:36 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1177339416.515205.227700@n76g2000hsh.googlegroups.com>
Source record: 42287

On Apr 23, 5:23 am, Cecil Moore <nos...@w5dxp.com> wrote:

> One needs to know when one's model has become invalid
> for the task at hand.

Truely the truest of truisms.

"Learn it, know it, live it."

Brad Hamilton
"Fast Times at Ridgemont High"

4991. Re: Flexible/Durable FM Antenna for Jeep?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 14:46:48 UTC
From: richardharrison@webtv.net
Message-ID: <26751-462CC6D8-1012@storefull-3253.bay.webtv.net>
Source record: 42288

info wrote:
"Can anyone suggest a car-type antenna that will have good reception,
but take a hit?"

I`ve used a stainless steel whip about 28 inches long. This was off the
shelf available and is about 1/4-wave at 100 MHz. It worked OK for both
AM and FM and survived the stress.

Best regards, Richard Harrison, KB5WZI

4992. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 15:31:57 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1177342317.280968.82630@d57g2000hsg.googlegroups.com>
Source record: 42290

On Apr 23, 4:56 am, Cecil Moore <nos...@w5dxp.com> wrote:

> A stationary EM wave is a contradiction in terms,
> an oxymoron.

It sounds just like a standing EM wave. :-)

> Anything else would violate the laws
> of physics.

The funny thing is, if you knew how to apply that constraint to all of your claims, you wouldn't find yourself playing newsgroup Whack-a-Mole day all day.

73, Jim AC6XG

4993. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 15:50:30 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <aB4Xh.11988$YL5.9981@newssvr29.news.prodigy.net>
Source record: 42291

Jim Kelley wrote:
> Cecil Moore <nos...@w5dxp.com> wrote:
>> A stationary EM wave is a contradiction in terms,
>> an oxymoron.
>
> It sounds just like a standing EM wave. :-)

EM waves cannot stand still. They must necessarily move
at the speed of light, c(VF). The illusion of a stationary
EM wave is actually two EM waves moving in opposite directions
at the speed of light. Both waves include all of the boundary
conditions necessary for EM waves to exist.

Again, if you can present an example of an EM standing wave
devoid of the forward and reverse traveling wave components,
now would be a good time.

>> Anything else would violate the laws of physics.
>
> The funny thing is, if you knew how to apply that constraint to all of
> your claims, you wouldn't find yourself playing newsgroup Whack-a-Mole
> day all day.

I just love it when you wax technical, Jim.
--
73, Cecil, http://www.qsl.net/w5dxp

4994. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 15:54:25 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <RE4Xh.350842$5j1.274551@bgtnsc04-news.ops.worldnet.att.net>
Source record: 42292

Cecil Moore wrote:
> Gene Fuller wrote:
>> * Does your IEEE dictionary have an entry for "stationary"?
>
> I'm afraid you have been taken in by my devil's
> advocate argument based on Keith's faulty concepts.
> If what he says is true about standing waves, then
> the same concepts apply to traveling waves. If there
> are no traveling wave energy components being transferred
> when two traveling waves are flowing in opposite
> directions, then it logically follows that there can
> be no traveling wave energy component being transferred
> when one traveling wave is flowing in one direction.
>
> The *NET* energy flow is zero in a standing wave.
> But the component energy flow in the underlying EM
> waves is alive and well and flowing right through
> those current and voltage nodes without even knowing
> that they are there. The illusion of zero energy flow
> in EM traveling waves is one of the problems with
> shortcuts. EM waves have a set of boundary conditions
> that must be satisfied for them to exist. One of
> those conditions is that they must necessarily
> travel at c(VF). "Stationary" is not possible for
> any single EM wave. Nobody has been able to provide
> an example of a standing wave without the underlying
> forward and reverse EM traveling wave components
> (not even you) :-). Another condition for the existence
> of an EM traveling wave is that it has an associated
> energy level without which it cannot exist.
>
> A stationary EM wave is a contradiction in terms,
> an oxymoron. EM waves cannot stand still
> and exist only as a concept in the human mind.
> It is an illusionary temporarily superposed profile
> of two waves that, in reality, are moving in opposite
> directions at c(VF) and have absolutely *NO* effect on
> each other. The forward EM wave possesses direction
> and momentum that doesn't change until it encounters
> a physical impedance discontinuity. The reverse EM
> wave possesses direction and momentum that doesn't
> change until it encounters a physical impedance
> discontinuity. Anything else would violate the laws
> of physics.

> --
> 73, Cecil, w5dxp.com

Cecil,

Nobody said the "wave" was stationary, only the point of zero energy is stationary. You have again demonstrated that you are not reading and understanding.

The *NET* paragraph above is simply unmitigated nonsense. It appears that mistaken notion is one of the root causes of your continuing confusion. Until you get over this bogus idea of colliding energy flows there is no hope for further enlightenment.

73,
Gene
W4SZ

4995. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 15:54:59 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <f0iksj$6m$1@nntp1.jpl.nasa.gov>
Source record: 42294

Cecil Moore wrote:
> Owen Duffy wrote:
>
>> Firstly you seem to assume that your 36 samples around the azimut
>> circle adequately fulfill Roy's "sampling the field at many points in
>> all directions", surely he mean't all elevation angles as well as all
>> azimuth angles.
>
>
> What is the hourly rental charge on a helicopter? :-)

that's what balloons and blimps are for, or model airplanes..

4996. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 15:56:56 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <cH4Xh.350855$5j1.337303@bgtnsc04-news.ops.worldnet.att.net>
Source record: 42293

Cecil Moore wrote:
> Gene Fuller wrote:
>> I did not say the graphic was incorrect, but rather that it is
>> irrelevant. It correctly shows the addition of two sine waves.
>
> OK, if it is irrelevant, why did they publish it?
> Why do they talk about "redistribution" of energy
> in other directions during a destructive interference
> event? Doesn't changing the direction and momentum of
> a wave qualify as "interaction"?
>
> And when those two sine waves are coherent, of equal
> amplitude, and opposite phase, they permanently *CANCEL*
> each other. Doesn't that satisfy the definition of
> "interacting"?
>
> I see you have been strangely silent on my example of
> s11(a1) originating and flowing away from the impedance
> discontinuity only to be canceled by s12(a2) when it
> flows through the impedance discontinuity and encounters
> the s11(a1) wave flowing away from the impedance
> discontinuity. How can the effect of one wave on the
> other not be interaction when both are flowing away
> from the impedance discontinuity and are *NEVER*
> incident upon any impedance discontinuity?

Cecil,

I did respond to your example. I referred you to the message from K7ITM.
The answer is contained in his quote. Since you seemed to have missed
that one, here is the conclusion.

The waves you are trying to create and then quickly cancel, in delta-t,
simply never existed. Problem solved.

73,
Gene
W4SZ

4997. Re: Where does the far field start on a phased array?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 16:07:10 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <f0iljfro1@nntp1.jpl.nasa.gov>
Source record: 42299

Dave (from the UK) wrote:
> Jerry Martes wrote:
>
>> Hi Dave
>>
>> I'm curious about two things.
>>
>> 1 - Do you intend to actually make and record measurements of the
>> radiated field, or do you want to determine the minimum distance at
>> which the measurements can be made?
>
>
> yes

An interesting problem. What you're presumably trying to do is determine how far do I need to be to bound the uncertainty on a measurement in an arbitrary direction. Or, another way, at what distance is the collective effects of the phase error for each of the signals (due to path length differences) smaller than your measurement uncertainty (so you don't care anymore).

This can be quite challenging if you want to worry about -40dB nulls, for instance, because a very small phase error can result in a -40dB null becoming a -30 dB null.

Complicating it a bit is that what you're probably really concerned with is a statistical problem.. you've got multiple sources, a random direction of observation, (and practically speaking, some propagation uncertainties between antenna and observation point).

You might want to look for a paper by Dybdal and Ott: "Coherent RF Error Statistics", IEEE Trans MTT, v34,n12, Dec 86, pp1413-1420 which discusses this in some detail, and, as well, provides some nice approximations that are useful in practical systems.

>
>> 2 - What prevents the use of a computer modeling program to
>> predict the pattern?
>
>
> nothing. I think that will be done. But a theoetical analysis would be
> nice if possible.

One can come up with a "bound" for the performance from analytical means, and a Monte Carlo analysis can give you some statistics.

Jim

4998. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 16:08:56 UTC
From: richardharrison@webtv.net
Message-ID: <20593-462CDA18-896@storefull-3256.bay.webtv.net>
Source record: 42296

Owen wrote:
"Is that true?"

Only for limited conditions. Owen is correct that enough samples must be taken to catch all variations in signal strength, in elevation and azimuth if total radiated power is to be determined.

A simple vertical antenna rests on the earth and has a null at its tip. It is far from an isotropic radiator.

The sampling I described is done on AM broadcast antennas. Only the wave which travels along the earth is usually of any interest. The minimum distance from the broadcast antenna for any field strength measurements is usually one mile to be sure the far field is being measured.

The FCC`s ground wave intensity charts assume that if you have ground conductivity such as sea water, a certain power and antenna efficiency deliver 100 millivolts per meter at a distance of one mile from the antenna. Field intensity in millivolts declines linearly with distance so that at 10 miles you might have 10 mv/m if you have 100 mv/m at one mile.Power is proportional to the square of the voltage.

Best regards, Richard Harrison, KB5WZI

4999. Re: Where does the far field start on a phased array?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 16:10:48 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <f0ilq9tr1@nntp1.jpl.nasa.gov>
Source record: 42300

```
Jerry Martes wrote:
> "Dave (from the UK)" <see-my-signature@southminster-branch-line.org.uk>
> wrote in message news:462ba758@212.67.96.135...
>
>>Jerry Martes wrote:
>>
>>> Hi Dave
>>>
>>> Would you consider building a scale model of this array to allow a
>>>polar orbiting satellite to be the illuminator?
>>
>>It's not really practical to do that for various reasons. The structure is
>>not a nice conventional antenna that can be scaled up/down size.
>>
>>
>>> I get some pretty good radiation pattern plots at VHF, using Patrik
>>>Tast's SignalPlotter program and NOAA satellites.
>>>
>>> Jerry
>>
>>That's a concept I have not heard of before. But for me to work at VHF,
>>I'd need to make the structure larger by a factor of 10, so it would be
>>several hundred metres long.
>>
>>
>>--
>>Dave (from the UK)
>
>
> Hi Dave
>
> You are not restricted to VHF. It is possible that there is a polar
> orbiting satellite transmitting continuously on the frequency you are
> interested in. NOAA satellites transmit continuously at about half the
> frequency range you refer to.
>
> Jerry
>
>

One can also use Ku-band DBS satellites as an illuminator.

HOWEVER, if you're looking for gnat's eyelash precision, watch out for
atmospheric irregularities/inhomogeneity dominating the measurement.
When you start to get to many km as your "distance to adequately
```

replicate plane wavefront" the propagation uncertainty will probably be the greatest source of error. You get "bubbles" of air with local variations on the scale of meters.

A more practical approach (depending on the precision required) is some form of near field measurement (or a measurement where the different path lengths from the radiator to the observation point are explicitly taken into account).

5000. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 16:13:55 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177344834.800622.67070@p77g2000hsh.googlegroups.com>
Source record: 42295

On Apr 23, 7:56 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Gene Fuller wrote:
> > * Does your IEEE dictionary have an entry for "stationary"?
>
> I'm afraid you have been taken in by my devil's
> advocate argument based on Keith's faulty concepts.
> If what he says is true about standing waves, then
> the same concepts apply to traveling waves.

It becomes clear from your posts that you have a wave centric view of these behaviours. It is often valuable to have more than one way to view a situation. Let me offer you another.

While I will describe this view only for transmission lines, its equivalent in free space would be the Maxwell equations, so, knowing your support for Maxwell, you should find it attractive.

The voltages and currents on a transmission line can be described with a collection of differential equations. When these differential eqations are solved for a set of boundary conditions, the results describe the voltage and current on the line as a function of time and location along the line.

Were one to set up an ideal line (for simplicity), terminated in its characteristic impedance, the functions that describe the voltage and current on the line can be derived. Plugging in the time and location one can determine the voltage at that place and instance. The curious investigator will be tempted to plot the voltage for a particular time as a function of location. The resulting plot will be nicely sinusoidal. Were one to plot the result for deltaT later, one finds a plot with exactly the same shape, but slightly shifted. A movie would show this nice sinusoid shifting its location at a constant velocity. And our intrepid investigator names this a travelling wave, a convenient moniker.

Let us consider another line. This one is open circuited. Solving the diffential equations that describe the line for these new boundary conditions produces a different set of functions of time and location. Plotting the function of voltage with respect to location again produces a sinusoid, but the amplitude depends on the

selected time. This plot, when played as a movie, shows no sign of moving and our intrepid investigator names it a standing wave, another convenient moniker.

But just because they are both called waves does not make them the same. One always has the same shape and amplitude and appears to move. The other shares the shape, does not move and has an amplitude that varies. Fundamentally, they are both just convenient visualizations of solutions from the same set of differential equations with different boundary conditions.

For the standing wave, further arithmetic reveals that the function that expresses the voltage as a function of time and location can be simplified and made more useful if it is expressed in terms of two travelling waves, one from the left and one from the right. But this is just an alternate expression of the function that resulted from the solution of a set of differential equations.

While the initial differential equations express voltage and current, one could certainly derive equations that expressed power, or energy storage, or whatever happened to be of interest. One could then solve these and the expression that results would be a function of time and location.

Were one to solve the differential equation for power on the open circuited line at a location of a voltage null, the answer would be zero. And all computed without the need for forward and backward waves.

So which is the truth? The differential equations or the forward and backward waves? Which analysis technique is more complete? And which is the alternative view that makes the problems solvable in reasonable time?

It is clear to me that the differential equations rule, much as Maxwell's equations are considered the root for electric and magnetic fields.

Travelling and standing waves are mere visualizations, though that visualization simplifies solving many problems. But forward and reverse waves are definitely not the foundation on which all else rests.

...Keith

5001. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 16:26:03 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132pngt7schil7c@corp.supernews.com>
Source record: 42297

Richard Harrison wrote:
>
> The FCC`s ground wave intensity charts assume that if you have ground
> conductivity such as sea water, a certain power and antenna efficiency
> deliver 100 millivolts per meter at a distance of one mile from the
> antenna. Field intensity in millivolts declines linearly with distance
> so that at 10 miles you might have 10 mv/m if you have 100 mv/m at one
> mile. . . .

The attenuation of the ground wave is the same as the free space
attenuation?

Roy Lewallen, W7EL

5002. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 16:40:44 UTC
From: "Dr. Honeydew" <dr_b_honeydew@msn.com>
Message-ID: <1177346444.389594.136750@q75g2000hsh.googlegroups.com>
Source record: 42298

On Apr 23, 8:54 am, Gene Fuller <W4SZzzz...@att.net> wrote:
> Cecil Moore wrote:
> > Gene Fuller wrote:
> >> * Does your IEEE dictionary have an entry for "stationary"?
>
> > I'm afraid you have been taken in by my devil's
> > advocate argument based on Keith's faulty concepts.
> > If what he says is true about standing waves, then
> > the same concepts apply to traveling waves. If there
> > are no traveling wave energy components being transferred
> > when two traveling waves are flowing in opposite
> > directions, then it logically follows that there can
> > be no traveling wave energy component being transferred
> > when one traveling wave is flowing in one direction.
>
> > The *NET* energy flow is zero in a standing wave.
> > But the component energy flow in the underlying EM
> > waves is alive and well and flowing right through
> > those current and voltage nodes without even knowing
> > that they are there. The illusion of zero energy flow
> > in EM traveling waves is one of the problems with
> > shortcuts. EM waves have a set of boundary conditions
> > that must be satisfied for them to exist. One of
> > those conditions is that they must necessarily
> > travel at c(VF). "Stationary" is not possible for
> > any single EM wave. Nobody has been able to provide
> > an example of a standing wave without the underlying
> > forward and reverse EM traveling wave components
> > (not even you) :-). Another condition for the existence
> > of an EM traveling wave is that it has an associated
> > energy level without which it cannot exist.
>
> > A stationary EM wave is a contradiction in terms,
> > an oxymoron. EM waves cannot stand still
> > and exist only as a concept in the human mind.
> > It is an illusionary temporarily superposed profile
> > of two waves that, in reality, are moving in opposite
> > directions at c(VF) and have absolutely *NO* effect on
> > each other. The forward EM wave possesses direction
> > and momentum that doesn't change until it encounters
> > a physical impedance discontinuity. The reverse EM
> > wave possesses direction and momentum that doesn't
> > change until it encounters a physical impedance
> > discontinuity. Anything else would violate the laws

> > of physics.
> > --
> > 73, Cecil, w5dxp.com
>
> Cecil,
>
> Nobody said the "wave" was stationary, only the point of zero energy is
> stationary. You have again demonstrated that you are not reading and
> understanding.

I think he may be too busy having that strange kind of dream he talked about when he implicitly threw out at least 90% of all S-parameter analysis by saying that "reality requires complete reflection of the return wave at the interface between the [matched] source and the line." Either you believe in the superposition principle in linear systems, or you don't. He obviously doesn't.

From the lab,
Bunsen

5003. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 17:06:14 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <UL5Xh.7461$H_5.1083@newssvr23.news.prodigy.net>
Source record: 42301

Gene Fuller wrote:
> The *NET* paragraph above is simply unmitigated nonsense. It appears
> that mistaken notion is one of the root causes of your continuing
> confusion. Until you get over this bogus idea of colliding energy flows
> there is no hope for further enlightenment.

If colliding energy doesn't flow, then waves interact
away from an impedance discontinuity since the colliding
energy components are in separate EM waves traveling in
opposite directions. Which will it be? You cannot have
it both ways.

1. The ExB joules/sec components in the forward wave and the
reflected wave pass through each other with no interaction
such that the *NET* energy flow is zero.

2. The ExB joules/sec components flowing in each direction
cause all energy to stop flowing because of wave interaction.

Please tell us which one is true and which one is false.
--
73, Cecil, http://www.qsl.net/w5dxp

5004. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 17:09:20 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <OO5Xh.7463$H_5.7330@newssvr23.news.prodigy.net>
Source record: 42302

Gene Fuller wrote:
> The waves you are trying to create and then quickly cancel, in delta-t,
> simply never existed. Problem solved.

Problem solved by rendering an s-parameter analysis
invalid?

b1 = s11(a1) + s12(a2) = 0

So s11(a1) and s12(a2) in the s-parameter equations don't
exist and never existed. Don't you think you should tell
HP so they can change their Ap Notes?
--
73, Cecil, http://www.qsl.net/w5dxp

5005. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 17:18:44 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <CX5Xh.7465$H_5.7142@newssvr23.news.prodigy.net>
Source record: 42303

Keith Dysart wrote:
> Were one to solve the differential equation for power
> on the open circuited line at a location of a voltage
> null, the answer would be zero. And all computed without
> the need for forward and backward waves.

The *NET* power at any point on a lossless stub is
zero so that is no big deal. The standing wave
current is always 90 degrees out of phase with
the standing wave current so cos(90) = 0. At a
voltage node, all of the energy has simply moved
into the magnetic field.

Calculate the number of electromagnetic joules in
the line and get back to us on how they are reflected
from your above purely virtual impedance at a
voltage "null" and how they can even exist without
a velocity of c(VF).
--
73, Cecil, http://www.qsl.net/w5dxp

5006. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 17:23:18 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <X%5Xh.7466$H_5.5060@newssvr23.news.prodigy.net>
Source record: 42304

Dr. Honeydew wrote:
> Either you believe in the superposition principle in linear
> systems, or you don't. He obviously doesn't.

Superposition is known to fail in nonlinear systems.
A source is obviously not linear. The V/I of an active
dynamic source resists any attempt at linear
superposition. How does your superposition work
when you try to spit up a fire hose?
--
73, Cecil, http://www.qsl.net/w5dxp

5007. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 17:30:20 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <u66Xh.7468$H_5.1102@newssvr23.news.prodigy.net>
Source record: 42305

Cecil Moore wrote:
> The *NET* power at any point on a lossless stub is
> zero so that is no big deal. The standing wave
> current is always 90 degrees out of phase with
> the standing wave current so cos(90) = 0. At a
> voltage node, all of the energy has simply moved
> into the magnetic field.

With 4 amps of RF current at that voltage "null",
how could zero joules/sec possibly exist at that
point? Methinks there are some I^2*Z0 joules/sec
in that 4 amps of RF EM current that necessarily
must be traveling at c(VF).
--
73, Cecil, http://www.qsl.net/w5dxp

5008. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 17:43:53 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <f0ir8q$3m3$1@nntp1.jpl.nasa.gov>
Source record: 42306

Cecil Moore wrote:
> Dr. Honeydew wrote:
>
>> Either you believe in the superposition principle in linear
>> systems, or you don't. He obviously doesn't.
>
>
> Superposition is known to fail in nonlinear systems.
> A source is obviously not linear.

Sources are linear. Consider the classic voltage source.. it has zero impedance. You can stack as many voltage sources as you like, and the voltage at the top of the stack is the same as the sum of the individual voltages.

The V/I of an active
> dynamic source resists any attempt at linear
> superposition.

-> a practical RF source, perhaps, might be nonlinear, although it's pretty easy to come close.. Consider an oscillator isolated by an isolator or a big pad.

How does your superposition work
> when you try to spit up a fire hose?

Just fine. No different than receiving a faint signal superimposed on a large interfering signal at a different frequency.

5009. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 18:01:16 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0isfv$7mk$1@news.service.uci.edu>
Source record: 42309

Cecil Moore wrote:
> Jim Kelley wrote:
>
>> Cecil Moore <nos...@w5dxp.com> wrote:
>>
>>> A stationary EM wave is a contradiction in terms,
>>> an oxymoron.
>>
>>
>> It sounds just like a standing EM wave. :-)

> Again, if you can present an example of an EM standing wave
> devoid of the forward and reverse traveling wave components,
> now would be a good time.

I didn't say anything was devoid of anything, Cecil. I just said your description of a stationary EM wave sounds just like a standing EM wave.

I don't think you caught my drift (or Gene's), but go ahead and give it another whack.

73, Jim AC6XG

5010. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 18:06:52 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <0B6Xh.70953$VU4.4996@bgtnsc05-news.ops.worldnet.att.net>
Source record: 42307

Cecil Moore wrote:
> Gene Fuller wrote:
>> The waves you are trying to create and then quickly cancel, in
>> delta-t, simply never existed. Problem solved.
>
> Problem solved by rendering an s-parameter analysis
> invalid?
>
> b1 = s11(a1) + s12(a2) = 0
>
> So s11(a1) and s12(a2) in the s-parameter equations don't
> exist and never existed. Don't you think you should tell
> HP so they can change their Ap Notes?

Cecil,

You routinely confuse results and observations with underlying causes.

There is nothing wrong with s-parameter analysis. The problem is that you keep trying to make s-parameters something they are not. Did you perhaps notice that word "parameter"? Do you think there might be a reason that term was chosen rather than, say, "all encompassing equations describing the entire universe"?

S-parameters work fine for their intended purpose. However, they don't trump Maxwell's equations or solid state physics, nor do they try to.

73,
Gene
W4SZ

5011. Re: Where does the far field start on a phased array?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 18:09:25 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <pD6Xh.5210$_u2.4346@trnddc04>
Source record: 42308

"Jim Lux" <james.p.lux@jpl.nasa.gov> wrote in message
news:f0ilq9tr1@nntp1.jpl.nasa.gov...
> Jerry Martes wrote:
>> "Dave (from the UK)" <see-my-signature@southminster-branch-line.org.uk>
>> wrote in message news:462ba758@212.67.96.135...
>>
>>>Jerry Martes wrote:
>>>
>>>> Hi Dave
>>>>
>>>> Would you consider building a scale model of this array to allow a
>>>> polar orbiting satellite to be the illuminator?
>>>
>>>It's not really practical to do that for various reasons. The structure
>>>is not a nice conventional antenna that can be scaled up/down size.
>>>
>>>
>>>> I get some pretty good radiation pattern plots at VHF, using Patrik
>>>> Tast's SignalPlotter program and NOAA satellites.
>>>>
>>>> Jerry
>>>
>>>That's a concept I have not heard of before. But for me to work at VHF,
>>>I'd need to make the structure larger by a factor of 10, so it would be
>>>several hundred metres long.
>>>
>>>
>>>--
>>>Dave (from the UK)
>>
>>
>> Hi Dave
>>
>> You are not restricted to VHF. It is possible that there is a
>> polar orbiting satellite transmitting continuously on the frequency you
>> are interested in. NOAA satellites transmit continuously at about
>> half the frequency range you refer to.
>>
>> Jerry
>
> One can also use Ku-band DBS satellites as an illuminator.
>
> HOWEVER, if you're looking for gnat's eyelash precision, watch out for
> atmospheric irregularities/inhomogeneity dominating the measurement. When

> you start to get to many km as your "distance to adequately replicate
> plane wavefront" the propagation uncertainty will probably be the greatest
> source of error. You get "bubbles" of air with local variations on the
> scale of meters.
>
> A more practical approach (depending on the precision required) is some
> form of near field measurement (or a measurement where the different path
> lengths from the radiator to the observation point are explicitly taken
> into account).

Hi Jim

Is the DBS satellite polar orbiting?

Jerry

5012. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 18:11:02 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <WE6Xh.351408$5j1.240099@bgtnsc04-news.ops.worldnet.att.net>
Source record: 42310

Cecil Moore wrote:
> Gene Fuller wrote:
>> The *NET* paragraph above is simply unmitigated nonsense. It appears
>> that mistaken notion is one of the root causes of your continuing
>> confusion. Until you get over this bogus idea of colliding energy
>> flows there is no hope for further enlightenment.
>
> If colliding energy doesn't flow, then waves interact
> away from an impedance discontinuity since the colliding
> energy components are in separate EM waves traveling in
> opposite directions. Which will it be? You cannot have
> it both ways.
>
> 1. The ExB joules/sec components in the forward wave and the
> reflected wave pass through each other with no interaction
> such that the *NET* energy flow is zero.
>
> 2. The ExB joules/sec components flowing in each direction
> cause all energy to stop flowing because of wave interaction.
>
> Please tell us which one is true and which one is false.

Cecil,

You still don't believe in superposition, do you?

I don't need to worry about which of your purported answers is goofier
than the other. Superposition allows me to combine your traveling waves
into a standing wave. The energy analysis then becomes very easy, with
no paradoxes.

73,
Gene
W4SZ

5013. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 18:20:13 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0itjg$882$1@news.service.uci.edu>
Source record: 42311

Cecil Moore wrote:

> Gene Fuller wrote:
>
>> The waves you are trying to create and then quickly cancel, in
>> delta-t, simply never existed. Problem solved.
>
>
> Problem solved by rendering an s-parameter analysis
> invalid?
>
> b1 = s11(a1) + s12(a2) = 0
>
> So s11(a1) and s12(a2) in the s-parameter equations don't
> exist and never existed. Don't you think you should tell
> HP so they can change their Ap Notes?

HP would simply observe that what b1 = 0 means is that there is no energy and there are no waves moving in the direction of b1.

73, Jim AC6XG

5014. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 18:36:44 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <017Xh.3819$rO7.3267@newssvr25.news.prodigy.net>
Source record: 42312

Jim Lux wrote:
> Sources are linear. Consider the classic voltage source. it has zero
> impedance.

You talk about those sources as if they exist in reality.
They only exist in a human mind in a mathematical model.

> a practical RF source, perhaps, might be nonlinear, although it's
> pretty easy to come close.. Consider an oscillator isolated by an
> isolator or a big pad.

I have suggested those configurations myself and those ideas
have been rejected by the other side - which claims that
all one needs to linearize a real-world source is a ten
cent resistor.

> How does your superposition work
>> when you try to spit up a fire hose?
>
> Just fine. No different than receiving a faint signal superimposed on a
> large interfering signal at a different frequency.

Do you really think that any of those spit molecules
make it all the way to the source?
--
73, Cecil, http://www.qsl.net/w5dxp

5015. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 18:43:18 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <a77Xh.3822$rO7.1588@newssvr25.news.prodigy.net>
Source record: 42313

Gene Fuller wrote:
> There is nothing wrong with s-parameter analysis.

There is certainly something wrong with it if the terms
in the s-parameter never existed, as you assert.

> S-parameters work fine for their intended purpose. However, they don't
> trump Maxwell's equations or solid state physics, nor do they try to.

Nobody said they did, Gene, so this is just another one of
your straw men. EM waves canceling each other to zero are
perfectly compatible with Maxwell's equations. When you
use Maxwell's equations on two EM waves of equal amplitude
and opposite phase, do those equations really say that
the two waves, as you assert, never existed in the first
place?
--
73, Cecil, http://www.qsl.net/w5dxp

5016. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 18:45:34 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <0d7Xh.4284$ns5.3506@newssvr17.news.prodigy.net>
Source record: 42314

Gene Fuller wrote:
> I don't need to worry about which of your purported answers is goofier
> than the other. Superposition allows me to combine your traveling waves
> into a standing wave. The energy analysis then becomes very easy, with
> no paradoxes.

You yourself have said that nothing is lost during superposition.
Presumably that includes energy not being destroyed.

Given that |s11(a1)|^2 = 1 joule/sec

Given that |s12(a2)|^2 = 1 joule/sec

Given that |b1|^2 = 0

What happened to the 2 joules/sec?
--
73, Cecil, http://www.qsl.net/w5dxp

5017. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 18:49:21 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <zg7Xh.4288$ns5.885@newssvr17.news.prodigy.net>
Source record: 42316

Jim Kelley wrote:
> HP would simply observe that what b1 = 0 means is that there is no
> energy and there are no waves moving in the direction of b1.

Yes, and HF also observes that, e.g.:

|s11(a1)|^2 = 1 joule/sec

|s12(a2)|^2 = 1 joule/sec

Presumably, HP doesn't believe in destruction of
energy. Hecht says those joules existed with a
direction and momentum toward the source. What
happened to those joules to reverse their direction
and momentum?
--
73, Cecil, http://www.qsl.net/w5dxp

5018. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 19:24:19 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0j1bn$bi6$1@news.service.uci.edu>
Source record: 42327

Cecil Moore wrote:

> Jim Kelley wrote:
>
>> HP would simply observe that what b1 = 0 means is that there is no
>> energy and there are no waves moving in the direction of b1.
>
>
> Yes, and HF also observes that, e.g.:
>
> |s11(a1)|^2 = 1 joule/sec
>
> |s12(a2)|^2 = 1 joule/sec

I don't think they do.

> Presumably, HP doesn't believe in destruction of
> energy.

I'm quite sure that's true, which is why they wouldn't agree with your
"e.g." above.

> Hecht says those joules existed with a
> direction and momentum toward the source.

Actually, he never does say that.

> What
> happened to those joules to reverse their direction
> and momentum?

Clearly, according to everything that is known and is measurable,
those joules are not traveling in the direction you claim.

73, Jim AC6XG

5019. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 19:46:46 UTC
From: "Dr. Honeydew" <dr_b_honeydew@msn.com>
Message-ID: <1177357606.873010.100120@o5g2000hsb.googlegroups.com>
Source record: 42329

On Apr 23, 10:23 am, Cecil Moore <myc...@hotmail.com> wrote:
> Dr. Honeydew wrote:
> > Either you believe in the superposition principle in linear
> > systems, or you don't. He obviously doesn't.
>
> Superposition is known to fail in nonlinear systems.
> A source is obviously not linear. The V/I of an active
> dynamic source resists any attempt at linear
> superposition.

So you don't believe in any of the S-parameter analysis done on linear small-signal amplifiers, then. Might as well just toss HP AN95 in the trash. Might as well toss the S parameters provided by pretty much all the RF transistor manufacturers in the trash. And in fact, even beyond that, you don't believe in any of the S-paramter analysis done on any system that's propagating power, because that power came from a source, and if you toss one non-linear element into the system, the whole system is non-linear and none of this linear systems analysis would be valid.

Enjoy your dreams, whatever kind they may be. Fortunately, they won't keep the rest of us from continuing to successfully analyze our systems, including the sources, with H parameters, Y parameters, S parameters, or just plain old elemental linear circuit theory.

From the labs,
Bunsen

5020. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 20:16:44 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <Mu8Xh.1834$H_.1067@newssvr21.news.prodigy.net>
Source record: 42331

Jim Kelley wrote:
>
> Cecil Moore wrote:
>> Yes, and HF also observes that, e.g.:
>>
>> |s11(a1)|^2 = 1 joule/sec
>>
>> |s12(a2)|^2 = 1 joule/sec
>
> I don't think they do.

Take a look at pages 16 & 17. Quoting:

"Another advantage of s-parameters springs from
the simple relationship between the variables
a1, a2, b1, and b2, and VARIOUS POWER WAVES."

Definitions of |a1|^2, |a2|^2, |b1|^2, & |b2|^2
follow.

"The previous four equations show that s-parameters
are simply related to power gain and mismatch loss,
quantities which are often of more interest than
the corresponding voltage functions."

Definitions of |s11|^2, |s22|^2, |s21|^2, & |s12|^2
follow.

On page 10 it says: "The s-parameters s11 and s22
are the same as optical reflection coefficients;
s12 and s21 are the same as optical transmission
coefficients."

In fact, the intensity equation from optics can
be had from squaring both sides of:

b1 = s11(a1) + s12(a2)
--
73, Cecil, http://www.qsl.net/w5dxp

5021. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 20:18:18 UTC
From: Cecil Moore <mycall@hotmail.com>
Message-ID: <_z8Xh.949$Ea5.22@newssvr19.news.prodigy.net>
Source record: 42335

Dr. Honeydew wrote:
> So you don't believe in any of the S-parameter analysis done on linear
> small-signal amplifiers, then.

They certainly work for systems designed to be linear
as are *linear* small-signal amplifiers, sources with
circulators, and padded sources as I have said over
and over.

Amateur transmitters are not designed to be linear
and they are NOT linear. Adding a ten cent resistor
to them is not going to make them linear.
--
73, Cecil, http://www.qsl.net/w5dxp

5022. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 20:35:34 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177360534.049694.217350@n59g2000hsh.googlegroups.com>
Source record: 42338

On Apr 23, 1:18 pm, Cecil Moore <myc...@hotmail.com> wrote:
> Keith Dysart wrote:
> > Were one to solve the differential equation for power
> > on the open circuited line at a location of a voltage
> > null, the answer would be zero. And all computed without
> > the need for forward and backward waves.
>
> The *NET* power at any point on a lossless stub is
> zero so that is no big deal. The standing wave
> current is always 90 degrees out of phase with
> the standing wave current so cos(90) = 0. At a
> voltage node, all of the energy has simply moved
> into the magnetic field.

You really don't WANT to think outside of the box that
you have built for yourself, do you. Anyway, reread
what I wrote and work out why your response is a
non-sequitor.

> Calculate the number of electromagnetic joules in
> the line and get back to us on how they are reflected
> from your above purely virtual impedance at a
> voltage "null" and how they can even exist without
> a velocity of c(VF).

You really are stuck in a box. Consider a capacitor.
It has no difficulty storing energy without velocity.
And lest you say, "but that is not a transmission
line", consider an open circuited transmission line
excited with a step function. After settling: constant
voltage, no current, energy stored in capacitance,
and the DC coupled directional wattmeter will
tell you there are the same number of 'Bird watts'
going east as there are 'Bird watts' going west

...Keith

5023. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 20:41:04 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0j5rl$f2k$1@news.service.uci.edu>
Source record: 42339

Cecil Moore wrote:
> Jim Kelley wrote:
>
>>
>> Cecil Moore wrote:
>>
>>> Yes, and HF also observes that, e.g.:
>>>
>>> |s11(a1)|^2 = 1 joule/sec
>>>
>>> |s12(a2)|^2 = 1 joule/sec
>>
>>
>> I don't think they do.
>
>
> Take a look at pages 16 & 17. Quoting:
>
> "Another advantage of s-parameters springs from
> the simple relationship between the variables
> a1, a2, b1, and b2, and VARIOUS POWER WAVES."
>
> Definitions of |a1|^2, |a2|^2, |b1|^2, & |b2|^2
> follow.
>
> "The previous four equations show that s-parameters
> are simply related to power gain and mismatch loss,
> quantities which are often of more interest than
> the corresponding voltage functions."
>
> Definitions of |s11|^2, |s22|^2, |s21|^2, & |s12|^2
> follow.
>
> On page 10 it says: "The s-parameters s11 and s22
> are the same as optical reflection coefficients;
> s12 and s21 are the same as optical transmission
> coefficients."
>
> In fact, the intensity equation from optics can
> be had from squaring both sides of:
>
> b1 = s11(a1) + s12(a2)

But I still don't see where HP said that either s11(a1) or s12(a2) is equal to the square root of 1 joule/sec. Which pretty much confirms what I said. I think you might have made that part up to try to sound authoratative.

But I will concede that if you had been right, it may have lent support to your contention that waves and energy are moving in the direction of b1 while not moving in the direction of b1. :-)

73, Jim AC6XG

5024. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 20:52:21 UTC
From: richardharrison@webtv.net
Message-ID: <26148-462D1C85-813@storefull-3258.bay.webtv.net>
Source record: 42340

Roy Lewallen, W7EL wrote:
"The attenuation of the ground wave is the same as the free space attenuation?"

No, it is greater. The attenuation of the ground wave is more rapid because the soil has resistance and imposes a loss on the passing wave.

In free space, there is no ground loss and the signal loss is from the spreading of the signal which reduces its density. It declines 6 dB (its power is quartered) every time the distance from the transmitter doubles, that is its volts per meter or signal strength is cut in half.

Ground waves decrease more rapidly with distance from the transmitter due to imperfect conductivity in the earth`s surface. Loss goes up with the operating frequency and with higher resistivity in the soil.

The FCC`s ground-wave field intensity charts cover limited frequency ranges and each curve is for a specific soil conductivity.

Best regards, Richard Harrison, KB5WZI

5025. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 22:07:09 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <h6aXh.1844$H_.734@newssvr21.news.prodigy.net>
Source record: 42341

Keith Dysart wrote:
> You really are stuck in a box. Consider a capacitor.
> It has no difficulty storing energy without velocity.

Uhhhh Keith, a capacitor cannot store an EM wave which is photonic energy. If a capacitor stores the energy in an EM wave, it must first convert the EM wave energy to some other form of energy, e.g. electronic energy. That is certainly possible, but the energy ceases to be EM energy and cannot be recovered as the same EM energy coherent with that which was stored. If thinking outside the box requires a complete denial of reality and the laws of physics, then I think I will pass.

To summarize, converting EM energy to electronic energy causes the EM energy to lose coherence. It would take heroic measures to recover that coherency and those measures simply do not exist inside a transmission line.

It certainly seems that you guys don't understand the difference between photonic energy and electronic energy and you treat them as if they were interchangeable with no conversion process required. Hint: When energy is converted from one form to another, the previous form disappears and is generally not recoverable in a form coherent with the original. Yet, all the energy inside a transmission line remains coherent. You have generated a logical and technical contradiction.
--
73, Cecil http://www.w5dxp.com

5026. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 22:21:08 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <pjaXh.7494$H_5.5253@newssvr23.news.prodigy.net>
Source record: 42342

Jim Kelley wrote:
> Cecil Moore wrote:
>> In fact, the intensity equation from optics can
>> be had from squaring both sides of:
>>
>> b1 = s11(a1) + s12(a2)
>
> But I still don't see where HP said that either s11(a1) or s12(a2) is
> equal to the square root of 1 joule/sec.

Good grief, Jim, are you too lazy to perform the math???

Squaring both sides of the above equation to obtain
joules/sec:

b1^2 = |s11(a1)|^2 + 2*s11(a1)*s12(a2) + |s12(a2)|^2

Does that center term look familiar yet? It should since
it is the interference term in the intensity (power density)
equations from "Optics" by Hecht and from "Principles of
Optics", by Born and Wolf.

Let |s11(a2)|^2 = P1 Then s11(a1) = SQRT(P1)

Let |s12(a2)|^2 = P2 Then s12(a2) = SQRT(P2)

Is your mental light bulb coming on yet? Assuming the phase
angle between a1 and a2 is zero, we can directly write the
equation for total constructive interference.

Ptot = P1 + P2 + 2*SQRT(P1*P2)
--
73, Cecil http://www.w5dxp.com

5027. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 22:30:36 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177367435.957936.244290@n76g2000hsh.googlegroups.com>
Source record: 42343

On Apr 23, 6:07 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Uhhhh Keith, a capacitor cannot store an EM wave which
> is photonic energy.

Could you clarify; At what frequency does the signal in the transmission line become "EM" energy? A step function has high frequency components, and yet the end result is DC. Did it stop being "EM" energy at some point? Which point?

Or how about a square wave at 0.00001 Hertz? "EM" energy? Or not? Harmonics are only limited by the rise time. But my meter will have trouble knowing its not DC.

...Keith

5028. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 22:53:23 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <p4eq23l5ds943bbt9i930ld5ckbtmo4ovm@4ax.com>
Source record: 42344

On 23 Apr 2007 15:30:36 -0700, Keith Dysart <kd1@sympatico.ca> wrote:

>On Apr 23, 6:07 pm, Cecil Moore <nos...@w5dxp.com> wrote:
>> Uhhhh Keith, a capacitor cannot store an EM wave which
>> is photonic energy.
>
>Could you clarify; At what frequency does the signal in the
>transmission line become "EM" energy?

A Question for the Ages!

(another, less profound question: "When did caps stop working in tank circuits?")

73's
Richard Clark, KB7QHC

5029. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 23:02:00 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <JVaXh.980$Ea5.515@newssvr19.news.prodigy.net>
Source record: 42345

Keith Dysart wrote:
> Could you clarify; At what frequency does the signal in the
> transmission line become "EM" energy?

This is not the proper forum to try to teach you the difference
between a photonic wave and a DC electronic circuit. Please feel
free to return when you have educated yourself of the considerable
technical information available on the subject.
--
73, Cecil http://www.w5dxp.com

5030. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 23:03:20 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <YWaXh.981$Ea5.610@newssvr19.news.prodigy.net>
Source record: 42346

Richard Clark wrote:
> (another, less profound question: "When did caps stop working in tank
> circuits?")

When the tank gets hit by a Scud missile?
--
73, Cecil http://www.w5dxp.com

5031. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 23:10:06 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <i1bXh.19091$Um6.1593@newssvr12.news.prodigy.net>
Source record: 42347

Keith Dysart wrote:
> Could you clarify; At what frequency does the signal in the
> transmission line become "EM" energy?

Additional Hint: Try storing the energy in a light wave
in a capacitor.
--
73, Cecil http://www.w5dxp.com

5032. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 23:24:09 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <rtfq23t6us36hqpojitq6slmopcr28fmfg@4ax.com>
Source record: 42348

On Mon, 23 Apr 2007 18:03:20 -0500, Cecil Moore <nospam@w5dxp.com>
wrote:
>> (another, less profound question: "When did caps stop working in tank
>> circuits?")
>When the tank gets hit by a Scud missile?

Ah yes! The only thing we have here is entertainment value.
Unfortunately this is how vaudeville died.

5033. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 23:35:05 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0jfr9$n6d$1@news.service.uci.edu>
Source record: 42349

Cecil Moore wrote:

> Good grief, Jim, are you too lazy to perform the math???

> Squaring both sides of the above equation to obtain
> joules/sec:

Voltage squared does not EQUAL joules/sec (still).

> b1^2 = |s11(a1)|^2 + 2*s11(a1)*s12(a2) + |s12(a2)|^2

and from an earlier post:

>> HP would simply observe that what b1 = 0 means is that there is no
energy and there are no waves moving in the direction of b1.

> Yes, and HF also observes that, e.g.:
>
> |s11(a1)|^2 = 1 joule/sec
>
> |s12(a2)|^2 = 1 joule/sec

From which it follows that 0 = 4.

You might want to consider performing the math yourself before you
post it.

73, Jim AC6XG

5034. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-23 23:41:21 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0jg72$n6d$2@news.service.uci.edu>
Source record: 42350

Cecil Moore wrote:

> Keith Dysart wrote:
>
>> Could you clarify; At what frequency does the signal in the
>> transmission line become "EM" energy?
>
>
> Additional Hint: Try storing the energy in a light wave
> in a capacitor.

Ever hear of a CCD camera?

73, ac6xg

5035. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 00:30:20 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132qjsupu0b2b0a@corp.supernews.com>
Source record: 42351

Richard Harrison wrote:
> Roy Lewallen, W7EL wrote:
> "The attenuation of the ground wave is the same as the free space
> attenuation?"
>
> No, it is greater. The attenuation of the ground wave is more rapid
> because the soil has resistance and imposes a loss on the passing wave.
> . . .

I should hope so. That's why your statement that the field strength decreases as the inverse of the distance in the context of AM broadcast measurements at ground level was puzzling.

Roy Lewallen, W7EL

5036. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 01:15:57 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <hTcXh.1003$Ea5.675@newssvr19.news.prodigy.net>
Source record: 42352

Jim Kelley wrote:
>> Squaring both sides of the above equation to obtain
>> joules/sec:
>
> Voltage squared does not EQUAL joules/sec (still).

That shows exactly how much you understand the s-parameter analysis. The s-parameter voltages have been normalized such that the square of the normalized voltage is indeed equal to joules/sec. If you had paid attention, or were half as smart as you think you are, or even read HP Ap Note 95-1, you would have realized that fact a long time ago and not be showing your ignorance here and now.

> From which it follows that 0 = 4.

Obviously either an ignorant response or an obfuscation.
It follows that the result of destructive interference is zero while the result of constructive interference is 4, just as Born and Wolf asserted in "Principles of Optics", Chapter VII.

Imin = I1 + I2 +2*SQRT(I1*I2) = 0 equation (16b)

Imax = I1 + I2 + 2*SQRT(I1*I2) equation (16a)

If I1=I2, then Imax = 4*I1 equation (17)

There's your 0 and 4, Jim, straight from Born and Wolf.
Now you can assert that Born and Wolf have been discredited just as you asserted that Hecht has been discredited.
--
73, Cecil http://www.w5dxp.com

5037. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 01:23:18 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <a_cXh.519$RX.48@newssvr11.news.prodigy.net>
Source record: 42353

Jim Kelley wrote:
>
> Cecil Moore wrote:
>> Additional Hint: Try storing the energy in a light wave
>> in a capacitor.

Tsk, tsk! You unethically trimmed the context, Jim. Try
storing the energy in a light wave in a capacitor and then
recovering that same energy coherent with the original wave.

> Ever hear of a CCD camera?

I've never heard of a CCD camera that stored EM waves.
Exactly how long does a CCD camera store EM waves?
Does it store them in a delay line or what?
--
73, Cecil http://www.w5dxp.com

5038. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 01:40:23 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <bedXh.1007$Ea5.693@newssvr19.news.prodigy.net>
Source record: 42354

Jim Kelley wrote:
>
> Cecil Moore wrote:
>> Squaring both sides of the above equation to obtain
>> joules/sec:
>
> Voltage squared does not EQUAL joules/sec (still).

What dimensions do you get when you perform the
following operation using the s-parameter dimensions
of a1, a2, b1, and b2?

[volts/SQRT(Z0)]^2 = _____________

Apparently, that is a really tough one for you since
you have failed to comprehend it for weeks now.

[volts/SQRT(Z0)]^2 = volts^2/Z0

Maybe if I simplified it to V^2/R, you would recognize
it as joules/sec?
--
73, Cecil http://www.w5dxp.com

5039. Re: Where does the far field start on a phased array?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 01:52:48 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <f0jntgiph1@nntp1.jpl.nasa.gov>
Source record: 42355

```
Jerry Martes wrote:
> "Jim Lux" <james.p.lux@jpl.nasa.gov> wrote in message
> news:f0ilq9$tr$1@nntp1.jpl.nasa.gov...
>
>>Jerry Martes wrote:
>>
>>>"Dave (from the UK)" <see-my-signature@southminster-branch-line.org.uk>
>>>wrote in message news:462ba758@212.67.96.135...
>>>
>>>
>>>>Jerry Martes wrote:
>>>>
>>>>
>>>>> Hi Dave
>>>>>
>>>>> Would you consider building a scale model of this array to allow a
>>>>>polar orbiting satellite to be the illuminator?
>>>>
>>>>It's not really practical to do that for various reasons. The structure
>>>>is not a nice conventional antenna that can be scaled up/down size.
>>>>
>>>>
>>>>
>>>>> I get some pretty good radiation pattern plots at VHF, using Patrik
>>>>>Tast's SignalPlotter program and NOAA satellites.
>>>>>
>>>>> Jerry
>>>>
>>>>That's a concept I have not heard of before. But for me to work at VHF,
>>>>I'd need to make the structure larger by a factor of 10, so it would be
>>>>several hundred metres long.
>>>>
>>>>
>>>>--
>>>>Dave (from the UK)
>>>
>>>
>>> Hi Dave
>>>
>>> You are not restricted to VHF. It is possible that there is a
>>>polar orbiting satellite transmitting continuously on the frequency you
>>>are interested in. NOAA satellites transmit continuously at about
>>>half the frequency range you refer to.
>>>
```

>>> Jerry
>>
>>One can also use Ku-band DBS satellites as an illuminator.
>>

>
>
> Hi Jim
>
> Is the DBS satellite polar orbiting?
>
> Jerry
>
no.. Clarke orbit (e.g. for Dish Network or DirecTV)

There are some orbiting TV satellites in Molniya orbits for covering Siberia that might be useful. They radiate in C band, and perhaps Ku?

The GOES polar orbiters radiate at 1.6 GHz, and I'm sure there's others out there. GPS radiates at several L-band frequencies.

ISS radiates in S and Ku bands and is in LEO, as is the Shuttle when it's up. I don't know if they would be useful as a source though, because the antenna is directional and probably pointed at TDRSS or a ground station.
>

5040. Lurker with S-parameter question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 02:18:55 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <jOdXh.2816$nR1.1295@trnddc06>
Source record: 42356

Let's say that I have a set of S parameter data in the form rho+angle. The parameters are S11(ant) for an antenna, S11(cable) and S21(cable) are for the cable. S12(cable) and S21(cable) are assumed equal.

S11(system) is for the antenna and cable connected together. How would the S11(system) be calculated?

As a first stab at it, I would calculate:
S11(system)=S11(ant) * S21(cable) * S12(cable)

Is that valid, and/or does S11(cable) need to be included?

Thanks

5041. Need HF Antenna advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 02:54:09 UTC
From: "Bob D." <bobmgtd@insightbb.com>
Message-ID: <raudnR8F9tfa7LDbnZ2dnUVZ_qWvnZ2d@insightbb.com>
Source record: 42357

I'm contemplating a Yaesu TF-857D with the FC-40 antenna tuner as a base rig. I'd like to cover as many HF bands as possible with a simple wire antenna. I'm on a small lot with an 80' tower. So anything I put up is going to slope!

I've never used an antenna tuner before. I believe the FC-40 is weather proof and meant for remote use.

If I slope a random wire and end-feed it, should the tuner go up on the tower or stay on the ground? (In other words, which end should I feed?) How should I ground the FC-40?

Anything better than a random wire that is still simple and covers all/most of the HF bands?

--
Bob D. ND9B

5042. Re: Need HF Antenna advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 03:46:13 UTC
From: Jerry <joxendi@bellsouth.net>
Message-ID: <I5fXh.14588$Pq5.8550@bignews6.bellsouth.net>
Source record: 42358

"Bob D." <bobmgtd@insightbb.com> wrote in message
news:raudnR8F9tfa7LDbnZ2dnUVZ_qWvnZ2d@insightbb.com...
> I'm contemplating a Yaesu TF-857D with the FC-40 antenna tuner as a base
> rig. I'd like to cover as many HF bands as possible with a simple wire
> antenna. I'm on a small lot with an 80' tower. So anything I put up is
> going to slope!
>
> I've never used an antenna tuner before. I believe the FC-40 is weather
> proof and meant for remote use.
>
> If I slope a random wire and end-feed it, should the tuner go up on the
> tower or stay on the ground? (In other words, which end should I feed?)
> How should I ground the FC-40?
>
> Anything better than a random wire that is still simple and covers
> all/most of the HF bands?
>
> --
> Bob D. ND9B

Try this one: www.k1jek.com This is a dipole that comes in lengths of 73'
and 140' respectively. The short one covers 80-10, the longer one, 160-10
Meters, and perhaps, 6 Meters. I've had the long one for a couple of years,
and with a tuner, I've had EXCELLENT results!
With that 80 foot tower, you'd get some nice contacts!

73

Jerry

>
>

5043. Re: Where does the far field start on a phased array?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 06:12:28 UTC
From: "Dave (from the UK)" <see-my-signature@southminster-branch-line.org.uk>
Message-ID: <462d9fcd@212.67.96.135>
Source record: 42359

Jim Lux wrote:

>>> 1 - Do you intend to actually make and record measurements of
>>> the radiated field, or do you want to determine the minimum distance
>>> at which the measurements can be made?
>>
>>
>>
>> yes
>
>
>
> An interesting problem. What you're presumably trying to do is
> determine how far do I need to be to bound the uncertainty on a
> measurement in an arbitrary direction. Or, another way, at what distance
> is the collective effects of the phase error for each of the signals
> (due to path length differences) smaller than your measurement
> uncertainty (so you don't care anymore).
>
> This can be quite challenging if you want to worry about -40dB nulls,
> for instance, because a very small phase error can result in a -40dB
> null becoming a -30 dB null.

I'm not really that bothered about the depth of nulls to any great
extent. Since this is radiating an unwanted signal, the concern is
finding where the gain is highest and how high it is.

> Complicating it a bit is that what you're probably really concerned with
> is a statistical problem.. you've got multiple sources, a random
> direction of observation, (and practically speaking, some propagation
> uncertainties between antenna and observation point).
>
> You might want to look for a paper by Dybdal and Ott: "Coherent RF
> Error Statistics", IEEE Trans MTT, v34,n12, Dec 86, pp1413-1420 which
> discusses this in some detail, and, as well, provides some nice
> approximations that are useful in practical systems.

In this case, it is certainly a statistical thing. As I said before, the
amplitudes and phases of the radiators are random(ish) and will be
changing all the time.

>>> 2 - What prevents the use of a computer modeling program to
>>> predict the pattern?
>>
>>
>>

>> nothing. I think that will be done. But a theoetical analysis would be
>> nice if possible.
>
>
> One can come up with a "bound" for the performance from analytical
> means, and a Monte Carlo analysis can give you some statistics.
>
> Jim

I will look at doing some MC analysis.
--
Dave (from the UK)

Please note my email address changes periodically to avoid spam.
It is always of the form: month-year@althorne.org
Hitting reply will work for a few months only - later set it manually.

http://chessdb.sourceforge.net/ - a Free open-source Chess Database

5044. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 06:13:49 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <es7r23lp2d1a62rnjps75fjgbp015rkr2g@4ax.com>
Source record: 42360

On Mon, 23 Apr 2007 17:30:20 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>Richard Harrison wrote:
>> Roy Lewallen, W7EL wrote:
>> "The attenuation of the ground wave is the same as the free space
>> attenuation?"
>>
>> No, it is greater. The attenuation of the ground wave is more rapid
>> because the soil has resistance and imposes a loss on the passing wave.
> > . . .
>
>I should hope so. That's why your statement that the field strength
>decreases as the inverse of the distance in the context of AM broadcast
>measurements at ground level was puzzling.

Richard had been reciting decade-for-decade declines of FS faithfully
from the FCC charts -over seawater- which he had specifically called
out.

"Faithfully" except for an inadvertent substitution of decade miles
for decade kilometers distance.

73's
Richard Clark, KB7QHC

5045. Re: Need HF Antenna advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 07:37:45 UTC
From: F8BOE <f8boe@bluemail.ch>
Message-ID: <462db3c9$0$23143$426a34cc@news.free.fr>
Source record: 42361

Jerry wrote:

>
> "Bob D." <bobmgtd@insightbb.com> wrote in message
> news:raudnR8F9tfa7LDbnZ2dnUVZ_qWvnZ2d@insightbb.com...
>> I'm contemplating a Yaesu TF-857D with the FC-40 antenna tuner as a base
>> rig. I'd like to cover as many HF bands as possible with a simple wire
>> antenna. I'm on a small lot with an 80' tower. So anything I put up is
>> going to slope!
>>
>> I've never used an antenna tuner before. I believe the FC-40 is weather
>> proof and meant for remote use.
>>
>> If I slope a random wire and end-feed it, should the tuner go up on the
>> tower or stay on the ground? (In other words, which end should I feed?)
>> How should I ground the FC-40?
>>
>> Anything better than a random wire that is still simple and covers
>> all/most of the HF bands?
>>
>> --
>> Bob D. ND9B
>
> Try this one: www.k1jek.com This is a dipole that comes in lengths of
> 73'
> and 140' respectively. The short one covers 80-10, the longer one, 160-10
> Meters, and perhaps, 6 Meters. I've had the long one for a couple of
> years, and with a tuner, I've had EXCELLENT results!
> With that 80 foot tower, you'd get some nice contacts!
>
> 73
>
> Jerry
>
>>
>>

Hmmmm

This one seems to be another multifolded resonnator non-radiator concept
from the $hitizen bandits. If you need such bullshit, there's no need to
pay buck$ for it if you can homebrew it so easily.

If you cannot afford homebrewing, then go for a real antenna! Cushcraft used
to make good multiband verticals such as the AP8A or the R7/7000-R8 series.

If you already have a "tuner" you can homebrew a 1/9 Un-Un ï¿œ la ZX-Yagi MTFT (Miracle Tranformator For Totaly-dumb-people) and hook it to your 80' pole... Guarated under 20$ including plastic box, silvered copper wire, inox screwery and BNC socket. For low band action you can slide a ferrite bar in it.

73 de F8BOE Olivier ...-.-

5046. Re: Need HF Antenna advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 07:45:33 UTC
From: F8BOE <f8boe@bluemail.ch>
Message-ID: <462db59e$0$2332$426a74cc@news.free.fr>
Source record: 42362

Bob D. wrote:

> I'm contemplating a Yaesu TF-857D with the FC-40 antenna tuner as a base
> rig. I'd like to cover as many HF bands as possible with a simple wire
> antenna. I'm on a small lot with an 80' tower. So anything I put up is
> going to slope!
>
> I've never used an antenna tuner before. I believe the FC-40 is weather
> proof and meant for remote use.
>
> If I slope a random wire and end-feed it, should the tuner go up on the
> tower or stay on the ground? (In other words, which end should I feed?)
> How should I ground the FC-40?
>
> Anything better than a random wire that is still simple and covers
> all/most of the HF bands?
>

Hello,

By the way, there is also the OCFD (Off Cetered Fed Dipole) covering from 80 up to 10 + eventually WARCs or the Levy, but with the Levy you'll need a specific Levy tuner... But it can be easily homebrewed.

And the antenna is one of the last part of the radio equipment we can afford experimenting with, without spending much money (nor time).

73 de F8BOE Olivier ...-.-

5047. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 09:41:07 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <TgkXh.1250$im2.671@newssvr22.news.prodigy.net>
Source record: 42363

Jim Lux wrote:
> Sources are linear.

Can we agree that class-B, class-C, class-D,
and class-E sources are not linear?
--
73, Cecil http://www.w5dxp.com

5048. Re: Need HF Antenna advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 11:10:39 UTC
From: kc1di <kc1di-qrp@roadrunner.com>
Message-ID: <462de592$0$24776$4c368faf@roadrunner.com>
Source record: 42364

Bob D. wrote:
> I'm contemplating a Yaesu TF-857D with the FC-40 antenna tuner as a base
> rig. I'd like to cover as many HF bands as possible with a simple wire
> antenna. I'm on a small lot with an 80' tower. So anything I put up is going
> to slope!
>
> I've never used an antenna tuner before. I believe the FC-40 is weather
> proof and meant for remote use.
>
> If I slope a random wire and end-feed it, should the tuner go up on the
> tower or stay on the ground? (In other words, which end should I feed?) How
> should I ground the FC-40?
>
> Anything better than a random wire that is still simple and covers all/most
> of the HF bands?
>
Take a look at the 88 Ft center fed Dipole. 80--10 Meters with pretty
good results. You can find out more at
http://www.cebik.com/edz/88.html
Of course you'll need a good Antenna Tuner also.

Good luck
73 Dave kc1di

5049. Re: Need HF Antenna advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 11:48:37 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <ckqr23hldsl01i8rgst5kj0tflj1pdnt3p@4ax.com>
Source record: 42365

On Mon, 23 Apr 2007 22:54:09 -0400, "Bob D." <bobmgtd@insightbb.com>
wrote:

>I'm contemplating a Yaesu TF-857D with the FC-40 antenna tuner as a base
>rig. I'd like to cover as many HF bands as possible with a simple wire
>antenna. I'm on a small lot with an 80' tower. So anything I put up is going
>to slope!
>
>I've never used an antenna tuner before. I believe the FC-40 is weather
>proof and meant for remote use.
>
>If I slope a random wire and end-feed it, should the tuner go up on the
>tower or stay on the ground? (In other words, which end should I feed?) How
>should I ground the FC-40?
>
>Anything better than a random wire that is still simple and covers all/most
>of the HF bands?

I have been tinkering with an SGC-237 Tuner and I have concluded:
A tuner will match most anything.
A tuner does not change the antenna system, it only matches it.
An antenna still works best at its resonant frequency. (best is in
the eye of the beholder!)
If you use a vertical radiator against ground, the ground system is
still as important as the radiator.
Evaluating the configuration is mainly guesswork.
You can save yourself a lot of time and effort by modeling a given
configuration with EZNEC.
Your antenna begins at the connection to the tuner.

John Ferrell W8CCW
"Life is easier if you learn to
plow around the stumps"

5050. Re: Where does the far field start on a phased array?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 11:55:12 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <462df013$0$17176$4c368faf@roadrunner.com>
Source record: 42366

"JIMMIE" <JIMMIEDEE123@YAHOO.COM> wrote in message
news:1177205682.738952.140280@y5g2000hsa.googlegroups.com...
> On Apr 21, 8:40 pm, "Dave (from the UK)" <see-my-
> signat...@southminster-branch-line.org.uk> wrote:
>> JIMMIE wrote:
>> > This sounds very much like an arrangement for a radar antenna that
>> > operates a little above 1Ghz with 32 dipole assemblies space out over
>> > approximately 10 meters. The far field is eatablished at about 2km on
>> > this antenna.
>>
>> > Jimmie
>>
>> No, it is not that at all, but if you have a reference to the antenna
>> you describe, I would be interested. This is wider and a higher
>> frequency.
>>
>> --
>> Dave (from the UK)
>>
>> Please note my email address changes periodically to avoid spam.
>> It is always of the form: month-y...@althorne.org
>> Hitting reply will work for a few months only - later set it manually.
>>
>> http://chessdb.sourceforge.net/- a Free open-source Chess Database
>
> The antenna I was refering to is knon as an ATCRBS antenna or an SSR
> antenna. I coouldnt find a lot of info right off but there were a lot
> of references t oIEEE xplorer. If you belong to that Im sure you can
> find some information.
>
> Like chess? send me an email and I will connect you will a friend who
> has been known to give a challenging game or two.
>
> Jimmie
>
>

The antenna I discred has a gain of about 20 Dbd and the far field doesnt
form up at 2Km like I said. Monitoring devices shuold be at least 2km awy to
make sure they are in the far field so my guess would be about 1/2 that
distance.

5051. Re: Need HF Antenna advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 12:12:34 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <jvsr231kb2tpnld2l8iot8b6gt560r7la5@4ax.com>
Source record: 42367

On Mon, 23 Apr 2007 22:54:09 -0400, "Bob D." <bobmgtd@insightbb.com>
wrote:

>I'm contemplating a Yaesu TF-857D with the FC-40 antenna tuner as a base
>rig. I'd like to cover as many HF bands as possible with a simple wire
>antenna. I'm on a small lot with an 80' tower. So anything I put up is going
>to slope!
>
>I've never used an antenna tuner before. I believe the FC-40 is weather
>proof and meant for remote use.
>
>If I slope a random wire and end-feed it, should the tuner go up on the
>tower or stay on the ground? (In other words, which end should I feed?) How
>should I ground the FC-40?
>
>Anything better than a random wire that is still simple and covers all/most
>of the HF bands?

What if he goes near the top, places the tuner there, one side to the
tower, the other side to an 80 foot wire sloped out as far as he can
go to the edge of his property, and as high as possible.?

--
73 for now
Buck, N4PGW
www.lumpuckeroo.com

5052. Re: Patch Antenna - HELP

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 13:24:05 UTC
From: Mario <marasv12@gmail.com>
Message-ID: <f0l0di$28u$1@ss408.t-com.hr>
Source record: 42368

Thank you all very much. I hope that I will find these books and manage to write a seminar.

Thanks again.

Regards,
Mario

"Mario" <marasv12@gmail.com> wrote in message news:evqnqofgq1@ss408.t-com.hr...
> Hi!
>
> I have to write a seminar which subject is Patch Antenna. I need to find
> all parameters regarding Patch Antennas for my seminar. I was googling and
> couldn't find such thing. Everything I'd found was How to construct PA,
> but I don't need that at the moment. If anyone can help me with this, I'd
> really appreciate that.
>
> Thank you!
>

5053. Re: Need HF Antenna advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 13:41:18 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <2OnXh.3920$rO7.957@newssvr25.news.prodigy.net>
Source record: 42369

John Ferrell wrote:
> An antenna still works best at its resonant frequency. (best is in
> the eye of the beholder!)

"Works best" needs a definition. An Extended Double Zepp
is not resonant but "works better" than a resonant dipole
by about 3 dB broadside.
--
73, Cecil http://www.w5dxp.com

5054. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 14:11:59 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <OeoXh.1501$Ea5.986@newssvr19.news.prodigy.net>
Source record: 42370

Cecil Moore wrote:
> Imin = I1 + I2 +2*SQRT(I1*I2) = 0 equation (16b)

Typo there - should be:

Imin = I1 + I2 - 2*SQRT(I1*I2) = 0 equation (16b)
--
73, Cecil http://www.w5dxp.com

5055. Re: Need HF Antenna advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 14:15:07 UTC
From: Bob Miller <NOSPAM@neosoft.com>
Message-ID: <su3s235023kchvk2h00kbc14dv1428l18f@4ax.com>
Source record: 42371

On Mon, 23 Apr 2007 22:54:09 -0400, "Bob D." <bobmgtd@insightbb.com>
wrote:

>I'm contemplating a Yaesu TF-857D with the FC-40 antenna tuner as a base
>rig. I'd like to cover as many HF bands as possible with a simple wire
>antenna. I'm on a small lot with an 80' tower. So anything I put up is going
>to slope!
>
>I've never used an antenna tuner before. I believe the FC-40 is weather
>proof and meant for remote use.
>
>If I slope a random wire and end-feed it, should the tuner go up on the
>tower or stay on the ground? (In other words, which end should I feed?) How
>should I ground the FC-40?
>
>Anything better than a random wire that is still simple and covers all/most
>of the HF bands?

A simple end fed wire is complicated by the fact that it will need a
good ground system.

A sloping dipole, or an inverted V dipole coming off your 80 foot
tower, will need no ground system, though. So the dipole might be
easier.

bob
k5qwg

5056. Re: Lurker with S-parameter question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 14:42:42 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <CHoXh.5126$Fc1.3112@trnddc05>
Source record: 42372

oops...I have changed the wording in a couple of places, and restated problem below:

Let's say that I have a set of S parameter data in polar form. The parameters are S11(ant) for an antenna, S11(line) and S21(line) are for the transmission line. S12(line) and S21(line) are assumed equal.

S11(system) is for the antenna and cable connected together. How would the S11(system) be calculated?

As a first stab at it, I would calculate:
S11(system)=S11(ant) * S21(line) * S12(line)

Is that valid, and/or does S11(line) need to be included?

Thanks

5057. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 14:43:01 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1177425780.947224.255760@t39g2000prd.googlegroups.com>
Source record: 42373

On Apr 23, 6:23 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Jim Kelley wrote:
>
> > Cecil Moore wrote:
> >> Additional Hint: Try storing the energy in a light wave
> >> in a capacitor.
>
> Tsk, tsk! You unethically trimmed the context, Jim.

Hi Cecil -

I included your entire post - Keith's remarks and yours. Please
refrain from making ad hominem remarks. Particularly baseless ones.

> > Ever hear of a CCD camera?

> I've never heard of a CCD camera that stored EM waves.

The context of your remark, which you have now deleted, was "energy
from EM waves". The little capacitors in a charge coupled device store
the light energy until it is read-out and converted to digital.

73, Jim AC6XG

5058. Re: Lurker with S-parameter question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 14:49:17 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <MNoXh.1515$Ea5.1498@newssvr19.news.prodigy.net>
Source record: 42374

Wayne wrote:
> Is that valid, and/or does S11(line) need to be included?

Where are your ports? One at the source and one
at the load?
--
73, Cecil http://www.w5dxp.com

5059. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 14:51:09 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1177426269.099497.283800@t39g2000prd.googlegroups.com>
Source record: 42375

On Apr 23, 6:40 pm, Cecil Moore <nos...@w5dxp.com> wrote:

> Maybe if I simplified it to V^2/R, you would recognize
> it as joules/sec?
> --
> 73, Cecil http://www.w5dxp.com

What I said was, V^2 does not have units of Joules per second.
There's nothing to argue about here, Cecil.

ac6xg

5060. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 14:59:12 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <4XoXh.1285$im2.413@newssvr22.news.prodigy.net>
Source record: 42376

Jim Kelley wrote:
> The context of your remark, which you have now deleted, was "energy
> from EM waves". The little capacitors in a charge coupled device store
> the light energy until it is read-out and converted to digital.

The context was "EM wave energy that remains unchanged
without being converted to some other form of energy".
If that context was not clear to you, I apologize.

When I say "EM wave energy", I am not talking about extracting
energy from EM waves. I am talking about energy continuing
to exist in the form of EM waves while obeying all the
boundary conditions for EM waves.

The energy in RF standing waves is recovered during the
power-down transient period as EM wave energy, not as
a DC charge on a capacitor. That means that the energy
in the standing waves is not standing still since EM
energy must necessarily move at the speed of light, c(VF).
--
73, Cecil http://www.w5dxp.com

5061. Re: Lurker with S-parameter question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 15:15:41 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <xapXh.9733$Fs6.8675@trnddc03>
Source record: 42177

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:MNoXh.1515$Ea5.1498@newssvr19.news.prodigy.net...
> Wayne wrote:
>> Is that valid, and/or does S11(line) need to be included?
>
> Where are your ports? One at the source and one
> at the load?
> --
> 73, Cecil http://www.w5dxp.com

Cecil--
The s-parameter threads caused me to resurrect some test data that was taken (by an RF engineer) before I retired. I never looked at the data other than to see if the antenna system components met specification.

So, I have s parameters for each component taken with the latest/greatest HP/Agilent VNA at the time. For coax cables, the VNA was connected to each end of the coaxial cable for the measurements. Antenna data was taken with one port of the VNA connected to the antenna input, which was a SMA connector. The antenna was a s-band cavity antenna with a 1/4 wave probe. The components were all 50 ohm nominal. Hopefully, this answers your questions.

I'm curious about how to use the s-parameters for components to calculate the "system" s-parameters. The original question is about a single antenna fed by a transmission line, but I will probably try to analyze more complicated hookups later.

Thanks
Wayne

5062. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 15:16:43 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <vbpXh.1918$H_.1192@newssvr21.news.prodigy.net>
Source record: 42178

Jim Kelley wrote:
> Cecil Moore <nos...@w5dxp.com> wrote:
>> Maybe if I simplified it to V^2/R, you would recognize
>> it as joules/sec?

> What I said was, V^2 does not have units of Joules per second.
> There's nothing to argue about here, Cecil.

> I said:
>> Squaring both sides of the above equation to obtain
>> joules/sec:
>>
>> b1^2 = |s11(a1)|^2 + 2*s11(a1)*s12(a2) + |s12(a2)|^2

you responded:
> Voltage squared does not EQUAL joules/sec (still).

Nice CYA, Jim, but the context was the normalized
voltages used in the s-parameter analysis. I posted
the s-parameter equation, b1 = s11(a1) + s12(a2) = 0,
and said that squaring it yields joules/sec. Your
statement was in direct response to that statement
of mine.

If you knew that squaring an s-parameter normalized
voltage yields joules/sec and still made that misleading
statement, you were deliberately engaging in false
implications. Why are you more interested in
obfuscation than in the truth?
--
73, Cecil http://www.w5dxp.com

5063. Re: Lurker with S-parameter question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 15:23:34 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <VhpXh.1$H84.0@newssvr22.news.prodigy.net>
Source record: 42179

Wayne wrote:
> I'm curious about how to use the s-parameters for components to calculate
> the "system" s-parameters. The original question is about a single antenna
> fed by a transmission line, but I will probably try to analyze more
> complicated hookups later.

If I correctly understand what you say, you have the trivial
one-port case of the antenna and the two-port case for the
transmission line. HP's Ap Note 95-1 might be the place to
start in understanding a basic analysis.

http://www.tm.agilent.com/data/static/downloads/eng/Notes/interactive/an-95-1/an-95-1.pdf
--
73, Cecil http://www.w5dxp.com

5064. Re: Lurker with S-parameter question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 15:40:31 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <PxpXh.1390$Wa.358@trnddc08>
Source record: 42180

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:VhpXh.1$H84.0@newssvr22.news.prodigy.net...
> Wayne wrote:
>> I'm curious about how to use the s-parameters for components to calculate
>> the "system" s-parameters. The original question is about a single
>> antenna fed by a transmission line, but I will probably try to analyze
>> more complicated hookups later.
>
> If I correctly understand what you say, you have the trivial
> one-port case of the antenna and the two-port case for the
> transmission line. HP's Ap Note 95-1 might be the place to
> start in understanding a basic analysis.
>
>
http://www.tm.agilent.com/data/static/downloads/eng/Notes/interactive/an-95-1/an-95-1.pdf
> --
Yes, the measurements are one-port for the antenna and 2 ports for the line.
My question was asked after looking at the referenced website, and trying to
apply the information.

So, to avoid having to return to previous messages:
Can the S11 of a line connected to an antenna be calculated as:
S11(system)=S11(antenna) * S21(line) * S12(line) ?

Thanks
Wayne

5065. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 15:46:42 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <hd9s231re96elhikvug7n0s43pj3vatnv4@4ax.com>
Source record: 42181

>>Cecil Moore wrote:
>>> Additional Hint: Try storing the energy in a light wave
>>> in a capacitor.

On Tue, 24 Apr 2007 09:59:12 -0500, Cecil Moore <nospam@w5dxp.com>
wrote:

>When I say "EM wave energy", I am not talking about extracting
>energy from EM waves.

Hmmm. energy in a light wave is separate and distinct from energy from
EM waves. Must be the subtle distinction between "in" and "from"
waves.

Well, now that Vaudeville is dead, the entertainment value has gone to
hell.

5066. Re: Lurker with S-parameter question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 16:09:31 UTC
From: Frank's <frank599@nojunkmailplease.telus.net>
Message-ID: <%YpXh.30771$GV5.8353@edtnps89>
Source record: 42182

> So, to avoid having to return to previous messages:
> Can the S11 of a line connected to an antenna be calculated as:
> S11(system)=S11(antenna) * S21(line) * S12(line) ?
>
> Thanks
> Wayne

Check out http://www.rfcafe.com/references/electrical/s-h-y-z.htm
The usual method would be to convert the S matrices to ABCD
matrices then perform matrix multiplication on the cascaded
ABCD parameters. You then convert the resultant ABCD matrix to
an S matrix.
http://www.mathworks.com/access/helpdesk/help/toolbox/rf/index.html?/access/helpdesk/help/toolbox/rf/rfckt.cascade.html&http://www.google.com/search?hl=en&q=cascaded++s+parameters&btnG=Google+Search

Frank

5067. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 16:33:24 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <ojqXh.356704$5j1.2641@bgtnsc04-news.ops.worldnet.att.net>
Source record: 42183

Cecil Moore wrote:
> Jim Kelley wrote:
>> The context of your remark, which you have now deleted, was "energy
>> from EM waves". The little capacitors in a charge coupled device store
>> the light energy until it is read-out and converted to digital.
>
> The context was "EM wave energy that remains unchanged
> without being converted to some other form of energy".
> If that context was not clear to you, I apologize.
>
> When I say "EM wave energy", I am not talking about extracting
> energy from EM waves. I am talking about energy continuing
> to exist in the form of EM waves while obeying all the
> boundary conditions for EM waves.
>
> The energy in RF standing waves is recovered during the
> power-down transient period as EM wave energy, not as
> a DC charge on a capacitor. That means that the energy
> in the standing waves is not standing still since EM
> energy must necessarily move at the speed of light, c(VF).

Cecil,

The generally accepted description for energy density in an
electromagnetic field is:

W = 1/2 (E dot D + B dot H)

All the variables on the right side are vectors. The total energy can be
determined by integrating over the volume of interest, of course. This
relationship holds for either static or time-dependent fields. You can
find this equation in virtually any E&M textbook, but I can provide
specific references if needed.

Do you have a definition for "EM wave energy" that differs from the
standard equation? Are there multiple forms of electromagnetic energy?
Is is necessary to convert "to some other form of energy" when the
entire problem is about electromagnetic fields?

Inquiring minds want to know.

73,
Gene
W4SZ

5068. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 16:42:47 UTC
From: richardharrison@webtv.net
Message-ID: <27778-462E3387-1282@storefull-3255.bay.webtv.net>
Source record: 42184

Richard Clark, KB7QHC wrote:
"Faithfully" except for an inadvertent substitution of decade miles for decade kilometers distance."

Thank you Richard for such a kind word as "inadvertent".

I make mistakes and I apologize for them. Hopefully, none of consequence go uncorrected and mislead anyone. I learn more from my mistakes than from correct postings but it isn`t my favorite way to learn. Thank you to everyone who prompts me to search for the answer to an interesting question.

I`m still puzzled about "cluster antennas".

Best regards, Richard Harrison, KB5WZI

5069. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 17:23:19 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0lehk$dg6$1@news.service.uci.edu>
Source record: 42185

Cecil Moore wrote:
> Jim Kelley wrote:
>
>> Cecil Moore <nos...@w5dxp.com> wrote:
>>
>>> Maybe if I simplified it to V^2/R, you would recognize
>>> it as joules/sec?
>
>
>> What I said was, V^2 does not have units of Joules per second.
>> There's nothing to argue about here, Cecil.
>
>
> > I said:
> >> Squaring both sides of the above equation to obtain
> >> joules/sec:
> >>
> >> b1^2 = |s11(a1)|^2 + 2*s11(a1)*s12(a2) + |s12(a2)|^2
>
> you responded:
> > Voltage squared does not EQUAL joules/sec (still).

> Nice CYA, Jim, but the context was the normalized
> voltages used in the s-parameter analysis.

CYA?

> I posted
> the s-parameter equation, b1 = s11(a1) + s12(a2) = 0,
> and said that squaring it yields joules/sec. Your
> statement was in direct response to that statement
> of mine.

Yes. The statement was intended to point out to you that squaring an
equation expressed in units of volts does not convert the expression
to power in units of Joules per second.

> If you knew that squaring an s-parameter normalized
> voltage yields joules/sec and still made that misleading
> statement, you were deliberately engaging in false
> implications. Why are you more interested in
> obfuscation than in the truth?

You can't possibly believe that the impedances in the problem we're
discussing are all 50 ohms.

ac6xg

5070. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 17:32:11 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0lf2bdvf1@news.service.uci.edu>
Source record: 42186

Cecil Moore wrote:

> Cecil Moore wrote:
>
>> Imin = I1 + I2 +2*SQRT(I1*I2) = 0 equation (16b)
>
>
> Typo there - should be:
>
> Imin = I1 + I2 - 2*SQRT(I1*I2) = 0 equation (16b)

So, was it also a typo when you squared s11(a1) + s12(a2) = 0 and
claimed that s11(a1)^2 = s12(a2)^2 = 1 Joule/sec? :-)

ac6xg

5071. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 17:45:17 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0lfqverl1@news.service.uci.edu>
Source record: 42187

Cecil Moore wrote:

> If that context was not clear to you, I apologize.

The context, and your misunderstanding, were both perfectly clear to me.

The apology should be for the unfounded character assaults you routinely administer to people here on the newsgroup who attempt to engage you in reasoned discourse.

73, Jim AC6XG

5072. Re: Need HF Antenna advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 18:51:20 UTC
From: LA4RT Jon Kåre Hellan <dev@null.com>
Message-ID: <1mzm4xmwrb.fsf@persaunet.uninett.no>
Source record: 42188

Cecil Moore <nospam@w5dxp.com> writes:

> John Ferrell wrote:
>> An antenna still works best at its resonant frequency. (best is in
>> the eye of the beholder!)
>
> "Works best" needs a definition. An Extended Double Zepp
> is not resonant but "works better" than a resonant dipole
> by about 3 dB broadside.

Once it's up, you can't rotate it. Whether the gain and the nulls are
a net advantage or not depends on the application.

73
LA4RT Jon

5073. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 18:57:07 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <6qsXh.27$HX7.3@newssvr19.news.prodigy.net>
Source record: 42189

Gene Fuller wrote:
> Is is necessary to convert "to some other form of energy" when the
> entire problem is about electromagnetic fields?

Yes, it is necessary to convert to some other form
of energy if the energy is not moving. EM wave energy
cannot stop moving.
--
73, Cecil http://www.w5dxp.com

5074. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 19:01:16 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <0usXh.29$HX7.5@newssvr19.news.prodigy.net>
Source record: 42190

Jim Kelley wrote:
> The statement was intended to point out to you that squaring an
> equation expressed in units of volts does not convert the expression to
> power in units of Joules per second.

But the equation that I squared was *NOT* expressed
in volts. So what was your agenda in implying a
falsehood?
--
73, Cecil http://www.w5dxp.com

5075. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 19:04:41 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <dxsXh.1940$H_.1145@newssvr21.news.prodigy.net>
Source record: 42191

Jim Kelley wrote:
> So, was it also a typo when you squared s11(a1) + s12(a2) = 0 and
> claimed that s11(a1)^2 = s12(a2)^2 = 1 Joule/sec? :-)

Not at all. s11 and s12 are dimensionless. The units of
a1 and a2 are volts/SQRT(Z0). What do you get when you
square volts/SQRT(Z0)?

Hint: [volts/SQRT(Z0)]^2 = V^2/Z0 = joules/sec.

How many times do I have to tell you this before
you start to comprehend it?
--
73, Cecil http://www.w5dxp.com

5076. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 19:15:13 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <5HsXh.1942$H_.727@newssvr21.news.prodigy.net>
Source record: 42192

Jim Kelley wrote:
> The apology should be for the unfounded character assaults ...

"Unfounded"? You've got to be kidding. You are still
harping and carping at me about me squaring s11(a1)
to get joules/sec. To continue to imply that it is
an invalid thing to do is unethical. When you stop
such behavior, I will stop pointing it out.
--
73, Cecil http://www.w5dxp.com

5077. Re: Need HF Antenna advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 19:17:10 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <WIsXh.1943$H_.1268@newssvr21.news.prodigy.net>
Source record: 42193

LA4RT Jon Kï¿½re Hellan wrote:
> Once it's up, you can't rotate it.

I have a 10m rotatable EDZ about which I wrote a
magazine article entitled, "Who Needs A Beam?".
--
73, Cecil http://www.w5dxp.com

5078. Re: Gauss again

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 19:49:47 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <462e5f4e$0$18857$4c368faf@roadrunner.com>
Source record: 42194

"art" <aunwin@insightbb.com> wrote in message
news:1177441940.774296.85910@b40g2000prd.googlegroups.com...
> Why was a conservative field drawn of a Gaussian field?
> What was the purpose of it and who concocted it?
> The actual author went to great lengths to add time of the shortest
> length purely to forcast vectors that would occur in a moment of time,
> but for why? What was it meant to illustrate?
> Art
>

Most likely due to lack of a defintion of "Gaussian Field". The only
accepted defintion has to do with statistical analysis and not antennas.
If I remember correctly Gaussian Field had to do with Gauss's study of the
distribution of matter in the universe. If this is not what you are talking
about I suggest you find another name for it as it is difficult to think of
your meaning of it while excluding the normall accepted meaning. Perhaps it
should be called the Unwin field, Im sure Gauss wouldnt mind. and credit
should be given for such work where credit is due. Kraus, the author of,
Antennas, had a very fine style of writing where he included mathematic
formulae along with a verbal disrciption, each adding support to the other.
This form would probably be more than acceptable for any form of peer
review.

Jimmie

5079. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 19:53:13 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <JetXh.357480$5j1.191692@bgtnsc04-news.ops.worldnet.att.net>
Source record: 42195

Cecil Moore wrote:
> Gene Fuller wrote:
>> Is is necessary to convert "to some other form of energy" when the
>> entire problem is about electromagnetic fields?
>
> Yes, it is necessary to convert to some other form
> of energy if the energy is not moving. EM wave energy
> cannot stop moving.

Cecil,

OK, I provided a standard equation that covers all sorts of
electromagnetic energy.

What is this "some other form" of electromagnetic energy? Do you have
any references other than your standard "cannot stop moving"? Do you
have a reference for THAT statement?

73,
Gene
W4SZ

5080. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 20:14:31 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0lojiloc1@news.service.uci.edu>
Source record: 42196

Cecil Moore wrote:
> Jim Kelley wrote:
>
>> So, was it also a typo when you squared s11(a1) + s12(a2) = 0 and
>> claimed that s11(a1)^2 = s12(a2)^2 = 1 Joule/sec? :-)
>
>
> Not at all. s11 and s12 are dimensionless. The units of
> a1 and a2 are volts/SQRT(Z0). What do you get when you
> square volts/SQRT(Z0)?
>
> Hint: [volts/SQRT(Z0)]^2 = V^2/Z0 = joules/sec.
>
> How many times do I have to tell you this before
> you start to comprehend it?

Here's what you're asking us to "comprehend", Cecil:

0^2 = (s11(a1) + s12(a2))^2

= s11(a1)^2 + 2*s11(a1)*s12(a2) + s12(a2)^2

0 = 4

ac6xg

5081. Re: Gauss again

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 20:39:56 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <9oqs23hetfp069trdgln0o612f325ojpua@4ax.com>
Source record: 42197

On 24 Apr 2007 12:12:20 -0700, art <aunwin@insightbb.com> wrote:

>actual author

Does he have an actual name?

73's
Richard Clark, KB7QHC

5082. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 20:48:24 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <lsqs23teml7mgqpqth5eis9taono2i1umb@4ax.com>
Source record: 42198

On Tue, 24 Apr 2007 11:42:47 -0500, richardharrison@webtv.net (Richard Harrison) wrote:

>I make mistakes and I apologize for them. Hopefully, none of consequence >go uncorrected and mislead anyone.

Hi Richard,

The simple mistake was of no consequence to the underlying basis of your statement. As for misleading, your posts are too short to develop convoluted imaginings posing as fact.

73's
Richard Clark, KB7QHC

5083. Re: Need HF Antenna advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 20:52:43 UTC
From: Jon Kåre Hellan <dev@null.com>
Message-ID: <1mveflmr50.fsf@persaunet.uninett.no>
Source record: 42199

Cecil Moore <nospam@w5dxp.com> writes:

> LA4RT Jon Kåre Hellan wrote:
>> Once it's up, you can't rotate it.
>
> I have a 10m rotatable EDZ about which I wrote a
> magazine article entitled, "Who Needs A Beam?".

Blush

5084. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 23:10:48 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <Y7wXh.16227$Kd3.1293@newssvr27.news.prodigy.net>
Source record: 42200

Gene Fuller wrote:
> What is this "some other form" of electromagnetic energy?

Transverse electromagnetic *wave* energy is photonic
and moves at the speed of light. If it is not moving
at the speed of light, it is not TEM *wave* energy.
If the energy in RF standing waves is not moving, it
is not photonic TEM wave energy. If the energy in RF
standing waves is not moving, that energy is not photonic
and must have been converted to some other form of energy
besides photonic TEM waves. I'm asking you to explain
what other form that energy in RF standing waves takes
only to be converted back to photonic TEM wave energy
during the transient power-down period.

> Do you have
> any references other than your standard "cannot stop moving"? Do you
> have a reference for THAT statement?

From "Optics", by Hecht: "Photons are stable, chargless,
massless elementary particles that exist only at the
speed c."

The validity of my statement seems obvious. Do you have
a reference that says photonic TEM energy waves can stand
still?
--
73, Cecil http://www.w5dxp.com

5085. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 23:27:23 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <vnwXh.16232$Kd3.135@newssvr27.news.prodigy.net>
Source record: 42201

Jim Kelley wrote:
> Here's what you're asking us to "comprehend", Cecil:
>
> 0^2 = (s11(a1) + s12(a2))^2
>
> = s11(a1)^2 + 2*s11(a1)*s12(a2) + s12(a2)^2
>
> 0 = 4

Sorry Jim, you got it wrong (again). s11(a1) and
s12(a2) are 180 degrees out of phase so the |b1|^2
equation is actually:

|b1|^2 = [s11(a1) - s12(a2)]^2

Expanding:

0^2 = [s11(a1)]^2 - 2*s11(a1)*s12*(a2) + [s12(a2)]^2

0 = 1 - 2 + 1 = 0 (but you knew that already)

That's total destructive interference in action just
as Hecht and Born & Wolf explain. Your equation
above is actually for |b2|^2 in the direction of
the load where the constructive interference is
taking place.
--
73, Cecil http://www.w5dxp.com

5086. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-24 23:46:03 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0m52n$2h9$1@news.service.uci.edu>
Source record: 42202

Cecil Moore wrote:

> Jim Kelley wrote:
>
>> Here's what you're asking us to "comprehend", Cecil:
>>
>> 0^2 = (s11(a1) + s12(a2))^2
>>
>> = s11(a1)^2 + 2*s11(a1)*s12(a2) + s12(a2)^2
>>
>> 0 = 4
>
>
> Sorry Jim, you got it wrong (again). s11(a1) and
> s12(a2) are 180 degrees out of phase so the |b1|^2
> equation is actually:
>
> |b1|^2 = [s11(a1) - s12(a2)]^2

But everyone knows that's not what you wrote, Cecil. I copied the equations right from your posts.

> Expanding:
>
> 0^2 = [s11(a1)]^2 - 2*s11(a1)*s12*(a2) + [s12(a2)]^2
>
> 0 = 1 - 2 + 1 = 0 (but you knew that already)

I did already know that. And apparently now we both do.

Though, you can't just arbitrarily change the sign in an equation in order to make the answer come out right.

73, Jim AC6XG

5087. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 00:01:52 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <QTwXh.622$RX.347@newssvr11.news.prodigy.net>
Source record: 42203

Jim Kelley wrote:
> Though, you can't just arbitrarily change the sign in an equation in
> order to make the answer come out right.

Please stop your unethical practice of trying to imply
that something is wrong when you know it is not wrong.

For b1 = 0, s11(a1) and s12(a2) *must* be 180 degrees
out of phase.

cos(180) IS NOT AN ARBITRARY CHANGE!

cos(180) = -1 (but you knew that already)
--
73, Cecil http://www.w5dxp.com

5088. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 00:07:02 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <GYwXh.74560$VU4.758@bgtnsc05-news.ops.worldnet.att.net>
Source record: 42204

Cecil Moore wrote:
> Gene Fuller wrote:
>> What is this "some other form" of electromagnetic energy?
>
> Transverse electromagnetic *wave* energy is photonic
> and moves at the speed of light. If it is not moving
> at the speed of light, it is not TEM *wave* energy.
> If the energy in RF standing waves is not moving, it
> is not photonic TEM wave energy. If the energy in RF
> standing waves is not moving, that energy is not photonic
> and must have been converted to some other form of energy
> besides photonic TEM waves. I'm asking you to explain
> what other form that energy in RF standing waves takes
> only to be converted back to photonic TEM wave energy
> during the transient power-down period.
>
>> Do you have any references other than your standard "cannot stop
>> moving"? Do you have a reference for THAT statement?
>
> From "Optics", by Hecht: "Photons are stable, chargless,
> massless elementary particles that exist only at the
> speed c."
>
> The validity of my statement seems obvious. Do you have
> a reference that says photonic TEM energy waves can stand
> still?

Cecil,

Once again you completely avoided the straightforward question. I gave you a universal equation for electromagnetic energy. You come back with all sorts of waffling about "photonic TEM energy waves", but with zero substance.

Forget about standing still or moving; do you have any reference that mentions "photonic TEM energy waves"? If so, what behavior is attributed to such beasts? What is the equation that describes the energy in "photonic TEM energy waves". Is there a conversion factor to convert into plain ol' ordinary electromagnetic energy?

Do you simply make this stuff up as you go along, or do you have notes from years of fantasy?

73,
Gene
W4SZ

5089. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 00:11:58 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <i1xXh.69$HX7.25@newssvr19.news.prodigy.net>
Source record: 42205

Jim Kelley wrote:
> But everyone knows that's not what you wrote, Cecil. I copied the
> equations right from your posts.

The equations were phasor equations, Jim - no negative
sign necessary at all. (But you already knew that)

Please stop the obfuscations. You know full well that
cos(180) can be replaced by -1 and that subtraction signs
are never necessary for phasor subtraction. There is no
problem using a plus sign in the following equation.

b1 = s11(a1) + s12(a2) = 0

It just means that s11(a1) and s12(a2) are 180 degrees
out of phase with each other. (But you already knew that)
--
73, Cecil http://www.w5dxp.com

5090. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 00:14:52 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0m6pa$3up$1@news.service.uci.edu>
Source record: 42207

Cecil Moore wrote:
> Jim Kelley wrote:
>
>> Though, you can't just arbitrarily change the sign in an equation in
>> order to make the answer come out right.
>
> For b1 = 0, s11(a1) and s12(a2) *must* be 180 degrees
> out of phase.

> cos(180) IS NOT AN ARBITRARY CHANGE!
>
> cos(180) = -1 (but you knew that already)

Joules per second doesn't have phase, Cecil. Your claim was the value was 1 joule/sec. And the equation is stated pretty clearly in AN-95-1 as the sum of the terms. It doesn't have a minus sign, and it there isn't a cosine term in it. a1 and a2 are complex voltages, and their relative phase take care of itself - unless of course you square the equation. That's how you end up with nonsense like 0=4.

I'm done with this.

AC6XG

5091. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 00:15:38 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <J4xXh.71$HX7.45@newssvr19.news.prodigy.net>
Source record: 42206

Gene Fuller wrote:
> Once again you completely avoided the straightforward question.

No, I answered in a straightforward manner. You just didn't
like the answer.

RF energy in a transmission line is photonic. Photons
always move at the speed of light. Therefore, photonic
energy cannot stand still. QED in more ways than one.
--
73, Cecil http://www.w5dxp.com

5092. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 01:35:22 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <ufyXh.12205$YL5.8232@newssvr29.news.prodigy.net>
Source record: 42208

Jim Kelley wrote:
> Joules per second doesn't have phase, Cecil. Your claim was the value
> was 1 joule/sec. And the equation is stated pretty clearly in AN-95-1
> as the sum of the terms. It doesn't have a minus sign, and it there
> isn't a cosine term in it. a1 and a2 are complex voltages, and their
> relative phase take care of itself - unless of course you square the
> equation. That's how you end up with nonsense like 0=4.

As you know, I have repeated all this to you before so
you cannot possibly still be confused. Why you continue
your obfuscation of the truth is really strange.

b1 = s11(a1@0deg) + s12(a2@180deg) = 0

1. When we square both sides of the equation, the
product of 2*s11(a1@0deg)*s12(a2@180deg) is at 180
degrees so the sign of the term is negative. (but you
already knew that)

2. Joules per second doesn't have phase. I have said that
over and over. The phase term in the power density
equation is the relative phase between the two associated
voltages. (but you already knew that)

3. The equation stated in AN-95-1 is a normalized voltage
equation which is the sum of phasors - no negative sign
required for phasor addition. (but you already knew that)

4. Phasor symbols don't have minus signs and the real value
of a phasor is understood to include a cosine term even
though it is omitted by convention. (but you already knew that)

5. The general case of the squared equation is the same
as the intensity (power density) equations from Hecht
and Born & Wolf. It doesn't contain a minus sign.

Ptot = P1 + P2 + 2*SQRT(P1*P2)cos(A)

A is the angle between the two associated normalized
phasor voltages, a1 and a2, and its cosine is sometimes
negative. (but you already knew that)

I did not end up with nonsense like 0=4. You ended up
with nonsense like 0=4 by engaging in deliberate
irrational obfuscation. Why you feel the need to
act that way is really strange.
--

73, Cecil http://www.w5dxp.com

5093. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 02:24:29 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <xZyXh.74834$VU4.25080@bgtnsc05-news.ops.worldnet.att.net>
Source record: 42209

Cecil Moore wrote:
> Gene Fuller wrote:
>> Once again you completely avoided the straightforward question.
>
> No, I answered in a straightforward manner. You just didn't
> like the answer.
>
> RF energy in a transmission line is photonic. Photons
> always move at the speed of light. Therefore, photonic
> energy cannot stand still. QED in more ways than one.

Cecil,

The question was about your claim that there are different forms of electromagnetic energy. Now you are trying to switch the topic to some babble about photons and the speed of light.

I guess you cannot answer the energy question. This is not surprising, since there is no valid answer that brings in some additional form of electromagnetic energy.

73,
Gene
W4SZ

5094. Re: HF vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 02:54:58 UTC
From: James <jnipperxxx@nospamfdn.com>
Message-ID: <IsidnSmFyMydXrPbnZ2dnUVZWhednZ2d@comcast.com>
Source record: 42210

I wonder if it might be an old Hy-Gain 14avq ??

73 de Jim K4PYT

5095. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 03:01:24 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <7wzXh.87$HX7.4@newssvr19.news.prodigy.net>
Source record: 42211

Cecil Moore wrote:
> b1 = s11(a1@0deg) + s12(a2@180deg) = 0

Actually, looking at it again, for b1 to be 0, the
following would have to be mathematically true.

b1 = |s11(a1)| - |s12(a2)| = 0

Now square both sides of the equation and see what
you get.
--
73, Cecil http://www.w5dxp.com

5096. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 03:23:42 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <2RzXh.17746$JZ3.8917@newssvr13.news.prodigy.net>
Source record: 42212

Gene Fuller wrote:
> The question was about your claim that there are different forms of
> electromagnetic energy.

The electromagnetic force is one of the four fundamental
forces of nature. It can certainly exist in forms not
associated with photons. Excess electrons stored in a
capacitor is an example of electromagnetic energy devoid
of photons.

It is generally accepted that RF TEM waves are photonic in
nature being the result of accelerating and decelerating
electrons in a transmission line. If you agree with that
notion, then you must also admit that RF TEM wave energy
cannot stand still and the appearance of such in a
standing wave is just an illusion. Otherwise, you need
to disprove the notion that RF TEM waves are photonic.
--
73, Cecil http://www.w5dxp.com

5097. Re: HF vertical

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 04:01:37 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <462ed295$0$5749$4c368faf@roadrunner.com>
Source record: 42213

"James" <jnipperxxx@nospamfdn.com> wrote in message
news:IsidnSmFyMydXrPbnZ2dnUVZWhednZ2d@comcast.com...
>I wonder if it might be an old Hy-Gain 14avq ??
>
>
> 73 de Jim K4PYT
>
>

I buy these whenever I can at the hamfest, they have to be really cheap, I buy them for the Al and the mounting base.

5098. Turning fiberglass

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 04:22:16 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <462ed76c$0$9951$4c368faf@roadrunner.com>
Source record: 42214

I want to make some fiberglass antenna parts that would probably most easily be make by turning fiberglass rod in my lathe. Ive never done this before and was wonder how rough fiberglass would be on the tools/lathe. I have a piece of 1- 1/4 inch fiberglass rod I want to turn down to fit the inside diameter of a piece of 1-1/4 inch tubing. Im thinking get a piece of square stock and make a diposable cutting tool for this.

Jimmie

5099. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 04:38:13 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <462edb28$0$17160$4c368faf@roadrunner.com>
Source record: 42215

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:ufyXh.12205$YL5.8232@newssvr29.news.prodigy.net...
> Jim Kelley wrote:
>> Joules per second doesn't have phase, Cecil. Your claim was the value was
>> 1 joule/sec. And the equation is stated pretty clearly in AN-95-1 as the
>> sum of the terms. It doesn't have a minus sign, and it there isn't a
>> cosine term in it. a1 and a2 are complex voltages, and their relative
>> phase take care of itself - unless of course you square the equation.
>> That's how you end up with nonsense like 0=4.
>
> As you know, I have repeated all this to you before so
> you cannot possibly still be confused. Why you continue
> your obfuscation of the truth is really strange.
>
> b1 = s11(a1@0deg) + s12(a2@180deg) = 0
>
> 1. When we square both sides of the equation, the
> product of 2*s11(a1@0deg)*s12(a2@180deg) is at 180
> degrees so the sign of the term is negative. (but you
> already knew that)
>
> 2. Joules per second doesn't have phase. I have said that
> over and over. The phase term in the power density
> equation is the relative phase between the two associated
> voltages. (but you already knew that)
>
> 3. The equation stated in AN-95-1 is a normalized voltage
> equation which is the sum of phasors - no negative sign
> required for phasor addition. (but you already knew that)
>
> 4. Phasor symbols don't have minus signs and the real value
> of a phasor is understood to include a cosine term even
> though it is omitted by convention. (but you already knew that)
>
> 5. The general case of the squared equation is the same
> as the intensity (power density) equations from Hecht
> and Born & Wolf. It doesn't contain a minus sign.
>
> Ptot = P1 + P2 + 2*SQRT(P1*P2)cos(A)
>
> A is the angle between the two associated normalized
> phasor voltages, a1 and a2, and its cosine is sometimes
> negative. (but you already knew that)
>

> I did not end up with nonsense like 0=4. You ended up
> with nonsense like 0=4 by engaging in deliberate
> irrational obfuscation. Why you feel the need to
> act that way is really strange.
> --
> 73, Cecil http://www.w5dxp.com

Isnt it true the Cos of the phase term will always be equal to -1 or plus 1, -1 for any value of SWR except 1:1 and 1 for a 1:1 SWR value.
I hope this dosnt seem stupid tommorow as I am somewhat sedated and it is late.

Jimmie

5100. Re: Turning fiberglass

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 05:46:36 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns991DA07D5602Bnonenowhere@61.9.191.5>
Source record: 42216

"Jimmie D" <GFENDER@carolina.rr.com> wrote in
news:462ed76c$0$9951$4c368faf@roadrunner.com:

> I want to make some fiberglass antenna parts that would probably most
> easily be make by turning fiberglass rod in my lathe. Ive never done
> this before and was wonder how rough fiberglass would be on the
> tools/lathe. I have a piece of 1- 1/4 inch fiberglass rod I want to
> turn down to fit the inside diameter of a piece of 1-1/4 inch tubing.
> Im thinking get a piece of square stock and make a diposable cutting
> tool for this.

The only tools that I have used to cut GRP have been carbide tools.

You need to consider the dust hazard.

Owen

5101. How to set Sony car stereo from Japanese to US tuning...service manual help anyone?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 06:07:58 UTC
From: gggoattt@aol.com
Message-ID: <1177481278.048817.61860@b40g2000prd.googlegroups.com>
Source record: 42217

I need to set the tuning on my Sony car stereo from Japanese to US tuning; service manual?

Hi there...

I was wondering if someone has any idea if ANY of the Sony "WX" series of double-din car stereos (japanese or usa models) can be "hacked" so that their tuners can be changed from japanese fm tuning to us/uk or world band tuning and vice-versa???

I recently purchased a Sony WX-C88REC double-din cd/md recorder from eBay. This is a japanese market deck and is factory set for japanese fm tuning. However, the design and physical layout of this deck is very similar to other US models (such as the WX-4500X and the WX-C5000, as well as the WX-C55 which looks nearly identical). I'm nearly convinced that there MUST be some way to hack the japanese models so that their tuners can be "switched" to us or world tuning. I find it difficult to believe that Sony would design two distinct different tuner hardware modules for japanese and american versions. Problem is, I have no clue HOW to "hack" this feature. I don't have a service manual for ANY "WX" series stereos, but I'm thinking that it may possibly be an option in a service manual for ANY of the "WX" decks. Again, I find it difficult to believe that this isn't "set-able" some sort of way.

Does anyone out there have an idea? Does anyone out there have ANY service manual for ANY "WX" series Sony stereo? Or, for that matter, does anyone have a service manual for ANY Sony car stereo that addresses in ANY way setting the tuner for different bands?

I realize there are adapters available to transpose the FM frequencies. I've used them before, always with poor results (stations usually overlap and are weak). I mainly record off the radio with my MDX-C800REC's in my other cars, but always thought it would be cool to be able to dub cd's quickly in-dash digitally without having to mess with a cd changer. But, radio recording is my primary concern...and the adapters don't provide the quality I want for recording.

PLEASE help ANYBODY if you can steer me in the right direction or help in ANY way. If anyone has ANY Sony service manuals for ANY stereo, please let me know...perhaps if setting the tuner IS an option, maybe it is a standard procedure to set ANY Sony stereo's tuning in a similar fashion.

Thank you VERY much!
Jeff

5102. GAP Challenger

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 10:40:59 UTC
From: N8NOE <N8NOE@Comcast.Net>
Message-ID: <C254A87B.2CA8%N8NOE@Comcast.Net>
Source record: 42218

I'm getting real serious about getting a Vertical here to use with the Alpha Delta DX-CC I have. Seems like Everyone uses the Titan, and the 80 inch Bottom I cant have. The Challenger will fit here, Any thing I should know? Or Staying with the price Range, another Antenna?.. So far Everything looks good on the GAP Antennas..
Thanks, Jeff-N8NOE

5103. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 14:01:02 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <zaJXh.249$tp5.172@newssvr23.news.prodigy.net>
Source record: 42220

Jimmie D wrote:
> Isnt it true the Cos of the phase term will always be equal to -1 or plus
> 1, -1 for any value of SWR except 1:1 and 1 for a 1:1 SWR value.

The context of the present discussion is a Z0-match point
at which reflections toward the source are eliminated.
For the case of a Z0-match, the cosine of the phase term
will indeed always be +1 or -1 as the fields are either
in phase or 180 degrees out of phase.

If the SWR is 1:1, there is no reflected voltage and
therefore a2 = 0 and there is no assignable phase angle
between the voltages.

In the general case, where reflections are allowed to
reach the source, the cosine value can be anything
between +1 and -1 as the angle between a1 and a2 can
have any value between zero degrees and 360 degrees.
--
73, Cecil http://www.w5dxp.com

5104. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 14:01:26 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <WaJXh.76204$VU4.16035@bgtnsc05-news.ops.worldnet.att.net>
Source record: 42219

Cecil Moore wrote:
> Gene Fuller wrote:
>> The question was about your claim that there are different forms of
>> electromagnetic energy.
>
> The electromagnetic force is one of the four fundamental
> forces of nature. It can certainly exist in forms not
> associated with photons. Excess electrons stored in a
> capacitor is an example of electromagnetic energy devoid
> of photons.
>
> It is generally accepted that RF TEM waves are photonic in
> nature being the result of accelerating and decelerating
> electrons in a transmission line. If you agree with that
> notion, then you must also admit that RF TEM wave energy
> cannot stand still and the appearance of such in a
> standing wave is just an illusion. Otherwise, you need
> to disprove the notion that RF TEM waves are photonic.

Cecil,

Keep going. You are getting really close to winning the RRAA KONS award.

(KONS = King Of Non-Sequiturs)

All you need to add to make the top ranking is a quote from Terman.

8-)

73,
Gene
W4SZ

5105. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 14:10:51 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <LjJXh.251$tp5.159@newssvr23.news.prodigy.net>
Source record: 42221

Gene Fuller wrote:
> Keep going. You are getting really close to winning the RRAA KONS award.

Apparently, you cannot afford to disagree with my posting.
Now consider the boundary conditions for a photonic wave
and you will probably agree with me that the energy in
a photonic wave cannot be stored in a capacitor without
an energy transformation from photonic energy to something
else. In short, photonic waves that appear to be standing
still are an illusion. Photonic waves cannot stand still.
--
73, Cecil http://www.w5dxp.com

5106. Re: GAP Challenger

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 14:30:01 UTC
From: The Shadow <Repose@Zilch.com>
Message-ID: <WBJXh.206365$p17.79386@newsfe11.phx>
Source record: 42222

45 Gap Challenger User Reviews at URL:
http://www.eham.net/reviews/detail/455

"N8NOE" <N8NOE@Comcast.Net> wrote in message
news:C254A87B.2CA8%N8NOE@Comcast.Net...
> I'm getting real serious about getting a Vertical here to use with the
> Alpha
> Delta DX-CC I have. Seems like Everyone uses the Titan, and the 80 inch
> Bottom I cant have. The Challenger will fit here, Any thing I should know?
> Or Staying with the price Range, another Antenna?.. So far Everything
> looks
> good on the GAP Antennas..
> Thanks, Jeff-N8NOE
>

5107. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 15:06:07 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <z7KXh.361961$5j1.139570@bgtnsc04-news.ops.worldnet.att.net>
Source record: 42223

Cecil Moore wrote:
> Gene Fuller wrote:
>> Keep going. You are getting really close to winning the RRAA KONS award.
>
> Apparently, you cannot afford to disagree with my posting.
> Now consider the boundary conditions for a photonic wave
> and you will probably agree with me that the energy in
> a photonic wave cannot be stored in a capacitor without
> an energy transformation from photonic energy to something
> else. In short, photonic waves that appear to be standing
> still are an illusion. Photonic waves cannot stand still.

Cecil,

I keep asking, and you keep evading. What is that "something else"?

You said that the energy must be transformed. I gave you the energy equation that describes the general electromagnetic case, whether stationary or "photonic waves". I have not seen any argument to that equation or any supplement to that equation.

You continue to waffle, but you still have not given the slightest hint regarding the required energy transformation.

For the record, I do not agree with your statement. No energy transformation is necessary. The working rules for this stuff have been known forever. There is no need to invent new junk science other than to prop up all of your other junk science.

73,
Gene
W4SZ

5108. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 15:25:08 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <jsru23tkndr0qp6upn6r2p0e9jfs95p36p@4ax.com>
Source record: 42224

On Wed, 25 Apr 2007 15:06:07 GMT, Gene Fuller <W4SZzzzzzz@att.net>
wrote:
>Cecil Moore wrote:
>> Gene Fuller wrote:
>>> Keep going. You are getting really close to winning the RRAA KONS award.
>> Apparently, you cannot afford to disagree with my posting.

It is the illegitimate heir of Art's self-serving logic for one. Even
the "authors" can't afford to agree with them, because they couldn't
explain it.

>> Now consider the boundary conditions for a photonic wave

Now there is about as absurd as a statement as ever put to printing.

>I keep asking, and you keep evading. What is that "something else"?
>
>You said that the energy must be transformed.

All energy, by what is euphemistically called the "conservation of
energy," balances between a combination of Potential Energy, and
Kinetic Energy. There are no others, and they are simply the same
thing in different inertial references. Energy is inclusive of both.
What Cecil is laboring under is the wholly misapplied elevation of
plebeian units to the Olympian stature of fundamental forces.

73's
Richard Clark, KB7QHC

5109. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 15:26:17 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <tqKXh.403$HX7.231@newssvr19.news.prodigy.net>
Source record: 42225

Gene Fuller wrote:
> I keep asking, and you keep evading. What is that "something else"?

I've already given you an example, Gene. Here is another.
I have a solar cell that transforms the energy in photonic
sunlight to DC energy stored in my deep-cycle marine battery.
Do you really think you could get a suntan from my deep-cycle
marine battery without another transformation back to UV?

> I have not seen any argument to that
> equation or any supplement to that equation.

I only respond to the part of your posting with which
I disagree. Here's an equation for you: 2 + 2 = 4

Since that same equation works on cows and dollars,
do you really expect us to believe that there is no
difference between cows and dollars? Please get real.

> For the record, I do not agree with your statement. No energy
> transformation is necessary.

OK Gene, then explain exactly how photons can be stored
in my deep-cycle marine battery without a transformation
from photonic energy to electronic energy. Why haven't
you patented that RF battery idea of yours?
--
73, Cecil http://www.w5dxp.com

5110. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 15:30:49 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <IuKXh.405$HX7.331@newssvr19.news.prodigy.net>
Source record: 42226

Richard Clark wrote:
> There are no others, and they are simply the same
> thing in different inertial references. Energy is inclusive of both.

Well Richard, you have solved all of our energy
problems. Just shine sunlight directly on the
AC power lines. Dang, why didn't I think of that?
--
73, Cecil http://www.w5dxp.com

5111. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 15:32:37 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <pwKXh.76389$VU4.65775@bgtnsc05-news.ops.worldnet.att.net>
Source record: 42127

Richard Clark wrote:
> On Wed, 25 Apr 2007 15:06:07 GMT, Gene Fuller <W4SZzzzzzz@att.net>
> wrote:
>> Cecil Moore wrote:
>>> Gene Fuller wrote:
>>>> Keep going. You are getting really close to winning the RRAA KONS award.
>>> Apparently, you cannot afford to disagree with my posting.
>
> It is the illegitimate heir of Art's self-serving logic for one. Even
> the "authors" can't afford to agree with them, because they couldn't
> explain it.
>
>>> Now consider the boundary conditions for a photonic wave
>
> Now there is about as absurd as a statement as ever put to printing.
>
>> I keep asking, and you keep evading. What is that "something else"?
>>
>> You said that the energy must be transformed.
>
> All energy, by what is euphemistically called the "conservation of
> energy," balances between a combination of Potential Energy, and
> Kinetic Energy. There are no others, and they are simply the same
> thing in different inertial references. Energy is inclusive of both.
> What Cecil is laboring under is the wholly misapplied elevation of
> plebeian units to the Olympian stature of fundamental forces.
>
> 73's
> Richard Clark, KB7QHC

Richard,

OK, I can take the hint. This has gone on way too long. Any
entertainment value evaporated several hundred messages ago.

We could probably start another 1000 message thread if Cecil's total
munge of s-parameters in a non-uniform Z environment was addressed, but
I will let someone else tackle that one.

73,
Gene
W4SZ

5112. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 15:58:45 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <VUKXh.2798$H_.1740@newssvr21.news.prodigy.net>
Source record: 42128

Gene Fuller wrote:
> For the record, I do not agree with your statement. No energy
> transformation is necessary.

From Webster's: "transform - to change in composition
or condition: CONVERT"

Gene, before you go, would you please explain how a
conversion of photonic energy to electronic energy
in not a change in composition or condition? How
many photons can you pack into that DC battery?
--
73, Cecil http://www.w5dxp.com

5113. Re: Turning fiberglass

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 17:54:21 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <f0o4kd$e24$1@nntp1.jpl.nasa.gov>
Source record: 42129

Jimmie D wrote:
> I want to make some fiberglass antenna parts that would probably most easily
> be make by turning fiberglass rod in my lathe. Ive never done this before
> and was wonder how rough fiberglass would be on the tools/lathe. I have a
> piece of 1- 1/4 inch fiberglass rod I want to turn down to fit the inside
> diameter of a piece of 1-1/4 inch tubing. Im thinking get a piece of square
> stock and make a diposable cutting tool for this.
>
> Jimmie
>
>
I've cut and machined a fair amount of Extren (pultruded structural
fiberglass composites) and things like glass-epoxy laminate over the years.

-> cutting glass fibers makes tools dull in a big hurry, even carbide,
the wear rate is spectacular.
-> diamond tooling survives quite well and isn't all that expensive
-> or, just buy cheap tools and throw them away after a couple uses
(e.g. drill bits)
-> the dust is quite obnoxious and abrasive, avoid getting it in the
ways or anything that needs high precision. lots of liquid coolant
helps keep the dust to a minimum
-> breathing the dust is bad, getting it on your skin is bad, getting it
on your clothes is bad. Consider wearing one of those disposable tyvek
coverall suits. Try and keep the dust from spreading, because
inevitably, you'll pick it up later, and it itches, if nothing else.

-> these are the reasons why machine tools used to machine glass or
carbon reinforced composites sell at a discount.. they wear out fast..
all those little abrasive particles grind away at all the precision parts.

Unless you're going to be doing a lot of it, you might be better off
just paying a machine shop that handles the stuff to do it for you.
Places that regularly machine laminates and composites have all the dust
collection stuff and tooling, and factor the wear into the price structure.

When I started working with composites at a former employer, they had
only done machining on conventional metals and plastics. After my
little foray into composites, they decided it wasn't worth it. Metal
scrap is easy to manage, little bits of glass fiber isn't.

5114. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 19:52:04 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132vcb7sl34ppf5@corp.supernews.com>
Source record: 42130

Gene Fuller wrote:
>
> OK, I can take the hint. This has gone on way too long. Any
> entertainment value evaporated several hundred messages ago.
>
> We could probably start another 1000 message thread if Cecil's total
> munge of s-parameters in a non-uniform Z environment was addressed, but
> I will let someone else tackle that one.

Over the years I've often been totally puzzled by things people do which don't seem to make the least bit of sense. But I've come to realize that the actions often make perfect sense -- it's just that I had a mistaken idea of their motives. For example, an action which might be totally baffling if one assumes that the motive is the best interest of the country suddenly makes sense when one realizes the the actual motive is to enrich one's friends or to increase one's power. So here's some help in understanding the process we've observed here:

In certain regions of the country, "winning" is paramount to one's self-image -- indeed, to one's very manhood. And the sole criterion for winning is to be the last man standing. It appears that we are, once again, nearing the point of declaring a "winner", and it will be the same person who has "won" countless other threads by the same means. Sometimes it's easy and sometimes hard, but he's the undisputed master and will not be defeated. Everyone who has thought that logic and reason, rather than plain chutzpah and tenacity, are paramount, will be humbled when the clear winner -- the last man standing -- is declared.

Congratulations, Cecil! Your reputation among your peers is intact.

Roy Lewallen, W7EL

5115. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 21:27:46 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <mJPXh.673$uJ6.271@newssvr17.news.prodigy.net>
Source record: 42131

Roy Lewallen wrote:
> Congratulations, Cecil! Your reputation among your peers is intact.

Technical truth is the only winner here, Roy. Nobody
has provided an example of a standing wave existing
without the component forward and reverse waves.
Nobody has explained how the photons in the standing
wave can possibly stand still. Looks like the wave
reflection model is alive and well in spite of the
obvious agenda to kill it off.

Are you still standing by your use of standing wave
current with its unchanging phase to "prove" that
there is no phase shift through a loading coil? I
can also use that same technique to prove there is
no phase shift in a 90 degree stub.
--
73, Cecil http://www.w5dxp.com

5116. Re: Need HF Antenna advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 21:56:18 UTC
From: Jerry <joxendi@bellsouth.net>
Message-ID: <o9QXh.14880$Pq5.3512@bignews6.bellsouth.net>
Source record: 42132

"F8BOE" <f8boe@bluemail.ch> wrote in message
news:462db3c9$0$23143$426a34cc@news.free.fr...
> Jerry wrote:
>
>>
>> "Bob D." <bobmgtd@insightbb.com> wrote in message
>> news:raudnR8F9tfa7LDbnZ2dnUVZ_qWvnZ2d@insightbb.com...
>>> I'm contemplating a Yaesu TF-857D with the FC-40 antenna tuner as a base
>>> rig. I'd like to cover as many HF bands as possible with a simple wire
>>> antenna. I'm on a small lot with an 80' tower. So anything I put up is
>>> going to slope!
>>>
>>> I've never used an antenna tuner before. I believe the FC-40 is weather
>>> proof and meant for remote use.
>>>
>>> If I slope a random wire and end-feed it, should the tuner go up on the
>>> tower or stay on the ground? (In other words, which end should I feed?)
>>> How should I ground the FC-40?
>>>
>>> Anything better than a random wire that is still simple and covers
>>> all/most of the HF bands?
>>>
>>> --
>>> Bob D. ND9B
>>
>> Try this one: www.k1jek.com This is a dipole that comes in lengths of
>> 73'
>> and 140' respectively. The short one covers 80-10, the longer one,
>> 160-10
>> Meters, and perhaps, 6 Meters. I've had the long one for a couple of
>> years, and with a tuner, I've had EXCELLENT results!
>> With that 80 foot tower, you'd get some nice contacts!
>>
>> 73
>>
>> Jerry
>>
>>>
>>>
>
> Hmmmm
>
> This one seems to be another multifolded resonnator non-radiator concept

> from the $hitizen bandits. If you need such bullshit, there's no need to
> pay buck$ for it if you can homebrew it so easily.
>
> If you cannot afford homebrewing, then go for a real antenna! Cushcraft
> used
> to make good multiband verticals such as the AP8A or the R7/7000-R8
> series.
>
> If you already have a "tuner" you can homebrew a 1/9 Un-Un la ZX-Yagi
> MTFT
> (Miracle Tranformator For Totaly-dumb-people) and hook it to your 80'
> pole... Guarated under 20$ including plastic box, silvered copper wire,
> inox screwery and BNC socket. For low band action you can slide a ferrite
> bar in it.
>
> 73 de F8BOE Olivier ...-.-

Sir, I've built more antennas since 1964 than you can count. Including scewdrivers (www.qsl.net/k4kwh) In this case, the one I recommended (since he didn't say specifically) was because I had some illness/death at home, I wanted to cover 160 Meters in a small lot, and I couldn't devote the time to building an antenna at the time. I beg to differ with the non-radiator antenna comment. KNOW of which you speak.....like actually reading the reviews of it on www.eham.net.
There ARE reasons for the choices we make! The Cobra WORKS, and next time, yeah, I will probably make one as I now have the time I did not have prior to my Father's illness and death!!! :(

5117. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 22:32:08 UTC
From: Dave <noone@nowhere.com>
Message-ID: <IFQXh.9529$dM1.1479@trndny07>
Source record: 42133

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:mJPXh.673$uJ6.271@newssvr17.news.prodigy.net...
> Roy Lewallen wrote:
>> Congratulations, Cecil! Your reputation among your peers is intact.
>
> Technical truth is the only winner here, Roy. Nobody
> has provided an example of a standing wave existing
> without the component forward and reverse waves.
> Nobody has explained how the photons in the standing
> wave can possibly stand still. Looks like the wave
> reflection model is alive and well in spite of the
> obvious agenda to kill it off.
>
> Are you still standing by your use of standing wave
> current with its unchanging phase to "prove" that
> there is no phase shift through a loading coil? I
> can also use that same technique to prove there is
> no phase shift in a 90 degree stub.

This is all because 'standing waves' don't exist! they are a figment of early experimenter's attempts to make tuning measurements on open wire lines using improvised tools. Because the current or voltage peaks and dips they were measuring seemed to be wave shaped and occured at intervals of 1/2 wavelength along their feedlines, and didn't move, they called them 'standing waves'. A complete misnomer, but quite adequate for the purpose they were used for... and are still used for. Though today we understand that the effect is caused by the superposition of forward and reflected waves and can measure the separate component waves, the legacy term still remains in common use.

5118. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 22:38:26 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <CLQXh.363757$5j1.141822@bgtnsc04-news.ops.worldnet.att.net>
Source record: 42134

Dave wrote:
> "Cecil Moore" <nospam@w5dxp.com> wrote in message
> news:mJPXh.673$uJ6.271@newssvr17.news.prodigy.net...
>> Roy Lewallen wrote:
>>> Congratulations, Cecil! Your reputation among your peers is intact.
>> Technical truth is the only winner here, Roy. Nobody
>> has provided an example of a standing wave existing
>> without the component forward and reverse waves.
>> Nobody has explained how the photons in the standing
>> wave can possibly stand still. Looks like the wave
>> reflection model is alive and well in spite of the
>> obvious agenda to kill it off.
>>
>> Are you still standing by your use of standing wave
>> current with its unchanging phase to "prove" that
>> there is no phase shift through a loading coil? I
>> can also use that same technique to prove there is
>> no phase shift in a 90 degree stub.
>
> This is all because 'standing waves' don't exist! they are a figment of
> early experimenter's attempts to make tuning measurements on open wire lines
> using improvised tools. Because the current or voltage peaks and dips they
> were measuring seemed to be wave shaped and occured at intervals of 1/2
> wavelength along their feedlines, and didn't move, they called them
> 'standing waves'. A complete misnomer, but quite adequate for the purpose
> they were used for... and are still used for. Though today we understand
> that the effect is caused by the superposition of forward and reflected
> waves and can measure the separate component waves, the legacy term still
> remains in common use.
>
>
>

WOW!!!

Yet another person who does not believe in superposition for linear systems.

5119. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 22:50:35 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <_WQXh.718$uJ6.345@newssvr17.news.prodigy.net>
Source record: 42135

Dave wrote:
> This is all because 'standing waves' don't exist! they are a figment of
> early experimenter's attempts to make tuning measurements on open wire lines
> using improvised tools. Because the current or voltage peaks and dips they
> were measuring seemed to be wave shaped and occured at intervals of 1/2
> wavelength along their feedlines, and didn't move, they called them
> 'standing waves'. A complete misnomer, but quite adequate for the purpose
> they were used for... and are still used for. Though today we understand
> that the effect is caused by the superposition of forward and reflected
> waves and can measure the separate component waves, the legacy term still
> remains in common use.

Not only does it remain in common use, but it dictates
reality for some folks, at least in their own mind.
--
73, Cecil http://www.w5dxp.com

5120. Re: Need HF Antenna advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 22:56:54 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns991E5B07F1689nonenowhere@61.9.191.5>
Source record: 42136

"Jerry" <joxendi@bellsouth.net> wrote in
news:I5fXh.14588$Pq5.8550@bignews6.bellsouth.net:

...
> Try this one: www.k1jek.com This is a dipole that comes in lengths
> of 73' and 140' respectively. The short one covers 80-10, the longer

Ah, the Cobra! An interesting antenna for exploration of the myth that
linear loading is essentially lossless, see my analysis of NEC models of a
Cobra design at http://www.vk1od.net/cobra/index.htm .

Owen

5121. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 23:03:49 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <p7RXh.5806$2v1.2370@newssvr14.news.prodigy.net>
Source record: 42137

Gene Fuller wrote:
> Dave wrote:
>> This is all because 'standing waves' don't exist! they are a figment
>> of early experimenter's attempts to make tuning measurements on open
>> wire lines using improvised tools. Because the current or voltage
>> peaks and dips they were measuring seemed to be wave shaped and
>> occured at intervals of 1/2 wavelength along their feedlines, and
>> didn't move, they called them 'standing waves'. A complete misnomer,
>> but quite adequate for the purpose they were used for... and are still
>> used for. Though today we understand that the effect is caused by the
>> superposition of forward and reflected waves and can measure the
>> separate component waves, the legacy term still remains in common use.
>>
> Yet another person who does not believe in superposition for linear
> systems.

No, yet another person who believes that forward
waves and reflected waves do NOT interact and
therefore maintain their separate identities
moving at the speed of light in opposite directions,
in accordance with the wave reflection model.
--
73, Cecil http://www.w5dxp.com

5122. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-25 23:18:24 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <132voe3mnholi56@corp.supernews.com>
Source record: 42138

> "Cecil Moore" <nospam@w5dxp.com> wrote in message
>> . . .
>> Are you still standing by your use of standing wave
>> current with its unchanging phase to "prove" that
>> there is no phase shift through a loading coil? I
>> can also use that same technique to prove there is
>> no phase shift in a 90 degree stub.

Once again, I request that anyone who is interested in seeing what I wrote please look it up at groups.google.com, and not rely on Cecil's recollection and creative interpretation of what I wrote.

Roy Lewallen, W7EL

5123. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 00:51:14 UTC
From: Dave <noone@nowhere.com>
Message-ID: <6ISXh.8541$oo5.3816@trndny06>
Source record: 42139

"Gene Fuller" <W4SZzzzzzz@att.net> wrote in message
news:CLQXh.363757$5j1.141822@bgtnsc04-news.ops.worldnet.att.net...
> Dave wrote:
>> "Cecil Moore" <nospam@w5dxp.com> wrote in message
>> news:mJPXh.673$uJ6.271@newssvr17.news.prodigy.net...
>>> Roy Lewallen wrote:
>>>> Congratulations, Cecil! Your reputation among your peers is intact.
>>> Technical truth is the only winner here, Roy. Nobody
>>> has provided an example of a standing wave existing
>>> without the component forward and reverse waves.
>>> Nobody has explained how the photons in the standing
>>> wave can possibly stand still. Looks like the wave
>>> reflection model is alive and well in spite of the
>>> obvious agenda to kill it off.
>>>
>>> Are you still standing by your use of standing wave
>>> current with its unchanging phase to "prove" that
>>> there is no phase shift through a loading coil? I
>>> can also use that same technique to prove there is
>>> no phase shift in a 90 degree stub.
>>
>> This is all because 'standing waves' don't exist! they are a figment of
>> early experimenter's attempts to make tuning measurements on open wire
>> lines using improvised tools. Because the current or voltage peaks and
>> dips they were measuring seemed to be wave shaped and occured at
>> intervals of 1/2 wavelength along their feedlines, and didn't move, they
>> called them 'standing waves'. A complete misnomer, but quite adequate
>> for the purpose they were used for... and are still used for. Though
>> today we understand that the effect is caused by the superposition of
>> forward and reflected waves and can measure the separate component waves,
>> the legacy term still remains in common use.
>>
>>
>>
>
>
> WOW!!!
>
> Yet another person who does not believe in superposition for linear
> systems.

no, i heartily DO believe in superposition. what i hate the misnomer
'standing waves' that has misled many non technical people to an incorrect
view of how waves work.

5124. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 01:08:58 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <gbuv231tdistkodi3cclbkcs2th3fcnaeb@4ax.com>
Source record: 42140

On Wed, 25 Apr 2007 16:18:24 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>Once again, I request that anyone who is interested in seeing what I
>wrote please look it up at groups.google.com, and not rely on Cecil's
>recollection and creative interpretation of what I wrote.

Hi Roy,

It seems this technique has become rather commonplace as a recent
complaint of mine would reveal, and few are interested in snorkeling
through the sewer to find a lost reputation.

Recommendations for searching the archives should be confined to
finding facts, which are few and more easily described in the
constraints of a search engine; looking for evidence of distortions
would cripple the bandwidth capacity of the Internet.

73's
Richard Clark, KB7QHC

5125. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 01:19:45 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177550385.121532.257610@u32g2000prd.googlegroups.com>
Source record: 42141

>
> I`m still puzzled about "cluster antennas".
>
> Best regards, Richard Harrison, KB5WZI

I really don't know why it puzzles you. I have determined that coupling of elements which means parasitic coupling is wastfull. To avoid this coupling one must have elements that are all resonant. This means ofcourse that element dimensions are necessarily different from neighboring elements so that coupling per se (there is no attraction or repeling actions between elements) removed which thus creates an arrangement that is in equilibrium. When elements are associated with each other one can call them a 'collection' of elements or a 'cluster' of elements. Now with respect to efficiency this array does not have coupling associated with reflectors and directors thus if the array was energised then a far field of radiation is formed without any wastefull interaction of particles between elements. So when the far field is formed the only "waste" of energy is that created by skin resistance which is easily calculated, since without interaction between elements non radiating energy collision losses cannot occur. If one is looking for efficiency one usually work with input energy equals output energy plus losses. When one is examining the amount of radiation formed in the far field because one does not want to get into a situation of interactive bombardment of partcles that do not contribut to radiation in the far field prior to the generation of radiation. This analysis I suppose can be considered a simple relationship with Poyntings vector and in a way provides support for Poynting where none existed before but I may be over reaching there in some eyes. Hope that satisfies your curiousity
Art

5126. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 02:09:46 UTC
From: Tom Donaly <dtdonaly@sbcglobal.net>
Message-ID: <KRTXh.4924$rO7.3190@newssvr25.news.prodigy.net>
Source record: 42142

Dave wrote:
> "Cecil Moore" <nospam@w5dxp.com> wrote in message
> news:mJPXh.673$uJ6.271@newssvr17.news.prodigy.net...
>> Roy Lewallen wrote:
>>> Congratulations, Cecil! Your reputation among your peers is intact.
>> Technical truth is the only winner here, Roy. Nobody
>> has provided an example of a standing wave existing
>> without the component forward and reverse waves.
>> Nobody has explained how the photons in the standing
>> wave can possibly stand still. Looks like the wave
>> reflection model is alive and well in spite of the
>> obvious agenda to kill it off.
>>
>> Are you still standing by your use of standing wave
>> current with its unchanging phase to "prove" that
>> there is no phase shift through a loading coil? I
>> can also use that same technique to prove there is
>> no phase shift in a 90 degree stub.
>
> This is all because 'standing waves' don't exist! they are a figment of
> early experimenter's attempts to make tuning measurements on open wire lines
> using improvised tools. Because the current or voltage peaks and dips they
> were measuring seemed to be wave shaped and occured at intervals of 1/2
> wavelength along their feedlines, and didn't move, they called them
> 'standing waves'. A complete misnomer, but quite adequate for the purpose
> they were used for... and are still used for. Though today we understand
> that the effect is caused by the superposition of forward and reflected
> waves and can measure the separate component waves, the legacy term still
> remains in common use.
>
>
>

Yep, Darwin was a tool of the Devil, the Earth is flat, faith can heal
all disease, and the Earth is 6000 years old.
73,
Tom Donaly, KA6RUH

5127. Re: Need HF Antenna advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 02:45:33 UTC
From: Jerry <joxendi@bellsouth.net>
Message-ID: <1pUXh.14198$XU4.1973@bignews8.bellsouth.net>
Source record: 42143

"Owen Duffy" <none@no.where> wrote in message
news:Xns991E5B07F1689nonenowhere@61.9.191.5...
> "Jerry" <joxendi@bellsouth.net> wrote in
> news:I5fXh.14588$Pq5.8550@bignews6.bellsouth.net:
>
> ...
>> Try this one: www.k1jek.com This is a dipole that comes in lengths
>> of 73' and 140' respectively. The short one covers 80-10, the longer
>
> Ah, the Cobra! An interesting antenna for exploration of the myth that
> linear loading is essentially lossless, see my analysis of NEC models of a
> Cobra design at http://www.vk1od.net/cobra/index.htm .
>
> Owen

Says "Page not found"!

JWO

5128. Re: Need HF Antenna advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 03:18:31 UTC
From: Danny Richardson <n_group@k6mhe.com>
Message-ID: <f960331eju0efkdick1pujvfma50hi3jj9@4ax.com>
Source record: 42144

On Wed, 25 Apr 2007 22:45:33 -0400, "Jerry" <joxendi@bellsouth.net>
wrote:

>
>"Owen Duffy" <none@no.where> wrote in message
>news:Xns991E5B07F1689nonenowhere@61.9.191.5...
>> "Jerry" <joxendi@bellsouth.net> wrote in
>> news:I5fXh.14588$Pq5.8550@bignews6.bellsouth.net:
>>
>> ...
>>> Try this one: www.k1jek.com This is a dipole that comes in lengths
>>> of 73' and 140' respectively. The short one covers 80-10, the longer
>>
>> Ah, the Cobra! An interesting antenna for exploration of the myth that
>> linear loading is essentially lossless, see my analysis of NEC models of a
>> Cobra design at http://www.vk1od.net/cobra/index.htm .
>>
>> Owen
>
>Says "Page not found"!
>
>
>JWO
>

Works okay for me. Nice paper (I stole the NEC deck).

Danny, K6MHE

5129. Re: Need HF Antenna advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 03:34:29 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns991E8A17F2979nonenowhere@61.9.191.5>
Source record: 42145

Danny Richardson <n_group@k6mhe.com> wrote in
news:f960331eju0efkdick1pujvfma50hi3jj9@4ax.com:

...
> Works okay for me. Nice paper (I stole the NEC deck).

Hi Danny,

You will see that the FR card has a symbolic variable for the frequency, you will need to feed it a float value. (I used a PERL script to run a series of models by tailoring the basic NEC deck, executing it, and summarising the results.)

Differently to many of the commercial Cobras, my model used 2mm dia copper and wider spacing. Most seem to use smaller, even very small spacings where proximity effect becomes significant, smaller conductors, and possibly steel cored copper clad conductors.

IMHO, the interesting aspect of the article is the loss mechanism of linear loading, it makes sense once you see the current magnitudes and phase and realise this thing at some frequencies carries large conductor currents for low net current moment.

I have been exploring a 13m unloaded vertical with 2 radials for each of 80, 40, 30, & 20 metre bands, and there is a different but similar (!!!) effect where at some frequencies the radials carry large individual currents (larger in magnitude than the current in the vertical) with a peak in loss at these frequencies, see http://www.vk1od.net/multibandunloadedvertical/13mEV-1.gif .

Owen

5130. Re: Need HF Antenna advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 03:52:40 UTC
From: Danny Richardson <n_group@k6mhe.com>
Message-ID: <r88033djuhingvkcvpj7hpf5m89s5ef1me@4ax.com>
Source record: 42146

On Thu, 26 Apr 2007 03:34:29 GMT, Owen Duffy <none@no.where> wrote:

>Danny Richardson <n_group@k6mhe.com> wrote in
>news:f960331eju0efkdick1pujvfma50hi3jj9@4ax.com:
>
>...
>> Works okay for me. Nice paper (I stole the NEC deck).
>
>Hi Danny,
>
>You will see that the FR card has a symbolic variable for the frequency,
>you will need to feed it a float value. (I used a PERL script to run a
>series of models by tailoring the basic NEC deck, executing it, and
>summarising the results.)
>
[snip]
>
>Owen

No problem Owen, I'll use MultiNec which very easily allows me to run
"test cases" using variables with no programming required on my part.
<G>.

Danny

5131. Re: Turning fiberglass

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 03:57:07 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177559827.256482.40510@r3g2000prh.googlegroups.com>
Source record: 42147

On 24 Apr, 22:46, Owen Duffy <n...@no.where> wrote:
> "Jimmie D" <GFEN...@carolina.rr.com> wrote
innews:462ed76c$0$9951$4c368faf@roadrunner.com:
>
> > I want to make some fiberglass antenna parts that would probably most
> > easily be make by turning fiberglass rod in my lathe. Ive never done
> > this before and was wonder how rough fiberglass would be on the
> > tools/lathe. I have a piece of 1- 1/4 inch fiberglass rod I want to
> > turn down to fit the inside diameter of a piece of 1-1/4 inch tubing.
> > Im thinking get a piece of square stock and make a diposable cutting
> > tool for this.
>
> The only tools that I have used to cut GRP have been carbide tools.
>
> You need to consider the dust hazard.
>
> Owen

You sure do. I didn't notice it at first until a ray of sunshine came
thru the window and it could be seen swirling in the air.
Art

5132. Re: Need HF Antenna advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 04:06:59 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns991E8F9AACABCnonenowhere@61.9.191.5>
Source record: 42149

Danny Richardson <n_group@k6mhe.com> wrote in
news:r88033djuhingvkcvpj7hpf5m89s5ef1me@4ax.com:
...
> No problem Owen, I'll use MultiNec which very easily allows me to run
> "test cases" using variables with no programming required on my part.

Ok. There are other tools that allow symbolic variables, and of course NEC allows specification of a range of frequencies on the FR card.

The main reason for using PERL to build, run and sumamrise is the summarise stage. At that point I merge the NEC output with real transmission line models, L-tuner models etc... and without wading through 5MB of NEC output by hand. The system view is a bigger picture than the NEC output.

Owen

5133. MultiNEC 2.2.3

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 04:07:25 UTC
From: William Becks <wgbecks@centurytel.net>
Message-ID: <KMydnQFTRpgfuK3bnZ2dnUVZ_sapnZ2d@centurytel.net>
Source record: 42148

My copy of MultiNEC Version 2.2.3 has become corrupted causing Visual Basic to return an error upon accessing the FF Plot Tab. The code is not currently available for download from the authors (AC6LA) website. I would sure appreciate it if someone on this group would please send me a (zip) archived of this code.

Thank you!

Bill

William G. Becks, WA8WG
N7027 Shady Lane Circle
Porterfield, WI 54159

Telephone: 715-735-0051
Email: wgbecks@centurytel.net

5134. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 04:39:34 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <a2WXh.879$uJ6.854@newssvr17.news.prodigy.net>
Source record: 42150

Roy Lewallen wrote:
> Once again, I request that anyone who is interested in seeing what I
> wrote please look it up at groups.google.com, and not rely on Cecil's
> recollection and creative interpretation of what I wrote.

I doubt that anyone is interested enough to wade through
thousands of postings so I fetched one of yours:

Current Through Coils Mar 22, 2006, 1:11 pm
Roy Lewallen, W7EL wrote:
> The total current ("standing wave current" in Cecil's parlance)
> certainly does have an associated phase angle, and its phasor certainly
> does rotate. (By "phase" I mean time phase.) A sinusoidal traveling
> current wave can be expressed as a phasor whose value is a function of
> position. When you add a forward traveling wave to a reverse traveling
> wave, you're adding two phasors. The result is a phasor whose value is
> the vector sum of those two phasors. This is the total current. It has
> magnitude and phase like any other phasor, and the same rotational speed
> as its components.

The standing wave current phasor has the "same rotational speed
as its components"??? How can that be when the forward current
phasor and the reflected current phasor are rotating in opposite
directions?

Your statement above is in direct contradiction to Kraus's
graph of phase on a 1/2WL dipole where the current phase from
end to end varies away from 0 degrees by only a couple of degrees.
EZNEC agrees with Kraus. That graph is Figure 14-2 on page 464
of "Antennas for all Applications", 3rd edition. EZNEC says
the phase of the current on a 12WL dipole varies by only
two degrees over the entire antenna.

If the phase of the net current doesn't vary end to end on a
1/2WL dipole, how could you and W8JI use it to try to prove
that the phase shift through a loading coil is zero degrees?
Isn't that called assuming the proof?
--
73, Cecil http://www.w5dxp.com

5135. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 04:43:48 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <86WXh.3391$H_.2841@newssvr21.news.prodigy.net>
Source record: 42151

Tom Donaly wrote:
> Yep, Darwin was a tool of the Devil, the Earth is flat, faith can heal
> all disease, and the Earth is 6000 years old.

You forgot: Forward waves and reverse waves interact to form
standing waves which is what would have to happen to satisfy
some of the assertions made in this thread.
--
73, Cecil http://www.w5dxp.com

5136. Re: Need HF Antenna advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 04:45:05 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <l7WXh.3393$H_.1948@newssvr21.news.prodigy.net>
Source record: 42152

Jerry wrote:
> "Owen Duffy" <none@no.where> wrote:
>> http://www.vk1od.net/cobra/index.htm .
>
> Says "Page not found"!

Worked for me.
--
73, Cecil http://www.w5dxp.com

5137. Re: Turning fiberglass

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 05:11:00 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1177564260.071232.48650@c18g2000prb.googlegroups.com>
Source record: 42153

On Apr 24, 9:22 pm, "Jimmie D" <GFEN...@carolina.rr.com> wrote:
> I want to make some fiberglass antenna parts that would probably most easily
> be make by turning fiberglass rod in my lathe. Ive never done this before
> and was wonder how rough fiberglass would be on the tools/lathe. I have a
> piece of 1- 1/4 inch fiberglass rod I want to turn down to fit the inside
> diameter of a piece of 1-1/4 inch tubing. Im thinking get a piece of square
> stock and make a diposable cutting tool for this.
>
> Jimmie

You didn't mention if it's a metal lathe or a wood lathe. If it's a metal lathe, it should be no problem getting a good uniform diameter. For one-off or just a few you can use either a HSS or carbide tool. Protect the lathe parts, especially the bed, from the abrasive dust. If you're worried about breathing the dust, keep the piece wet while you're turning it. You probably don't need to, but you can sand the tool marks out if you really want.

Your last sentence makes me think it may be a wood lathe. You should be able to do ok with that too. Be careful about the tool digging in and grabbing, of course. If you really don't want to try a standard wood lathe tool on it, you could perhaps make one from an old (or cheap) file; it would be a lot harder than a random piece of square steel stock. Another possibility is a HSS metal lathe bit, mounted in some suitable holder.

I certainly wouldn't think twice about turning fiberglass in a metal lathe, with proper protection.

Cheers,
Tom

5138. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 05:18:10 UTC
From: "Dr. Honeydew" <dr_b_honeydew@msn.com>
Message-ID: <1177564690.111459.203380@t38g2000prd.googlegroups.com>
Source record: 42154

On Apr 23, 1:18 pm, Cecil Moore <myc...@hotmail.com> wrote:

> Amateur transmitters are not designed to be linear
> and they are NOT linear. Adding a ten cent resistor
> to them is not going to make them linear.
> --
> 73, Cecil,http://www.qsl.net/w5dxp

What a crazy Alice-in-Wonderland world you live in, Cecil! It's fun
to visit you there, but I'm glad I don't have to live in it. I do
hope it's an enjoyable place for you, though I am sorry you're unable
to visit ours.

From the labs,
Bunsen

5139. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 05:24:12 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <0IWXh.17851$JZ3.2246@newssvr13.news.prodigy.net>
Source record: 42155

Dr. Honeydew wrote:
> What a crazy Alice-in-Wonderland world you live in, Cecil! It's fun
> to visit you there, but I'm glad I don't have to live in it. I do
> hope it's an enjoyable place for you, though I am sorry you're unable
> to visit ours.

Can we at least agree that a class-C amplifier is not linear?
--
73, Cecil http://www.w5dxp.com

5140. Sloping Wire Question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 05:30:48 UTC
From: "Bob D." <bobmgtd@insightbb.com>
Message-ID: <1eydnYyJH9dlpa3bnZ2dnUVZ_gSdnZ2d@insightbb.com>
Source record: 42156

I have a small lot with an 80 ft tower. It's about 90 ft from the tower to the farthest edge of my property. I figure any multi-band HF wire antenna I put up will have to slope. I have a couple questions:

1) If I go end-fed Random Wire with an external antenna tuner, what kind of ground does the tuner end require?

2) I see there are many Folded Dipole designs. Some with ladder line, some with coax, some that claim not to need antenna tuners. How well does a dipole hold up mechanically without being supported in the middle? (with the feed line just hanging down)

--
Bob D. ND9B

5141. Need a tower...??

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 12:03:23 UTC
From: Bill <kc4pe@bellsouth.net>
Message-ID: <Mx0Yh.14321$XU4.1886@bignews8.bellsouth.net>
Source record: 42157

What kind..??

Guyed
Crank-up
Windmill ...

See the complete list at ...

http://www.kc4pe.com/hamsale.htm

Take a peek ...some unique ham Gear.. and great prices..!!!

-Bill

5142. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 12:33:15 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177590794.420788.196780@r30g2000prh.googlegroups.com>
Source record: 42158

On Apr 26, 1:24 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Can we at least agree that a class-C amplifier is not linear?

By this, do you mean that the input to output transfer function
of a class-C amplifier is not linear?

Or do you mean that the output aspects of a class-C amplifier
can not be modelled as a linear circuit?

The former is certainly true, but for the latter, it seems to me
a first order model of the output circuit would be a voltage
controlled current sink (the tube), a constant voltage source
(the power supply), an RFC, a coupling capacitor and an
output filter constructed of inductors and capacitors; all of
which are linear components.

...Keith

5143. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 13:14:05 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <xA1Yh.1186$tp5.967@newssvr23.news.prodigy.net>
Source record: 42159

Keith Dysart wrote:
> On Apr 26, 1:24 am, Cecil Moore <nos...@w5dxp.com> wrote:
>> Can we at least agree that a class-C amplifier is not linear?
>
> By this, do you mean that the input to output transfer function
> of a class-C amplifier is not linear?

It's a little more subtle than that. I mean that the
output of an active dynamic class-C amplifier does not
lend itself to passive superposition. The component of
the sums is not the sum of the components.

> Or do you mean that the output aspects of a class-C amplifier
> can not be modelled as a linear circuit?

If a class-C amplifier is modeled as a linear circuit,
the model is wrong.

> The former is certainly true, but for the latter, it seems to me
> a first order model of the output circuit would be a voltage
> controlled current sink (the tube), a constant voltage source
> (the power supply), an RFC, a coupling capacitor and an
> output filter constructed of inductors and capacitors; all of
> which are linear components.

But the model bears little resemblance to the actual
active dynamic source which has been my objection all
along. When the tube is off, the source impedance is
essentially infinite. It is like the energy tick provided
by the weights in a pendulum clock. One can assume that
the linear pendulum is the energy source but the weights
are actually the energy source and that energy is
delivered as a step function pulse.
--
73, Cecil http://www.w5dxp.com

5144. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 13:40:13 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <1Z1Yh.367244$5j1.196076@bgtnsc04-news.ops.worldnet.att.net>
Source record: 42160

Dave wrote:

>
> no, i heartily DO believe in superposition. what i hate the misnomer
> 'standing waves' that has misled many non technical people to an incorrect
> view of how waves work.
>
>

Dave,

You say the words, but you gotta walk the talk.

When superposition applies, the superposed function is completely equivalent to the sum of the components. There are no remaining hidden variables still lurking in the original components, invisible to the standing wave.

When two traveling waves combine to form a standing wave, the standing wave result contains *all* the information and properties there are to be had. The standing wave is just as valid as the two component waves taken together.

Now Cecil (and others) may immediately come along and assert that we can take one traveling wave at a time and yadda, yadda, yadda. Sure we can, but it is now a different setup. He may also yammer on about all sorts of special cases, with transients, circulators, non-linear setups, and so on. Superposition does not always apply, but when it does, it works.

I have said many times that all of this is strictly a matter of mathematical convenience. In that regard there is some agreement with your assertion that standing waves were first recognized as a matter of expediency. However, standing waves are *not* an approximation. A correct standing wave function works just fine as a solution to the standard wave equation. No traveling waves are needed at all, but you can use the completely equivalent set of traveling waves if you prefer.

73,
Gene
W4SZ

5145. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 14:47:16 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <UX2Yh.828$RX.59@newssvr11.news.prodigy.net>
Source record: 42161

Gene Fuller wrote:
> When superposition applies, the superposed function is completely
> equivalent to the sum of the components. There are no remaining hidden
> variables still lurking in the original components, invisible to the
> standing wave.
>
> When two traveling waves combine to form a standing wave, the standing
> wave result contains *all* the information and properties there are to
> be had. The standing wave is just as valid as the two component waves
> taken together.

Let me remind you of what you said earlier - that all phase
information disappears from the phase of the standing wave
and that the phase information from the component waves is
contained in the amplitude of the standing wave. Conversely,
the amplitude information from the component waves is contained
in the phase of the standing wave. This is why standing wave
current cannot be used to measure phase shift and why standing
wave amplitude cannot be used to measure the "current drop"
through a loading coil.

Roy's and Tom's measured "current drop" is actually phase
delay information. Their phase measurement is actually
information about the amplitudes of the forward and
reflected waves. They apparently didn't (and still don't)
understand that fact.

> Now Cecil (and others) may immediately come along and assert that we can
> take one traveling wave at a time and yadda, yadda, yadda. Sure we can,
> but it is now a different setup.

This seems to contradict what you said in the paragraph just above.
Taking the component waves together is either valid or it is not,
no if's and's, or but's.

> I have said many times that all of this is strictly a matter of
> mathematical convenience. In that regard there is some agreement with
> your assertion that standing waves were first recognized as a matter of
> expediency. However, standing waves are *not* an approximation. A
> correct standing wave function works just fine as a solution to the
> standard wave equation.

The problem is that some people have been seduced by the standing
wave solution not realizing that the constant standing wave phase
cannot be used to measure phase shift. Roy's and Tom's measurements
of standing wave phase through a loading coil are meaningless yet,

to the best of my knowledge, you have not voiced an opinion about those bogus measurements.

> No traveling waves are needed at all, ...

The question is not whether, when properly implemented, a standing wave analysis yields valid results. The questions are:

1. Can the component forward and reverse traveling waves be used to obtain a valid solution? If the answer is no, then the superposition principle is invalid. If the answer is , yes, then why do you object?

2. Have some people made errors in their analysis using standing waves? The answer is obviously, yes, since standing wave phase was used for loading coil phase delay invalid "measurements".
--
73, Cecil, w5dxp.com

5146. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 15:10:22 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <Te3Yh.1232$tp5.673@newssvr23.news.prodigy.net>
Source record: 42162

Roy Lewallen wrote:
> Once again, I request that anyone who is interested in seeing what I
> wrote please look it up at groups.google.com, and not rely on Cecil's
> recollection and creative interpretation of what I wrote.

Incidentally, everyone (including me) was wrong in the
discussions back in 2003. There were two sides to the
argument and both sides were partially right and partially
wrong. The correct answer lies somewhere in between the
two positions.

The key to understanding the phase shift through a
loading coil is in first understanding how a stub
that is physically 41 degrees long can cause 90
degrees of phase shift. Here's an example:

---30 deg 450 ohm line---+---11 deg 50 ohm line---open

The above stub is physically 41 degrees long and
electrically 90 degrees long. Understanding how that
is possible is the key to understanding how 30 degrees
of coil and 11 degrees of stinger can resonate as if
it were 90 degrees long.

There is NOT (90 - 11 = 79) degrees of phase shift through
the coil.

There is NOT zero degrees of phase shift through the coil.

There *IS* 30 degrees of phase shift through the coil.
--
73, Cecil, w5dxp.com

5147. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 16:37:00 UTC
From: richardharrison@webtv.net
Message-ID: <22488-4630D52C-306@storefull-3254.bay.webtv.net>
Source record: 42163

Art wrote:
"I have determined that coupling of elements which means parasitic elements is wasteful."

A parasitic element is normally constructed of low-loss material and re-radiates all the energy it absorbs from the radio wave. If it is placed and phased right it can reinforce radiation in the desired direction.

Kraus in the 3rd edition of "Antennas" has his close-spaced all-driven W8JK array and a wide-spaced all-driven 2-dipole array in the same figure, Fig. 6-12, on page 184. The gain of either antenna is about 6 dB, supposedly with respect to an isotropic, or about 4 dB with respect to a dipole. Both arrays are bidirectional.

Arnold Bailey catalogs a version of the W8JK close-spaced all-driven array on page 511 of "TV and Other Receiving Antennas". On page 516 is a 1/2-wave radiator with a 1/2-wave parasitic reflector 1/4-wave behind it (a simple Yagi).

Bailey gives the W8JK a resistance of 7 ohms and a gain of 4 dBd (6 dBi).

Bailey gives the parasitic array a resistance of 28 ohms and a gain of 5 dBd 7dBi). The parasitic array is slightly unidirectional while the pattern of the W8JK is symmetrical.

Best regards, Richard Harrison, KB5WZI

5148. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 16:52:34 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <mN4Yh.79488$VU4.11213@bgtnsc05-news.ops.worldnet.att.net>
Source record: 42164

Cecil Moore wrote:

>
> Let me remind you of what you said earlier -

Cecil,

Thanks, but no thanks. I know exactly what I said, and have consistently
said the same thing.

(Life is easier when one does not need to keep inventing new tall tales
to cover up the previous tall tales.)

8-)

73,
Gene
W4SZ

5149. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 17:45:16 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <4w5Yh.1266$tp5.152@newssvr23.news.prodigy.net>
Source record: 42165

Gene Fuller wrote:
> Cecil Moore wrote:
>> Let me remind you of what you said earlier -
>
> Thanks, but no thanks. I know exactly what I said, and have consistently
> said the same thing.

Unfortunately, some of your guru friends say just the
opposite.
--
73, Cecil, w5dxp.com

5150. Unusual Design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 17:52:18 UTC
From: The Shadow <Repose@Zilch.com>
Message-ID: <9F5Yh.206835$p17.108432@newsfe11.phx>
Source record: 42166

Take a look at the TAK-tenna
http://www.tak-tenna.com/

Comments ??

Lamont

5151. Reciprocity of vertical antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 18:06:59 UTC
From: David <nospam@nospam>
Message-ID: <oq-dnXlJNLmnd63bnZ2dnUVZ8tyqnZ2d@bt.com>
Source record: 42167

The text below applies to vertical quarterwave antenna in free space with four quarterwave radials.

In transmit mode, the field from the radials cancel out.

When the antenna is receiving, the incoming wave interacts with the radials and is reflected into the vertical element.

How does this fit in with the antenna reciprocity theorem? The antenna field arrangement is working in different ways between transmit and receive. In transmit mode, the radials cancel out, and in receive mode the radials reflect the wave to develop a signal in the vertical element.

In receive mode, the radials strengthen the signal in the vertical element by reflecting RF energy into the vertical element and also providing the other half of the antenna by providing a RF ground side. The signal exists as a potential difference between two conductors.

In transmit mode, the radials have a standing wave on them and provide the RF ground side by 'converting' the high voltage at open circuit end to a low voltage (RF ground with high current) at base of antenna.

Do the radials have a standing wave on them in receive mode? Does antenna reciprocity theorem agree that the antenna can form same feedpoint impedance and field pattern in both transmit mode and receive mode, even though the electromagnetic field works differently? Are the electromagnetic field patterns noticeably different according to whether antenna is receiving or transmitting?

The vertical element is always known as the radiating element.

5152. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 19:15:39 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <f0qtojcdh3@nnrp.linuxfan.it>
Source record: 42172

Richard Harrison wrote:

> ...
A parasitic element is normally constructed of low-loss material and
re-radiates all the energy it absorbs from the radio wave.
> ...

Although this is nit-picking, the above is impossible, some percentage
of rf MUST be lost as heat (poor joints in elements/booms can GREATLY
enhance loss also) ...

The rest of your text seems to be generally accepted ...

Regards,
JS

5153. Re: Unusual Design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 20:00:04 UTC
From: LA4RT Jon Kåre Hellan <dev@null.com>
Message-ID: <1mtzv26h4r.fsf@persaunet.uninett.no>
Source record: 42168

"The Shadow" <Repose@Zilch.com> writes:

> Take a look at the TAK-tenna
> http://www.tak-tenna.com/
>
> Comments ??

Wide bandwidth combined with small size is usually a bad sign. Physics
tends to make small antennas narrow banded, unless they are lossy.

5154. Re: Unusual Design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 20:23:57 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <13322j11kfj1c34@corp.supernews.com>
Source record: 42169

LA4RT Jon Kï¿½re Hellan wrote:
> "The Shadow" <Repose@Zilch.com> writes:
>
>> Take a look at the TAK-tenna
>> http://www.tak-tenna.com/
>>
>> Comments ??
>
> Wide bandwidth combined with small size is usually a bad sign. Physics
> tends to make small antennas narrow banded, unless they are lossy.

In the product development world, we say "Fast - cheap - good: pick any two." Antennas are subject to a similar constraint, as Jon points out - "Small - broadband - efficient: pick any two."

Roy Lewallen, W7EL

5155. Re: Reciprocity of vertical antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 20:49:48 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <133243g6hp9fd06@corp.supernews.com>
Source record: 42170

David wrote:
> The text below applies to vertical quarterwave antenna in free space with
> four quarterwave radials.
>
> In transmit mode, the field from the radials cancel out.
>
> When the antenna is receiving, the incoming wave interacts with the radials
> and is reflected into the vertical element.

No. The wave strikes the radials. This induces currents in the radials. Those currents cause radiation, and also the currents are conducted to the feedpoint. When the signal is coming from directions in which the radial radiation was zero, the induced currents will add to zero at the feedpoint, and the re-radiation will be zero in those directions.

> How does this fit in with the antenna reciprocity theorem? The antenna field
> arrangement is working in different ways between transmit and receive. . .

No, your concept of how it works when receiving is incorrect. That's the cause of the apparent contradiction.

> . .
> In transmit mode, the radials have a standing wave on them and provide the
> RF ground side by 'converting' the high voltage at open circuit end to a low
> voltage (RF ground with high current) at base of antenna.

Unfortunately, your concept of how the antenna works when transmitting is also incorrect. The radials are just as much a part of the antenna system as the "antenna". Their symmetry results in their total radiated field being much smaller than that from the "antenna". The notion of an "RF ground" in space is simply a matter of your imagination; no such thing exists.

> Do the radials have a standing wave on them in receive mode?

Yes. So does the vertical. And both do in transmit mode also.

> Does antenna
> reciprocity theorem agree that the antenna can form same feedpoint impedance
> and field pattern in both transmit mode and receive mode, even though the
> electromagnetic field works differently?

The impedance is the same for transmitting and receiving. The electromagnetic field does not work differently.

> Are the electromagnetic field
> patterns noticeably different according to whether antenna is receiving or

> transmitting?

No. They are the same. This is part of what is known as reciprocity.

> The vertical element is always known as the radiating element.

The antenna doesn't know or care what you call the parts. If the radials lie in the same plane, they radiate very little. If bent down, say, as is often done with a ground plane, they radiate a very substantial amount. What you call or "know" the various parts of an antenna as doesn't make any difference in how they operate. All conductors behave the same with respect to currents and fields, regardless of how you've positioned them or what you call them.

Roy Lewallen, W7EL

5156. Re: Gauss again

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 21:03:55 UTC
From: Dave <noone@nowhere.com>
Message-ID: <%s8Yh.8696$sb.7652@trndny05>
Source record: 42171

"art" <aunwin@insightbb.com> wrote in message
news:1177553600.534533.261860@o40g2000prh.googlegroups.com...
> I am a very old mechanical engineer not electrical so these are things
> as I see it and where electrical engineers would possibly differ.

The FIRST think you have said that makes sense!

5157. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 21:25:00 UTC
From: Dave <noone@nowhere.com>
Message-ID: <MM8Yh.2729$YI1.1960@trndny04>
Source record: 42173

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:86WXh.3391$H_.2841@newssvr21.news.prodigy.net...
> Tom Donaly wrote:
>> Yep, Darwin was a tool of the Devil, the Earth is flat, faith can heal
>> all disease, and the Earth is 6000 years old.
>
> You forgot: Forward waves and reverse waves interact to form
> standing waves which is what would have to happen to satisfy
> some of the assertions made in this thread.
> --
> 73, Cecil http://www.w5dxp.com

NO THEY DON'T! the traveling waves do not interact! Your measurement of
the superimposed voltages or currents makes you THINK they interact, but you
are just fooling yourself.

note, the superposition theorem says basically that the response of a linear
network to several input signals can be represented as the sum of the
responses of the individual signals. it says nothing about being able to
take apart a signal to regain the separate inputs once you have added them
together.

i.e. suppose you have a linear system f() and feed it with signals x(t) and
y(t). the superposition theorem says:
f(x(t)+y(t))=f(x(t))+f(y(t))

so lets say the function 'f' just doubles the input voltage. and to make it
really simple assume x(t) and y(t) are just constant values x and y. now
answer the following question using superposition:

Given f(x+y)=4
And f(x)+f(y)=4
Find x and y (show your work)

Give up? Good for you! now you understand that knowing the sum does NOT
tell you the components, even in a very simple linear system.

5158. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 21:27:24 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177622844.854442.141360@b40g2000prd.googlegroups.com>
Source record: 42174

On 26 Apr, 09:37, richardharri...@webtv.net (Richard Harrison) wrote:
> Art wrote:
>
> "I have determined that coupling of elements which means parasitic
> elements is wasteful."
>
> A parasitic element is normally constructed of low-loss material and
> re-radiates all the energy it absorbs from the radio wave. If it is
> placed and phased right it can reinforce radiation in the desired
> direction.
>
> Kraus in the 3rd edition of "Antennas" has his close-spaced all-driven
> W8JK array and a wide-spaced all-driven 2-dipole array in the same
> figure, Fig. 6-12, on page 184. The gain of either antenna is about 6
> dB, supposedly with respect to an isotropic, or about 4 dB with respect
> to a dipole. Both arrays are bidirectional.
>
> Arnold Bailey catalogs a version of the W8JK close-spaced all-driven
> array on page 511 of "TV and Other Receiving Antennas". On page 516 is a
> 1/2-wave radiator with a 1/2-wave parasitic reflector 1/4-wave behind it
> (a simple Yagi).
>
> Bailey gives the W8JK a resistance of 7 ohms and a gain of 4 dBd (6
> dBi).
>
> Bailey gives the parasitic array a resistance of 28 ohms and a gain of 5
> dBd 7dBi). The parasitic array is slightly unidirectional while the
> pattern of the W8JK is symmetrical.
>
> Best regards, Richard Harrison, KB5WZI

I did a quick scan of your response and only see book references so I
suppose that is the end of that since I also have books of my own.
Art

5159. Re: Reciprocity of vertical antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 21:27:38 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0r5g5$b1s$1@news.service.uci.edu>
Source record: 42175

Roy Lewallen wrote:

> David wrote:

>> Are the electromagnetic field patterns noticeably different according
>> to whether antenna is receiving or transmitting?
>
> No. They are the same. This is part of what is known as reciprocity.

I think you would agree the field pattern the antenna sees from a distant source is different than the field pattern the antenna generates on transmit. The field is uniform about the vertical axis on transmit and the phase of the signal in each radial is identical. But on receive the phase of the induced signal is unique into each radial.

This difference has nothing to do with reciprocity of course, but noting the differences between a unidirectional field pattern versus an omnidirectional one might help to clarify the apparent assymetry between receive and transmit.

73, Jim AC6XG

5160. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 22:18:46 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <az9Yh.16758$Kd3.14021@newssvr27.news.prodigy.net>
Source record: 42176

Dave wrote:
> "Cecil Moore" <nospam@w5dxp.com> wrote:

>> Tom Donaly wrote:
>>> Yep, Darwin was a tool of the Devil, the Earth is flat, faith can heal
>>> all disease, and the Earth is 6000 years old.

>> You forgot: Forward waves and reverse waves interact to form
>> standing waves which is what would have to happen to satisfy
>> some of the assertions made in this thread.
>
> NO THEY DON'T! the traveling waves do not interact! Your measurement of
> the superimposed voltages or currents makes you THINK they interact, but you
> are just fooling yourself.

Dave, just to be clear, here's the list I added to.

1. Darwin was a tool of the Devil.
2. The Earth is flat.
3. Faith can heal all disease.
4. The Earth is 6000 years old.
5. Forward waves and reverse waves interact to form standing waves.

It is a list of foolish absurd notions - so I agree with you.
--
73, Cecil http://www.w5dxp.com

5161. Re: Reciprocity of vertical antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 22:18:54 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <i9823395i7q8mcnsf6ekmj7hguop70djnc@4ax.com>
Source record: 41977

On Thu, 26 Apr 2007 14:27:38 -0700, Jim Kelley <jwkelley@uci.edu>
wrote:

>Roy Lewallen wrote:
>
>> David wrote:
>
>>> Are the electromagnetic field patterns noticeably different according
>>> to whether antenna is receiving or transmitting?
>>
>> No. They are the same. This is part of what is known as reciprocity.
>
>I think you would agree the field pattern the antenna sees from a
>distant source is different than the field pattern the antenna
>generates on transmit. The field is uniform about the vertical axis
>on transmit and the phase of the signal in each radial is identical.
>But on receive the phase of the induced signal is unique into each
>radial.

Hi Jim,

What you describe about the asymmetry of response to a distant source
is all perfectly true (and offers a similar argument in regards to
placing a 3D antenna into 2D null space).

However, your conclusion that there is a difference in field patterns
does not follow. Such patterns infer a multiplicity of loads for
transmit; or, in this case, a multiplicity of sources for receive.
These loads/sources populate a spherical constellation of constant
radius to exhibit the patterns we see in models. Two points do not
render a pattern.

For a one transmit source, one receive antenna, the receive antenna
current asymmetry will ALWAYS be oriented towards the source
regardless of where it is. As long as either moves in a constant
radius, the asymmetry will always follow the shared the axis. Add a
second source, and the receive antenna will similarly develop the same
axial/asymmetry relationship. The net contribution of a constellation
of sources will simple average out the asymmetry back into the rather
pedestrian distribution pattern.

73's
Richard Clark, KB7QHC

5162. Re: Reciprocity of vertical antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 23:14:19 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0rbo6$g9j$1@news.service.uci.edu>
Source record: 41978

Hi Richard,

You're discussing the reciprocity of the antenna. I was not.

Thanks,

ac6xg

Richard Clark wrote:
> On Thu, 26 Apr 2007 14:27:38 -0700, Jim Kelley <jwkelley@uci.edu>
> wrote:
>
>
>>Roy Lewallen wrote:
>>
>>
>>>David wrote:
>>
>>>>Are the electromagnetic field patterns noticeably different according
>>>>to whether antenna is receiving or transmitting?
>>>
>>>No. They are the same. This is part of what is known as reciprocity.
>>
>>I think you would agree the field pattern the antenna sees from a
>>distant source is different than the field pattern the antenna
>>generates on transmit. The field is uniform about the vertical axis
>>on transmit and the phase of the signal in each radial is identical.
>>But on receive the phase of the induced signal is unique into each
>>radial.
>
>
> Hi Jim,
>
> What you describe about the asymmetry of response to a distant source
> is all perfectly true (and offers a similar argument in regards to
> placing a 3D antenna into 2D null space).
>
> However, your conclusion that there is a difference in field patterns
> does not follow. Such patterns infer a multiplicity of loads for
> transmit; or, in this case, a multiplicity of sources for receive.
> These loads/sources populate a spherical constellation of constant
> radius to exhibit the patterns we see in models. Two points do not
> render a pattern.
>
> For a one transmit source, one receive antenna, the receive antenna

> current asymmetry will ALWAYS be oriented towards the source
> regardless of where it is. As long as either moves in a constant
> radius, the asymmetry will always follow the shared the axis. Add a
> second source, and the receive antenna will similarly develop the same
> axial/asymmetry relationship. The net contribution of a constellation
> of sources will simple average out the asymmetry back into the rather
> pedestrian distribution pattern.
>
> 73's
> Richard Clark, KB7QHC

5163. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 23:39:41 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177630781.667676.130500@n35g2000prd.googlegroups.com>
Source record: 41979

On Apr 26, 9:14 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Or do you mean that the output aspects of a class-C amplifier
> > can not be modelled as a linear circuit?
>
> If a class-C amplifier is modeled as a linear circuit,
> the model is wrong.

Well, all models are wrong. The question is, "Are they good
enough?"

> > It seems to me
> > a first order model of the output circuit would be a voltage
> > controlled current sink (the tube), a constant voltage source
> > (the power supply), an RFC, a coupling capacitor and an
> > output filter constructed of inductors and capacitors; all of
> > which are linear components.
>
> But the model bears little resemblance to the actual
> active dynamic source which has been my objection all
> along. When the tube is off, the source impedance is
> essentially infinite.

The impedance of an ideal current sink is always infinite,
whether it is conducting no current or any current. So the
first level model I proposed above aligns with your
statement.

Certainly the model I described is linear. Is there some
other fault in the model that makes it sufficiently incorrect
to be unusable?

...Keith

5164. Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-26 23:59:00 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0rebv$i67$1@news.service.uci.edu>
Source record: 41980

Cecil Moore wrote:

> The standing wave current phasor has the "same rotational speed
> as its components"???

It has to. Thankfully, rotational speed is the one thing that does
not change between the radio and the antenna.

> How can that be when the forward current
> phasor and the reflected current phasor are rotating in opposite
> directions?

Rotational speed has nothing to do with direction of travel. It has
only to do with the source. Rotational speed is simply omega;
2pi*c/wavelength, or 2pi*f. When waves of equal frequency are
traveling in opposite directions, the RF waveform which comprises the
standing wave (the latter being simply the amplitude envelope of the
superposed traveling waves) has the same wavelength, and thus the same
rotational speed as the traveling waves. Although the position of the
peaks does not vary with time, their amplitude is still a time varying
function. This rudimentary effect is illustrated in the movie here:

http://www.kettering.edu/~drussell/Demos/superposition/superposition.html

Mixing on the other hand is the product (rather than the sum) of two
or more waveforms and does in fact yield different rotational speeds.

73, Jim AC6XG

5165. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 00:04:20 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <pdf233d65l8s9si2sn20fa711grpu2e8u9@4ax.com>
Source record: 41981

On 26 Apr 2007 16:39:41 -0700, Keith Dysart <kd1@sympatico.ca> wrote:

>Is there some
>other fault in the model that makes it sufficiently incorrect
>to be unusable?

The story of the Princess and the Pea. How many mattresses before the
Princess will be satisfied?

73's
Richard Clark, KB7QHC

5166. Re: Gauss again

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 00:18:47 UTC
From: Dave <noone@nowhere.com>
Message-ID: <HjbYh.8628$oo5.1378@trndny06>
Source record: 41982

"art" <aunwin@insightbb.com> wrote in message
news:1177630442.897054.150250@t38g2000prd.googlegroups.com...
> On 26 Apr, 14:03, "Dave" <n...@nowhere.com> wrote:
>> "art" <aun...@insightbb.com> wrote in message
>>
>> news:1177553600.534533.261860@o40g2000prh.googlegroups.com...
>>
>> > I am a very old mechanical engineer not electrical so these are things
>> > as I see it and where electrical engineers would possibly differ.
>>
>> The FIRST think you have said that makes sense!
>
> I just read your history again and you are posting every where ,
> slamming people on every different newsgroup for apparently no reason
> and it apears you view it as a full time job.
> One minuit here type a comment ,quickly move to cooking, type a
> slamming comment, move to another newsgroup and slam Nascar drivers.
> You are just one busy man with lots of hate comments to pass around,
> for why I do not know but I feel sorry for you and all those around
> you. Over 100,000 postings with the majority hate mail.
>

you better get a better search method. you seem to know as much about
matching up headers as you do about fields and waves. i post in this group
fairly regularly, and a couple of microsoft programming support groups on
rare occasions, and a matlab group under a different alias... but never
cooking, nascar, or whereever you found 100k postings!

5167. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 00:29:08 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <463143ca$0$21259$39cecf19@news.twtelecom.net>
Source record: 41983

Richard Harrison wrote:

>
> Bailey gives the W8JK a resistance of 7 ohms and a gain of 4 dBd (6
> dBi).
>

I've always wondered how he managed to have "NO SIGNAL RESPONSE IN THIS PLANE" for yz though. He must have built and balanced things really well. :)

tom
K0TAR

5168. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 01:03:29 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <1332iv4peqh3je9@corp.supernews.com>
Source record: 41984

Jim Kelley wrote:
> . . .
> Mixing on the other hand is the product (rather than the sum) of two or
> more waveforms and does in fact yield different rotational speeds.

And multiplying voltage and current waveforms, or squaring a voltage or current waveform to get power gives a wave with double the rotational speed and, unless V and I are in quadrature, a DC offset.

Roy Lewallen, W7EL

5169. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 01:12:46 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <i6cYh.19486$Um6.11396@newssvr12.news.prodigy.net>
Source record: 41985

Keith Dysart wrote:
> Certainly the model I described is linear. Is there some
> other fault in the model that makes it sufficiently incorrect
> to be unusable?

Yes, it doesn't model a class-C amplifier.
--
73, Cecil http://www.w5dxp.com

5170. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 01:14:54 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <i8cYh.19487$Um6.16256@newssvr12.news.prodigy.net>
Source record: 41986

Jim Kelley wrote:
> Rotational speed has nothing to do with direction of travel.

I assumed that the "same rotational speed" implies
the same direction.
--
73, Cecil http://www.w5dxp.com

5171. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 01:21:01 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <1ecYh.19488$Um6.15221@newssvr12.news.prodigy.net>
Source record: 41987

Cecil Moore wrote:
> Jim Kelley wrote:
>> Rotational speed has nothing to do with direction of travel.
>
> I assumed that the "same rotational speed" implies
> the same direction.

The reason I assumed that is this assertion by W7EL.
"This is the total current. It has magnitude and phase
like any other phasor, and the same rotational speed
as its components."

The total current, as graphed by Kraus and displayed
by EZNEC *DOES NOT* have the same rotational speed as
its components. It is obvious that Roy meant the
same direction when he said "same rotational speed".
--
73, Cecil http://www.w5dxp.com

5172. Re: Need HF Antenna advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 01:27:25 UTC
From: Jerry <joxendi@bellsouth.net>
Message-ID: <NkcYh.18163$qB4.16604@bignews3.bellsouth.net>
Source record: 41988

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:l7WXh.3393$H_.1948@newssvr21.news.prodigy.net...
> Jerry wrote:
>> "Owen Duffy" <none@no.where> wrote:
>>> http://www.vk1od.net/cobra/index.htm .
>>
>> Says "Page not found"!
>
> Worked for me.
> --
> 73, Cecil http://www.w5dxp.com

Musta been a temporary thing. Worked shortly after I tried it again.

BTW, for whatever shortcomings Joe's Cobra has, I've had excellent results and been complimented both on the ham bands and on some other military/non-amateur frequencies I am authorized from 2-22 MHZ. So long as it works! I'll probably do something else later, but at the time, the Cobra was the best considering personal considerations and lot limitations. And, actually, I am not one of those who must have the biggest signal going--just so you can hear me well enough to do the job! ;)

73

Jerry

5173. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 01:37:17 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177637836.885948.68800@s33g2000prh.googlegroups.com>
Source record: 41989

On Apr 26, 9:12 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Certainly the model I described is linear. Is there some
> > other fault in the model that makes it sufficiently incorrect
> > to be unusable?
>
> Yes, it doesn't model a class-C amplifier.

Ah yes. At first there was a reason. But then that was taken
care of, so now we have well...

welll...

well...

It just does NOT model it.

Rather lame, methinks.

...Keith

5174. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 01:48:21 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <FDcYh.19497$Um6.8030@newssvr12.news.prodigy.net>
Source record: 41990

Keith Dysart wrote:
> It just does NOT model it.

You got it. Einstein said an explanation should be as simple as possible, but not too simple. There is too much evidence gathered over decades of arguments for simple-minded models to work anywhere except in your dreams.

Your earlier example proved it. In a source with absolute zero power, you claimed that all the reflected power was being dissipated in that source. Maybe you should fix your trivial model before tackling anything more complicated.
--
73, Cecil http://www.w5dxp.com

5175. Re: Need HF Antenna advice

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 03:09:09 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns991F85CC4BD7nonenowhere@61.9.191.5>
Source record: 41991

"Jerry" <joxendi@bellsouth.net> wrote in
news:NkcYh.18163$qB4.16604@bignews3.bellsouth.net:

>
> "Cecil Moore" <nospam@w5dxp.com> wrote in message
> news:l7WXh.3393$H_.1948@newssvr21.news.prodigy.net...
>> Jerry wrote:
>>> "Owen Duffy" <none@no.where> wrote:
>>>> http://www.vk1od.net/cobra/index.htm .
>>>
>>> Says "Page not found"!
>>
>> Worked for me.
>> --
>> 73, Cecil http://www.w5dxp.com
>
> Musta been a temporary thing. Worked shortly after I tried it again.
>
> BTW, for whatever shortcomings Joe's Cobra has, I've had excellent
> results and been complimented both on the ham bands and on some other
> military/non-amateur frequencies I am authorized from 2-22 MHZ. So
> long as it works! I'll probably do something else later, but at the
> time, the Cobra was the best considering personal considerations and
> lot limitations. And, actually, I am not one of those who must have
> the biggest signal going--just so you can hear me well enough to do
> the job! ;)

Jerry, it seems to me that the Cobra is a compromise, and we each make our own judgements about the trade-offs that are acceptable. Of course, those individual considerations make recomendations like "it works great for me, it is the best for you" rather worthless.

Some of the claims about some antennas (including the Cobra) seem unrealistic, but that doesn't condemn the antennas, it just means people building or buying them based on those claims have been mislead.

It is my view that understanding the behaviour of the antennas helps you to make an informed judgement about the trade-offs in your own situation, and it allows you to get the best out of the antenna as installed.

Modelling suggests that the Cobra Jnr has a couple of weaknesses, one is the spikes in loss at some frequencies (an artefact of linear loading), most but not all of which are outside amateur bands; and the second is that the "window" of low loss around 80m is narrow and might be worth checking that as installed, that window is centred over your most desirable operating frequncies. These effects scaled for the double size

are more pronounced with the full sized Cobra.

An effect similar to the second point above exists also with the G5RV, and I have suggested a procedure in-situ tuning for optimising 80m performance. If I had a full sized Cobra and intended using it on 160m, or a Cobra Jnr on 80m, I certainly would think about doing similar.

Owen

5176. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 03:51:59 UTC
From: richardharrison@webtv.net
Message-ID: <19937-4631735F-236@storefull-3252.bay.webtv.net>
Source record: 41992

Tom Ring, K0TAR wrote: "I`ve always wondered how he managed to have "NO SIGNAL RESPONSE IN THIS PLANE" for yz though. "

I guessed that Arnold Bailey just assumed perfection in some instances for practical purposes. My own experience has been that differences of less than one dB were not to be confided in. Reg Edwards used to speak of "delusions of accuracy", and I think he grasped a lot of wisdom there.

Best regards, Richard Harrison, KB5WZI

5177. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 09:27:10 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177666030.306025.278500@r30g2000prh.googlegroups.com>
Source record: 41993

On Apr 26, 9:48 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > It just does NOT model it.
>
> You got it. Einstein said an explanation should be as
> simple as possible, but not too simple. There is too
> much evidence gathered over decades of arguments for
> simple-minded models to work anywhere except in your
> dreams.

Okay, so you can't find anything to point at that is wrong
with the model. You could always ask. I could point to a
few things that are arguably weak with the model.

> Your earlier example proved it. In a source with
> absolute zero power, you claimed that all the
> reflected power was being dissipated in that
> source.

Of course I claimed no such thing; you do need to read
more carefully. And you have conveniently neglected the
other example which was presented right beside for
which 4 times the "reflected power" was dissipated by
the source. These two copmletely different results
call into question the nature of "reflected power".

...Keith

5178. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 11:28:08 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <c7lYh.19526$Um6.13420@newssvr12.news.prodigy.net>
Source record: 41994

Keith Dysart wrote:
> Okay, so you can't find anything to point at that is wrong
> with the model.

What is wrong with the model is that it doesn't work
in reality. Neither does the 6000 year old model of
the age of the earth.

> Of course I claimed no such thing; you do need to read
> more carefully. And you have conveniently neglected the
> other example which was presented right beside for
> which 4 times the "reflected power" was dissipated by
> the source. These two copmletely different results
> call into question the nature of "reflected power".

No, they call into question the validity of the model.
The reflected energy is there and can be dissipated
by a circulator load. That the model gets it wrong is
proof of an invalid model, not proof that photons
contain zero energy. Photons contain energy that obeys
the conservation of energy principle.

The fact that zero energy is dissipated in a source
is prima facie evidence of destructive interference
and a "redistribution of energy in a direction that
allows constructive interference". Understanding
interference is the key and your model doesn't even
mention interference.
--
73, Cecil http://www.w5dxp.com

5179. Re: Unusual Design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 11:33:40 UTC
From: Buck <usenet01@lumpuckeroo.com>
Message-ID: <nrn333ln35jncngla9r7b6nui7q98k305m@4ax.com>
Source record: 41995

Pardon me, Roy, but I stole your line.

:)

>"Small - broadband - efficient: pick any two."
>
>Roy Lewallen, W7EL

--
73 for now
Buck, N4PGW

www.lumpuckeroo.com

"Small - broadband - efficient: pick any two."

5180. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 11:46:01 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177674361.419940.10240@r30g2000prh.googlegroups.com>
Source record: 41996

On Apr 27, 7:28 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Okay, so you can't find anything to point at that is wrong
> > with the model.
>
> What is wrong with the model is that it doesn't work
> in reality.

Hmmm. Having a complete inability to articulate any issues
with the model, you are, none-the-less, convinced that it does
not work in 'reality'. Hmmm.

> > Of course I claimed no such thing; you do need to read
> > more carefully. And you have conveniently neglected the
> > other example which was presented right beside for
> > which 4 times the "reflected power" was dissipated by
> > the source. These two completely different results
> > call into question the nature of "reflected power".
>
> No, they call into question the validity of the model.
> The reflected energy is there and can be dissipated
> by a circulator load.
>
> The fact that zero energy is dissipated in a source
> is prima facie evidence of destructive interference
> and a "redistribution of energy in a direction that
> allows constructive interference".

But then what is the fact that 4 times the energy is
dissipated in the source prime facie evidence of?

Good explanations explain all the observations, not
just the supporting ones.

...Keith

5181. H F Antenna - BWD-90 VS G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 12:12:26 UTC
From: "Bob D." <bobmgtd@insightbb.com>
Message-ID: <wqSdnRpitNYLdazbnZ2dnUVZ_hGdnZ2d@insightbb.com>
Source record: 41997

I'm still trying to decide on a ready-made HF antenna. I have a couple more questions.

Can the Barker & Williamson's BWD-90 really be used without an antenna tuner?

Does the G5RV really need an antenna tuner?

Wow, there's a 7:1 price difference here! Hope to be QSOing soon, instead of emailing.

--
Bob D. ND9B

5182. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 12:20:23 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <bUlYh.19527$Um6.11995@newssvr12.news.prodigy.net>
Source record: 41998

Keith Dysart wrote:
> Hmmm. Having a complete inability to articulate any issues
> with the model, you are, none-the-less, convinced that it does
> not work in 'reality'. Hmmm.

I have been articulating issues with the model for weeks
now and I am just about articulated out. We are repeating
the same things over and over and unless you take time
out to comprehend interference, there's no reason to
continue.

>> The fact that zero energy is dissipated in a source
>> is prima facie evidence of destructive interference
>> and a "redistribution of energy in a direction that
>> allows constructive interference".
>
> But then what is the fact that 4 times the energy is
> dissipated in the source prime facie evidence of?

Of *total constructive interference* in the source, of
course. I already answered that question days ago. It
is futile to try to communicate with someone who refuses
to listen. Here are the power intensity equations
governing the power dissipated in the two sources in
the previous two examples.

Thevenin equivalent if P1 = P2:
Pdis = P1 + P2 - 2*SQRT(P1*P2) = 0
Total Destructive Interference as defined by Hecht in
"Optics", 4th edition, page 388.

Norton equivalent if P1 = P2:
Pdis = P1 + P2 + 2*SQRT(P1*P2) = 4*P1
Total Constructive Interference as defined by Hecht in
"Optics", 4th edition, page 388.

Until you learn to recognize interference when it is staring
you in the face, you are going to continue to make the same
mistakes over and over. Forward and reflected energy is alive
and well and obeys the conservation of energy principle. That
you cannot figure out where the photonic energy goes during
a wave interference event is not my problem. Hints about
destructive interference:

www.mellesgriot.com/products/optics/oc_2_1.htm

"Clearly, if the wavelength of the incident light and the thickness
of the film are such that a phase difference exists between reflections
of p, then reflected wavefronts interfere destructively, and overall
reflected intensity is a minimum. If the two reflections are of equal
amplitude, then this amplitude (and hence intensity) minimum will be
zero."

Note that "intensity" is *power density* in watts/unit-area.

"In the absence of absorption or scatter, the principle of conservation
of energy indicates all 'lost' reflected intensity will appear as
enhanced intensity in the transmitted beam. The sum of the reflected and
transmitted beam intensities is always equal to the incident intensity.
This important fact has been confirmed experimentally."

http://micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/waveinteractions/index
.html

"... when two waves of equal amplitude and wavelength that are 180-
degrees out of phase with each other meet, they are not actually
annihilated. All of the photon energy present in these waves must
somehow be recovered or *redistributed in a new direction*, according to
the *law of energy conservation* ... Instead, upon meeting, the photons
are *redistributed to regions that permit constructive interference*, so
the effect should be considered as a *redistribution* of light waves and
photon energy rather than the spontaneous construction or destruction
of light."

emphasis mine
--
73, Cecil http://www.w5dxp.com

5183. Re: H F Antenna - BWD-90 VS G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 12:40:47 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <jbmYh.1746$uJ6.1515@newssvr17.news.prodigy.net>
Source record: 41999

Bob D. wrote:
> Can the Barker & Williamson's BWD-90 really be used without an antenna
> tuner?

Any antenna can be equipped with a resistor that will
dissipate so much RF energy that a tuner is not required.
A dummy load will do the same thing. One review of the
BWD-90 says it is the biggest air-cooled dummy load in
the world.

http://www.eham.net/reviews/detail/1016

> Does the G5RV really need an antenna tuner?

Yes, unless you install a resistor at the coax/twinlead
junction.

http://www.vk1od.net/G5RV/
--
73, Cecil http://www.w5dxp.com

5184. Re: H F Antenna - BWD-90 VS G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 13:38:49 UTC
From: Chuck <no.spam@no.spam.at.all>
Message-ID: <1177681203_10491@sp12lax.superfeed.net>
Source record: 42000

Bob D. wrote:
> I'm still trying to decide on a ready-made HF antenna. I have a couple more
> questions.
>
> Can the Barker & Williamson's BWD-90 really be used without an antenna
> tuner?
>
> Does the G5RV really need an antenna tuner?
>
> Wow, there's a 7:1 price difference here! Hope to be QSOing soon, instead
> of emailing.
>

Bob, check out www.cebik.com for an
anlysis of the B&W antennas, G5RV's and
others.

The B&W antenna radiates better than a
dummy load of course, but is less
efficient than alternative antennas
burdened by other constraints.

We haven't quite reached the "one size
fits all" stratum yet.

73,

Chuck, NT3G

----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

5185. Re: Unusual Design

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 14:19:32 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <f0t0p9$pk3$2@nnrp.linuxfan.it>
Source record: 42001

LA4RT Jon Kåre Hellan wrote:
> "The Shadow" <Repose@Zilch.com> writes:
>
>> Take a look at the TAK-tenna
>> http://www.tak-tenna.com/
>>
>> Comments ??
>
> Wide bandwidth combined with small size is usually a bad sign. Physics
> tends to make small antennas narrow banded, unless they are lossy.

For someone in a land yacht and spending vast amounts of
vacation/retirement time on the roads--looks like one dream of a solution.

Buy a new home in my area, $600,000+, and this might be your only
solution to remaining "radio-active."

Regards,
JS

5186. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 14:28:13 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <1MnYh.373126$5j1.32033@bgtnsc04-news.ops.worldnet.att.net>
Source record: 42002

Cecil Moore wrote:
> Keith Dysart wrote:
>> Certainly the model I described is linear. Is there some
>> other fault in the model that makes it sufficiently incorrect
>> to be unusable?
>
> Yes, it doesn't model a class-C amplifier.

Cecil,

I heard a rumor that the FCC does not like people to inject class-C type pulses directly into an antenna from the output of an amateur transmitter.

Perhaps that rumor is just an urban legend, however, and non-linear outputs are welcome.

8-)

73,
Gene
W4SZ

5187. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 15:42:37 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <MRoYh.1779$uJ6.455@newssvr17.news.prodigy.net>
Source record: 42003

Gene Fuller wrote:
> I heard a rumor that the FCC does not like people to inject class-C type
> pulses directly into an antenna from the output of an amateur transmitter.
>
> Perhaps that rumor is just an urban legend, however, and non-linear
> outputs are welcome.

The subject is modeling a class-C source, Gene,
not filtering a class-C source. We all know how
to filter a class-C source. Do you have a model
for a class-C source?
--
73, Cecil http://www.w5dxp.com

5188. 10m ground wave expectations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 15:47:55 UTC
From: Joey <joey@nowhere.org>
Message-ID: <dd64339h0kluu9d5kqu0tff6h9r6nmpbdl@4ax.com>
Source record: 42004

Hi,
I'm trying to determine if I could use 10 meters to contact a station about 75 miles away with about 2500ft elevation of a couple sets of hills in between with just simple antennas on either end. Perhaps a 10m dipole on one end and some kind of stealthy one on the other. I assume this would have to be ground wave only given the distance and current band conditions.
My parents are both techs so we're currrently limited to parts of 10m as the lowest band and I'd like to have something reliable without need repeaters for disaster comms. We actually only have a few single hop VHF/UHF repeaters between us, though quite a few linked ones.
I've also thought of 6m due to smaller antenna requirements, but I'm pretty sure this is too far...
Thanks!

5189. Re: 10m ground wave expectations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 16:25:17 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <pi84339us89vf3pmv1psttuvbgl0c0625r@4ax.com>
Source record: 42005

On Fri, 27 Apr 2007 08:47:55 -0700, Joey <joey@nowhere.org> wrote:

>Hi,
>I'm trying to determine if I could use 10 meters to contact a station
>about 75 miles away

Hi Joey,

That's hit number one, distance at this wavelength.

>with about 2500ft elevation of a couple sets of
>hills in between

That's hit number two with the terrain against you.

>with just simple antennas on either end.

That's hit number three, antennas without gain.

>Perhaps a
>10m dipole on one end and some kind of stealthy one on the other.

That's hit number four, every possibility of being cross polarized,
and with at least one antenna masked by building or foliage to qualify
as "stealthy."

>I
>assume this would have to be ground wave only given the distance and
>current band conditions.

You might try NVIS, but what you say, as follows, doesn't give you
many band options.

>My parents are both techs so we're currrently limited to parts of 10m
>as the lowest band

It's time to upgrade. Consult the new rule changes, take a practice
test, and see what happens.

>and I'd like to have something reliable without
>need repeaters for disaster comms.

Then you really need to stop rationalizing about having a "stealth"
antenna. If this was Hurricane Katrina, how long can you call CQ
under water?

>We actually only have a few single
>hop VHF/UHF repeaters between us, though quite a few linked ones.
>I've also thought of 6m due to smaller antenna requirements, but I'm

>pretty sure this is too far...

Try it first before giving up.

73's
Richard Clark, KB7QHC

5190. Re: 10m ground wave expectations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 16:42:31 UTC
From: Joey <joey@nowhere.org>
Message-ID: <us94331gasschgouist8j469tuuv4vbn53@4ax.com>
Source record: 42006

I figured it was a long shot. By "stealth" i just mean something low
profile and the other end doesn't have much yard space and a big
verticle is certainly not going to be sticking up on top. I suppose I
could making something that's just deployable when needed since this
isn't for day to day use... seems upgrading may help....thx...

On Fri, 27 Apr 2007 09:25:17 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>On Fri, 27 Apr 2007 08:47:55 -0700, Joey <joey@nowhere.org> wrote:
>
>>Hi,
>>I'm trying to determine if I could use 10 meters to contact a station
>>about 75 miles away
>
>Hi Joey,
>
>That's hit number one, distance at this wavelength.
>
>>with about 2500ft elevation of a couple sets of
>>hills in between
>
>That's hit number two with the terrain against you.
>
>>with just simple antennas on either end.
>
>That's hit number three, antennas without gain.
>
>>Perhaps a
>>10m dipole on one end and some kind of stealthy one on the other.
>
>That's hit number four, every possibility of being cross polarized,
>and with at least one antenna masked by building or foliage to qualify
>as "stealthy."
>
>>I
>>assume this would have to be ground wave only given the distance and
>>current band conditions.
>
>You might try NVIS, but what you say, as follows, doesn't give you
>many band options.
>
>>My parents are both techs so we're currrently limited to parts of 10m
>>as the lowest band
>

>It's time to upgrade. Consult the new rule changes, take a practice
>test, and see what happens.
>
>>and I'd like to have something reliable without
>>need repeaters for disaster comms.
>
>Then you really need to stop rationalizing about having a "stealth"
>antenna. If this was Hurricane Katrina, how long can you call CQ
>under water?
>
>>We actually only have a few single
>>hop VHF/UHF repeaters between us, though quite a few linked ones.
>>I've also thought of 6m due to smaller antenna requirements, but I'm
>>pretty sure this is too far...
>
>Try it first before giving up.
>
>73's
>Richard Clark, KB7QHC

5191. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 16:53:10 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <WTpYh.82459$VU4.40705@bgtnsc05-news.ops.worldnet.att.net>
Source record: 42007

```
Cecil Moore wrote:
> Gene Fuller wrote:
>> I heard a rumor that the FCC does not like people to inject class-C
>> type pulses directly into an antenna from the output of an amateur
>> transmitter.
>>
>> Perhaps that rumor is just an urban legend, however, and non-linear
>> outputs are welcome.
>
> The subject is modeling a class-C source, Gene,
> not filtering a class-C source. We all know how
> to filter a class-C source. Do you have a model
> for a class-C source?

Cecil,

The original topic was the *output* of an amateur transceiver, e.g., as
seen by a transmission line.

Sorry I did not catch the thread redefinition toward the inner workings
of such a device. That move could open up infinite opportunity for more
arguments.

8-)

73,
Gene
W4SZ
```

5192. Re: H F Antenna - BWD-90 VS G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 17:07:02 UTC
From: "Rick (W-A-one-R-K-T)" <get.my.email@from.qrz.com>
Message-ID: <pan.2007.04.27.17.07.01.163565@from.qrz.com>
Source record: 42008

On Fri, 27 Apr 2007 08:12:26 -0400, Bob D. wrote:

> Can the Barker & Williamson's BWD-90 really be used without an antenna
> tuner?

Good afternoon, Bob.

I agree with Chuck and Cecil. The B&Ws are radiating dummy loads, nothing more.

One time, I was on a 75-meter net with another station about 15 miles from me, and several other stations elsewhere in the state, as far as 150 miles away. The other station (the one 15 miles away) was running 100 watts and a B&W at 25 feet. I was running a grand total of FIVE (5) watts and a cut dipole at 20 feet. My 5 watts was reported as stronger than the other station's 100 watts.

I read another report in this newsgroup from another amateur who said pretty much the same thing except in his case it was a MARS net, I think, somewhere above the top end of 75 meters.

For the price of a B&W, or perhaps just a bit more, you can buy the materials to make an 80-meter dipole fed with ladder line, and an autotuner e.g. from LDG that will let you run that antenna on 80 through 10.

That's what I would recommend if you want easy and relatively inexpensive multiband operation.

5193. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 17:21:07 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <7iqYh.2333$H84.1917@newssvr22.news.prodigy.net>
Source record: 42009

Gene Fuller wrote:
> Sorry I did not catch the thread redefinition toward the inner workings
> of such a device.

Apology accepted. The crux of what we have been discussing
for days, if not weeks, is what does a model of the active,
dynamic volcano of energy, i.e. the source, look like?
--
73, Cecil http://www.w5dxp.com

5194. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 18:00:02 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0tdmu$94n$1@news.service.uci.edu>
Source record: 42010

Cecil Moore wrote:

> Cecil Moore wrote:
>
>> Jim Kelley wrote:
>>
>>> Rotational speed has nothing to do with direction of travel.
>>
>>
>> I assumed that the "same rotational speed" implies
>> the same direction.
>
> The reason I assumed that is this assertion by W7EL.
> "This is the total current. It has magnitude and phase
> like any other phasor, and the same rotational speed
> as its components."

> The total current, as graphed by Kraus and displayed
> by EZNEC *DOES NOT* have the same rotational speed as
> its components. It is obvious that Roy meant the
> same direction when he said "same rotational speed".

I'm sure you're in a better position to know that than Roy is.

ac6xg

5195. Re: H F Antenna - BWD-90 VS G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 18:10:55 UTC
From: Chuck <no.spam@no.spam.at.all>
Message-ID: <1177697530_10811@sp12lax.superfeed.net>
Source record: 42011

Rick (W-A-one-R-K-T) wrote:
> On Fri, 27 Apr 2007 08:12:26 -0400, Bob D. wrote:
>
>> Can the Barker & Williamson's BWD-90 really be used without an antenna
>> tuner?
>
> Good afternoon, Bob.
>
> I agree with Chuck and Cecil. The B&Ws are radiating dummy loads, nothing
> more.
>
> One time, I was on a 75-meter net with another station about 15 miles from
> me, and several other stations elsewhere in the state, as far as 150 miles
> away. The other station (the one 15 miles away) was running 100 watts and
> a B&W at 25 feet. I was running a grand total of FIVE (5) watts and a cut
> dipole at 20 feet. My 5 watts was reported as stronger than the other
> station's 100 watts.
>
> I read another report in this newsgroup from another amateur who said
> pretty much the same thing except in his case it was a MARS net, I think,
> somewhere above the top end of 75 meters.
>
> For the price of a B&W, or perhaps just a bit more, you can buy
> the materials to make an 80-meter dipole fed with ladder line, and an
> autotuner e.g. from LDG that will let you run that antenna on 80 through
> 10.
>
> That's what I would recommend if you want easy and relatively inexpensive
> multiband operation.
>

Let's not overstate the case against the
B&W. Cebik's modeling shows a ~6 dB
penalty for the 90' B&W at 6 MHz and
above, while at 4 MHz, it is more like
12 dB, which is very roughly
commensurate with your anecdotal report.

Obviously, one does not endure such
losses without countervailing benefits
which, in this case, are superb
frequency agility, simplicity, and
reliability.

While I wouldn't own one, others do.

Chuck, NT3G

-----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

5196. Re: 10m ground wave expectations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 18:11:44 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <46323cd1$0$24768$4c368faf@roadrunner.com>
Source record: 42012

"Joey" <joey@nowhere.org> wrote in message
news:dd64339h0kluu9d5kqu0tff6h9r6nmpbdl@4ax.com...
> Hi,
> I'm trying to determine if I could use 10 meters to contact a station
> about 75 miles away with about 2500ft elevation of a couple sets of
> hills in between with just simple antennas on either end. Perhaps a
> 10m dipole on one end and some kind of stealthy one on the other. I
> assume this would have to be ground wave only given the distance and
> current band conditions.
> My parents are both techs so we're currrently limited to parts of 10m
> as the lowest band and I'd like to have something reliable without
> need repeaters for disaster comms. We actually only have a few single
> hop VHF/UHF repeaters between us, though quite a few linked ones.
> I've also thought of 6m due to smaller antenna requirements, but I'm
> pretty sure this is too far...
> Thanks!

75 miles is a bad distance for 10M I have almost no cotacts at that range.
The few occured while doing mountain toping.. Great time to upgrade just get
online and keep taking practice test until you pass.

5197. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 18:34:25 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <RmrYh.6191$2v1.664@newssvr14.news.prodigy.net>
Source record: 42013

Jim Kelley wrote:
>
> Cecil Moore wrote:
>> Cecil Moore wrote:
>>
>>> Jim Kelley wrote:
>>>
>>>> Rotational speed has nothing to do with direction of travel.
>>>
>>> I assumed that the "same rotational speed" implies
>>> the same direction.
>>
>> The reason I assumed that is this assertion by W7EL.
>> "This is the total current. It has magnitude and phase
>> like any other phasor, and the same rotational speed
>> as its components."
>
>> The total current, as graphed by Kraus and displayed
>> by EZNEC *DOES NOT* have the same rotational speed as
>> its components. It is obvious that Roy meant the
>> same direction when he said "same rotational speed".
>
> I'm sure you're in a better position to know that than Roy is.

It's a matter of logic, Jim. We know that the forward
current and reflected current phasors are rotating in
opposite directions. Kraus and EZNEC say that the
phase angle of the current on a 1/2WL dipole changes
by only 2 degrees, end to end. Therefore, contrary to
what Roy asserted, the total current does NOT have the
same rotational speed as its components.

That was Roy's mistake in using total current to try
to measure phase shift through a coil. One cannot
use total current phase on a standing wave antenna
to determine any valid measurement concerning phase
shift through a coil. But since the phase information
is preserved in the total current amplitude, it can
be used to estimate phase shift through the coil.

Roy said, "What I measured was a 3.1% reduction in
magnitude from input to output, with no discernible
phase shift."

From this, for a base-loaded coil we can estimate the
phase shift through the coil to be

arccos(.969) = 14.3 degrees

With no discernible phase shift we can estimate that
there was no decrease in current from end to end for
either the forward current or reflected current.
--
73, Cecil http://www.w5dxp.com

5198. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 18:46:31 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0tge3$ba0$1@news.service.uci.edu>
Source record: 42014

Cecil Moore wrote:

> We know that the forward
> current and reflected current phasors are rotating in
> opposite directions. Kraus and EZNEC say that the
> phase angle of the current on a 1/2WL dipole changes
> by only 2 degrees, end to end. Therefore, contrary to
> what Roy asserted, the total current does NOT have the
> same rotational speed as its components.

Due to the shape of the North American elk's esophagus, even if it
could speak, it could not pronounce the word lasagna.

Cliff Claven

5199. Re: 10m ground wave expectations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 18:51:14 UTC
From: nm5k@wt.net
Message-ID: <1177699873.957314.29000@r35g2000prh.googlegroups.com>
Source record: 42015

On Apr 27, 9:47 am, Joey <j...@nowhere.org> wrote:
> Hi,
> I'm trying to determine if I could use 10 meters to contact a station
> about 75 miles away with about 2500ft elevation of a couple sets of
> hills in between with just simple antennas on either end. Perhaps a
> 10m dipole on one end and some kind of stealthy one on the other. I
> assume this would have to be ground wave only given the distance and
> current band conditions.
> My parents are both techs so we're currrently limited to parts of 10m
> as the lowest band and I'd like to have something reliable without
> need repeaters for disaster comms. We actually only have a few single
> hop VHF/UHF repeaters between us, though quite a few linked ones.
> I've also thought of 6m due to smaller antenna requirements, but I'm
> pretty sure this is too far...
> Thanks!

75 miles is do-able, but stretching it on 10m..
#1, if using simple antennas, good elevated
verticals, or ground planes would be your
only chance. No way you are likely to make
it with horizontal dipoles. And to make 75
miles, the antennas really need to be fairly high.
The hills may be a problem..
Power would help...
If both stations had high ground planes, to talk
75 miles with any reliability, you really would
need an amp, doing 500+ watts on both ends...
There is no NVIS on 10m, unless you get the
fluke chance of backscatter, or aurora..
I've done both on 10m... Backscatter is not that
uncommon, but the aurora is not going to happen
too often. But I've used aurora propogation to work
stations a lot closer than usual.. Sounds like talking
through a window fan... The last time I did that was
in the late 80's at the solar cycle peak.
Anyway, talking 75 miles reliably on 10 can be done,
but most that do it run high verticals, or beams,
and most run power. Note CBers.. They do it all
the time.
But again, that hill may or may not be a problem..
What you might want to look at is 2m SSB using
beams.. But again, the hills... ??
Those will be more of a problem, the higher in freq
you go I bet. Maybe it's time to upgrade, and use a

freq more suited, like 40 in the day, and 75 at night..
Actually, 75m will work that distance most any time
of the day.
If you can't have at least a good vertical on 10m, it
ain't gonna happen. Where as a low stealth dipole
would work on the lower bands, using NVIS propo.
Also, no power is needed in most cases.. 100w
is more than enough. 10w is plenty in many cases.
MK

5200. Which modeler?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 19:18:57 UTC
From: weaver5511@mypacks.net
Message-ID: <1177701537.398598.316940@n35g2000prd.googlegroups.com>
Source record: 42016

I've been 'googling' for a MININEC-based antenna modeling program (or programs) and I've decided a guy could get old and grey before he was through looking at all the offerings. I've kind of (based on web page descriptions) compiled a short list of candidates as follows:

MMANA by JH3HHT
EZNEC by W7EL
NEC-Win Pro by Nitanny Scientific

Is anyone here using any of those, especially NEC-Win Plus? Can anyone recommend one that they KNOW is better than the ones on my list? I have $450 budgeted for this but I might consider something a little costlier if it were overwhelmingly better.

73, RDW

5201. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 19:45:33 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <xpsYh.12806$YL5.4098@newssvr29.news.prodigy.net>
Source record: 42017

Jim Kelley wrote:
>
> Cecil Moore wrote:
>> We know that the forward
>> current and reflected current phasors are rotating in
>> opposite directions. Kraus and EZNEC say that the
>> phase angle of the current on a 1/2WL dipole changes
>> by only 2 degrees, end to end. Therefore, contrary to
>> what Roy asserted, the total current does NOT have the
>> same rotational speed as its components.
>
> Due to the shape of the North American elk's esophagus, even if it could
> speak, it could not pronounce the word lasagna.

The technical content of your posting is noted. Roy can
easily verify that EZNEC disagrees with his assertion
that "the total current has the same rotational speed
as its components". The total current has hardly any
rotational speed at all, i.e. 2 degrees of rotation
end-to-end in 180 degrees of a 1/2WL dipole.
--
73, Cecil http://www.w5dxp.com

5202. Re: Which modeler?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 19:47:59 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <PrsYh.12807$YL5.2757@newssvr29.news.prodigy.net>
Source record: 42018

weaver5511@mypacks.net wrote:
> MMANA by JH3HHT
> EZNEC by W7EL
> NEC-Win Pro by Nitanny Scientific
>
> Is anyone here using any of those, especially NEC-Win Plus? Can
> anyone recommend one that they KNOW is better than the ones on my
> list? I have $450 budgeted for this but I might consider something a
> little costlier if it were overwhelmingly better.

IMO, for the price, you cannot beat EZNEC.
--
73, Cecil http://www.w5dxp.com

5203. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 19:53:36 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <1334l64ju4afb89@corp.supernews.com>
Source record: 42019

>> Cecil Moore wrote:
>>
>> The reason I assumed that is this assertion by W7EL.
>> "This is the total current. It has magnitude and phase
>> like any other phasor, and the same rotational speed
>> as its components."
>
>> The total current, as graphed by Kraus and displayed
>> by EZNEC *DOES NOT* have the same rotational speed as
>> its components. It is obvious that Roy meant the
>> same direction when he said "same rotational speed".

EZNEC does not display "rotational speed". The user sets the rotational speed of all voltage, current, and field phasors by choosing the frequency, and it remains constant at that rate for all voltages, currents, and E and H fields. The "direction" of the rotation is always forward in time; it does not stop in time nor reverse and go backward in time. This should be obvious to anyone who has taken a beginning course in circuit analysis.

Roy Lewallen, W7EL

5204. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 20:08:31 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <1334m23nincbe9c@corp.supernews.com>
Source record: 42020

> Cecil Moore wrote:
>
>
>> We know that the forward
>> current and reflected current phasors are rotating in
>> opposite directions. Kraus and EZNEC say that the
>> phase angle of the current on a 1/2WL dipole changes
>> by only 2 degrees, end to end. Therefore, contrary to
>> what Roy asserted, the total current does NOT have the
>> same rotational speed as its components.

I'm bothering to respond to Cecil's rantings and diversions only because he's using EZNEC to support his junk science.

All voltages, currents, E and H fields reported by EZNEC have the same (phasor) "rotational speed", which is 2 * pi * f radians/second where f is the frequency chosen by the user. Nothing which EZNEC reports alters this. The fact that the phase angle of the current is nearly constant over the length of a dipole indicates that the phase angles of the elements of current along the wire are nearly the same. This means only that at any instant, the phasors representing currents along the line are all pointing in nearly the same direction. All are rotating at exactly the speed given above.

If one wants to break the current into "components", that is, any number of currents which linearly sum to produce the total current, the phasors representing all those components will also rotate at the same rate.

I'd suggest that Cecil go back and review basic phasor theory, but I know that learning isn't the objective here. It's to sustain the argument at all costs and any level of banality until everyone else tires and leaves.

Roy Lewallen, W7EL

5205. Re: Which modeler?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 20:11:57 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <1334m8hd38potaa@corp.supernews.com>
Source record: 42021

EZNEC and NEC-Win products are not MININEC based.

Roy Lewallen, W7EL

weaver5511@mypacks.net wrote:
> I've been 'googling' for a MININEC-based antenna modeling program (or
> programs) and I've decided a guy could get old and grey before he was
> through looking at all the offerings. I've kind of (based on web page
> descriptions) compiled a short list of candidates as follows:
>
> MMANA by JH3HHT
> EZNEC by W7EL
> NEC-Win Pro by Nitanny Scientific
>
> Is anyone here using any of those, especially NEC-Win Plus? Can
> anyone recommend one that they KNOW is better than the ones on my
> list? I have $450 budgeted for this but I might consider something a
> little costlier if it were overwhelmingly better.
>
> 73, RDW
>

5206. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 20:21:55 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <f0tm11fvr1@news.service.uci.edu>
Source record: 42022

Cecil Moore wrote:

> The technical content of your posting is noted.

Likewise. Hence the quote.

73 ac6xg

5207. Re: Which modeler?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 20:31:46 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <iqm433d82oj5anvrjf14maisql5o5htpkk@4ax.com>
Source record: 42023

On 27 Apr 2007 12:18:57 -0700, weaver5511@mypacks.net wrote:

>I've been 'googling' for a MININEC-based antenna modeling program (or
>programs) and I've decided a guy could get old and grey before he was
>through looking at all the offerings. I've kind of (based on web page
>descriptions) compiled a short list of candidates as follows:
>
>MMANA by JH3HHT
>EZNEC by W7EL
>NEC-Win Pro by Nitanny Scientific
>
>Is anyone here using any of those, especially NEC-Win Plus? Can
>anyone recommend one that they KNOW is better than the ones on my
>list? I have $450 budgeted for this but I might consider something a
>little costlier if it were overwhelmingly better.
>
>73, RDW

EZNEC has a free demo. I compared that against what I could glean from the advertising info of the other candidates. EZNEC allows me to think about antennas while I am using it rather than think about programming.

EZNEC has saved me a lot of labor with my "antenna habit". EZNEC and Nittany Scientific products are used in the ARRL antenna course. That course is a good value as well.

John Ferrell W8CCW
"Life is easier if you learn to
plow around the stumps"

5208. Re: Which modeler?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 20:35:38 UTC
From: weaver5511@mypacks.net
Message-ID: <1177706137.965768.132130@n15g2000prd.googlegroups.com>
Source record: 42024

On Apr 27, 8:11 pm, Roy Lewallen <w...@eznec.com> wrote:

>
> EZNECand NEC-Win products are not MININEC based.
>

Point taken. Should have said NEC-based. I had a brain-fart. Shame
on me.

73, RDW

5209. Re: Which modeler?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 20:37:26 UTC
From: weaver5511@mypacks.net
Message-ID: <1177706245.910162.221600@t39g2000prd.googlegroups.com>
Source record: 42025

On Apr 27, 8:31 pm, John Ferrell <johnferr...@sprintmail.com> wrote:

> EZNEChas a free demo. I compared that against what I could glean from
> the advertising info of the other candidates.EZNECallows me to think
> about antennas while I am using it rather than think about
> programming.
>
> EZNEChas saved me a lot of labor with my "antenna habit". EZNECand
> Nittany Scientific products are used in the ARRL antenna course. That
> course is a good value as well.
>

Thanks. I'll have a look at that ARRL course.

73, RDW

5210. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 20:43:49 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1177706628.938752.147500@b40g2000prd.googlegroups.com>
Source record: 42026

On Apr 26, 4:59 pm, Jim Kelley <jwkel...@uci.edu> wrote:
> Cecil Moore wrote:
> > The standing wave current phasor has the "same rotational speed
> > as its components"???
>
> It has to. Thankfully, rotational speed is the one thing that does
> not change between the radio and the antenna.
>
> > How can that be when the forward current
> > phasor and the reflected current phasor are rotating in opposite
> > directions?
>
> Rotational speed has nothing to do with direction of travel. It has
> only to do with the source. Rotational speed is simply omega;
> 2pi*c/wavelength, or 2pi*f. When waves of equal frequency are
> traveling in opposite directions, the RF waveform which comprises the
> standing wave (the latter being simply the amplitude envelope of the
> superposed traveling waves) has the same wavelength, and thus the same
> rotational speed as the traveling waves. Although the position of the
> peaks does not vary with time, their amplitude is still a time varying
> function. This rudimentary effect is illustrated in the movie here:
>
> http://www.kettering.edu/~drussell/Demos/superposition/superposition....
>
> Mixing on the other hand is the product (rather than the sum) of two
> or more waveforms and does in fact yield different rotational speeds.
>
> 73, Jim AC6XG

Hey, are you guys using a non-standard definition for "phasor"? I'm
really confused by Jim's posting here. To me, a phasor simply
indicates the amplitude and phase of a sinusoidal component, relative
to some reference phase. I'd be comfortable with a "local definition"
that said the amplitude was relative to a reference amplitude, or was
in dB or dBm or dBuV or the like. But I am NOT comfortable with the
idea that a phasor at a particular point in space rotates in time
unless there is some time-varying thing that causes it to rotate,
maybe like a "trombone" section of line that someone is sliding in and
out. I do expect the phasor that represents a sinusoid propagating on
a transmission line to be a function of distance along the line and of
the frequency of the signal, in that it must rotate 360 degrees for
every one wavelength along the line. (More detail on this below.)

For "phasor" to be a useful concept, you'd better be talking about a
system in which there is a single sinusoidal excitation frequency --

or you better be verrrry careful to define what you mean by your phasor diagrams.

See, for example, the page in Wikipedia on phasors.

Or else please give me enough info or references so I can straighten out my thinking about them.

If I'm not mistaken, on a lossless line excited by a source at one end with a reflective load at the far end such that the amplitude of the forward wave is a1 and the amplitude of the reflected is a2, then the phasor representing the forward wave, relative to the source end, will be
forward phasor = a1*exp(-jx/lambda)
and for the reverse, assuming for convenience that the line is just the right length so that the reverse is in phase with the generator at the generator end,
reverse phasor = a2*exp(+jx/lambda)
where x is the distance along the line from the generator, lambda is the wavelenth in the line, and exp() is e to the power(). Then the phasor of the whole signal, fwd plus refl, at any point x is
net phasor = a1*exp(-jx/lambda)+a2*exp(+jx/lambda)
exp(jy) can be expanded as cos(y)+j*sin(y), so
net phasor = (a1+a2)*cos(x/lambda)+j*(a2-a1)*sin(x/lambda)

This makes is VERY clear that the phasor changes angle along any line where a2 does not equal a1; in the special case where a2=a1, then the phase can only be 0 or 180 degrees all along the line. If you pick a different reference point (e.g. change the load or line lenght or frequency in a way that moves the generator away from a point where the return is in phase with the generator at the generator), then that just adds a constant phase offset. But also notice that if a2 does not equal a1, the phasor angle along the line goes through all possible values, zero to 360 degrees. If a2 is almost equal to a1, that phase shift occurs relatively quickly along the line, centered on points where cos(x/lambda) goes to zero. I expect the same to be true on a resonant antenna; the reflected wave is NOT the same amplitude as the forward, but is similar, so you'll find places where the phase change is quick but continuous as you move along the wire--this assumes that the antenna is long enough that you can find such places.

Cheers,
Tom

5211. Re: Gauss again

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 20:55:28 UTC
From: Dave <noone@nowhere.com>
Message-ID: <4rtYh.36$b61.12@trndny09>
Source record: 42077

"art" <aunwin@insightbb.com> wrote in message
news:1177634952.062090.283030@r30g2000prh.googlegroups.com...
> On 26 Apr, 17:18, "Dave" <n...@nowhere.com> wrote:
>> "art" <aun...@insightbb.com> wrote in message
>>
>> news:1177630442.897054.150250@t38g2000prd.googlegroups.com...
>>
>>
>>
>>
>>
>> > On 26 Apr, 14:03, "Dave" <n...@nowhere.com> wrote:
>> >> "art" <aun...@insightbb.com> wrote in message
>>
>> >>news:1177553600.534533.261860@o40g2000prh.googlegroups.com...
>>
>> >> > I am a very old mechanical engineer not electrical so these are
>> >> > things
>> >> > as I see it and where electrical engineers would possibly differ.
>>
>> >> The FIRST think you have said that makes sense!
>>
>> > I just read your history again and you are posting every where ,
>> > slamming people on every different newsgroup for apparently no reason
>> > and it apears you view it as a full time job.
>> > One minuit here type a comment ,quickly move to cooking, type a
>> > slamming comment, move to another newsgroup and slam Nascar drivers.
>> > You are just one busy man with lots of hate comments to pass around,
>> > for why I do not know but I feel sorry for you and all those around
>> > you. Over 100,000 postings with the majority hate mail.
>>
>> you better get a better search method. you seem to know as much about
>> matching up headers as you do about fields and waves. i post in this
>> group
>> fairly regularly, and a couple of microsoft programming support groups on
>> rare occasions, and a matlab group under a different alias... but never
>> cooking, nascar, or whereever you found 100k postings!- Hide quoted
>> text -
>>
>> - Show quoted text -
>
> Why not click on your profile?
>

what profile? this is usenet, there are no profiles, only servers that store and forward messages. you must be using one of those web sites that claims to host the discussion groups but is really just an on-line version of outlook express or some other message reading program. There must be someone on the site you use that uses the same fake return address.

5212. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 20:57:13 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <JstYh.82963$VU4.47672@bgtnsc05-news.ops.worldnet.att.net>
Source record: 42078

Cecil Moore wrote:
> Gene Fuller wrote:
>> Sorry I did not catch the thread redefinition toward the inner
>> workings of such a device.
>
> Apology accepted. The crux of what we have been discussing
> for days, if not weeks, is what does a model of the active,
> dynamic volcano of energy, i.e. the source, look like?

Cecil,

In the context of antenna and transmission line matters you have an interesting definition of "source" for an amateur transmitter. Why consider the source to be some place after the output conditioning, such as the output connector, when you can go all the way back to the wall plug?

73,
Gene
W4SZ

5213. Re: Gauss again

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 21:09:59 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <46326697$0$4709$4c368faf@roadrunner.com>
Source record: 42079

"Dave" <noone@nowhere.com> wrote in message news:4rtYh.36$b61.12@trndny09...
>
> "art" <aunwin@insightbb.com> wrote in message
> news:1177634952.062090.283030@r30g2000prh.googlegroups.com...
>> On 26 Apr, 17:18, "Dave" <n...@nowhere.com> wrote:
>>> "art" <aun...@insightbb.com> wrote in message
>>>
>>> news:1177630442.897054.150250@t38g2000prd.googlegroups.com...
>>>
>>>
>>>
>>>
>>>
>>> > On 26 Apr, 14:03, "Dave" <n...@nowhere.com> wrote:
>>> >> "art" <aun...@insightbb.com> wrote in message
>>>
>>> >>news:1177553600.534533.261860@o40g2000prh.googlegroups.com...
>>>
>>> >> > I am a very old mechanical engineer not electrical so these are
>>> >> > things
>>> >> > as I see it and where electrical engineers would possibly differ.
>>>
>>> >> The FIRST think you have said that makes sense!
>>>
>>> > I just read your history again and you are posting every where ,
>>> > slamming people on every different newsgroup for apparently no reason
>>> > and it apears you view it as a full time job.
>>> > One minuit here type a comment ,quickly move to cooking, type a
>>> > slamming comment, move to another newsgroup and slam Nascar drivers.
>>> > You are just one busy man with lots of hate comments to pass around,
>>> > for why I do not know but I feel sorry for you and all those around
>>> > you. Over 100,000 postings with the majority hate mail.
>>>
>>> you better get a better search method. you seem to know as much about
>>> matching up headers as you do about fields and waves. i post in this
>>> group
>>> fairly regularly, and a couple of microsoft programming support groups
>>> on
>>> rare occasions, and a matlab group under a different alias... but never
>>> cooking, nascar, or whereever you found 100k postings!- Hide quoted
>>> text -
>>>
>>> - Show quoted text -
>>

>> Why not click on your profile?
>>
>
> what profile? this is usenet, there are no profiles, only servers that
> store and forward messages. you must be using one of those web sites that
> claims to host the discussion groups but is really just an on-line version
> of outlook express or some other message reading program. There must be
> someone on the site you use that uses the same fake return address.
>
>
Not the first time Art made this mistake? And some people wonder why others
dont post their callsign here.

Jimmie

5214. Re: Which modeler?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 21:14:14 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <GItYh.1212$iR2.611@trnddc05>
Source record: 42080

<weaver5511@mypacks.net> wrote in message
news:1177706245.910162.221600@t39g2000prd.googlegroups.com...
> On Apr 27, 8:31 pm, John Ferrell <johnferr...@sprintmail.com> wrote:
>
>>
>> EZNEChas a free demo. I compared that against what I could glean from
>> the advertising info of the other candidates.EZNECallows me to think
>> about antennas while I am using it rather than think about
>> programming.
>>
>> EZNEChas saved me a lot of labor with my "antenna habit". EZNECand
>> Nittany Scientific products are used in the ARRL antenna course. That
>> course is a good value as well.
>>
>
> Thanks. I'll have a look at that ARRL course.
>
> 73, RDW

Hi RDW

It cant hurt anything to study the ARRL course. But, EZNEC is so logical
that you can do alot of modeling without having done any "course studying".
It is a very 'user friendly' program.
There are guys on this net who can be Very helpful with answering any
questions about EZNEC. I didnt bother with the Free EZNEC. I bought the
program and began modeling the first day. A couple r.r.a.a. regulars
helped me learn the additional methods I wanted to use.

Jerry

5215. Re: 10m ground wave expectations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 21:14:44 UTC
From: richardharrison@webtv.net
Message-ID: <23358-463267C4-79@storefull-3255.bay.webtv.net>
Source record: 42081

Joey wrote:
"My parents are both techs so we`re currently limited to parts of 10m as the lowest band and I`d like to have something available without needing repeaters for disaster comms."

I`d like a million dollars too!

75 miles is reliably unlikely without a line of sight path between radios at VHF unless expensive techniques are used.

A repeater located between the radios makes success much more likely. Examine the ARRL "Repeater Directory" and borrow a hand-held (likely for 2-meters) and see which repeaters you can call up from both ends of the path you would like to work. You will probably find you are in-business but not for profit as it is amateur radio. For back up in emergencies, you can use your cell phone or a wired phone.

Best regards, Richard Harrison, KB5WZI

5216. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 22:02:26 UTC
From: richardharrison@webtv.net
Message-ID: <1030-463272F2-84@storefull-3251.bay.webtv.net>
Source record: 42082

Gene, W4SZ wrote:
"Why consider the source to be some place after the output conditioning, such as the output connector, when one can go all the way back to the wall plug?"

The wall plug can scarcely be responsible for harmonics on the trabsmission line and antenna, but the output conditionimg can be inadequate.

A tank circuit of reasonable Q can be adequate to remove enough harmonics to make the transmitter a linear source in many cases.

A linear source makes King, Mimno, and Wing`s statement on page 44 of "Transmission lines, Antennas, and Wave Guides" operative:
"When impedances are conjugately-matched for transmission of power in one direction, they are conjugately-matched for rower transmission in the reverse direction, if no power loss occurs in the matching devices."

Best regards, Richard Harrison, KB5WZI

5217. Impedance transformation question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 22:24:01 UTC
From: jgboyles@aol.com
Message-ID: <1177712640.116329.181210@o40g2000prh.googlegroups.com>
Source record: 42083

Hi,

If EZNEC reports a source impedance for a balanced antenna, such as a loop, of R+-jX ohms, and I am trying to match the antenna to the line: I am using a Smith Chart program that is unbalanced i.e. everything is respect to ground. Question is, what impedance do I enter into the program such that I will get the correct matching solution for the balanced antenna? I have used this program numerous times and it works well for verticals, mobiles, and other unbalanced antennas. Thanks.

Gary N4AST

5218. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 22:37:16 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <1334up0tkm8j3fc@corp.supernews.com>
Source record: 42084

A phasor is a replacement of cos(omega * t + phi) with cos(omega * t + phi) + j * sin(omega * t + phi) = exp(j * (omega * t + phi)) = exp(j * omega * t) * exp(j * phi). The first of those quantities is understood but not generally written in phasor analysis, but is nonetheless an essential part of the definition of a phasor. This shows that a phasor is a vector which rotates in the complex plane, with a rotational speed of omega * t radians/sec. The reason the time-dependent rotational term is left out when speaking of phasors is that phasor analysis is used only for systems in which only one frequency is present, as you said. Therefore, all have the identical multiplying term exp(j * omega * t) and, basically, they all cancel out in phasor equations. Omega is, of course, 2 * pi * f.

Cecil regularly confuses the change in phase angle of the phasor with position, with the rotation of the phasor with time.

A proof of the validity of the replacement of the real cos function with the complex phasor function, as well as a good description of phasors in general, is given in Pearson and Maler, _Introductory Circuit Analysis_. A good graphical illustration and description of a phasor as a rotating vector can be found in Van Valkenburg, _Network Analysis_. Those are the only two basic circuit analysis texts I have, but I'm sure the topic is covered well in just about any other one.

Roy Lewallen, W7EL

K7ITM wrote:
>
> Hey, are you guys using a non-standard definition for "phasor"? I'm
> really confused by Jim's posting here. To me, a phasor simply
> indicates the amplitude and phase of a sinusoidal component, relative
> to some reference phase. I'd be comfortable with a "local definition"
> that said the amplitude was relative to a reference amplitude, or was
> in dB or dBm or dBuV or the like. But I am NOT comfortable with the
> idea that a phasor at a particular point in space rotates in time
> unless there is some time-varying thing that causes it to rotate,
> maybe like a "trombone" section of line that someone is sliding in and
> out. I do expect the phasor that represents a sinusoid propagating on
> a transmission line to be a function of distance along the line and of
> the frequency of the signal, in that it must rotate 360 degrees for
> every one wavelength along the line. (More detail on this below.)
>
> For "phasor" to be a useful concept, you'd better be talking about a
> system in which there is a single sinusoidal excitation frequency --
> or you better be verrrry careful to define what you mean by your

> phasor diagrams.
>
> See, for example, the page in Wikipedia on phasors.
>
> Or else please give me enough info or references so I can straighten
> out my thinking about them.
>
> If I'm not mistaken, on a lossless line excited by a source at one end
> with a reflective load at the far end such that the amplitude of the
> forward wave is a1 and the amplitude of the reflected is a2, then the
> phasor representing the forward wave, relative to the source end, will
> be
> forward phasor = a1*exp(-jx/lambda)
> and for the reverse, assuming for convenience that the line is just
> the right length so that the reverse is in phase with the generator at
> the generator end,
> reverse phasor = a2*exp(+jx/lambda)
> where x is the distance along the line from the generator, lambda is
> the wavelenth in the line, and exp() is e to the power(). Then the
> phasor of the whole signal, fwd plus refl, at any point x is
> net phasor = a1*exp(-jx/lambda)+a2*exp(+jx/lambda)
> exp(jy) can be expanded as cos(y)+j*sin(y), so
> net phasor = (a1+a2)*cos(x/lambda)+j*(a2-a1)*sin(x/lambda)
>
> This makes is VERY clear that the phasor changes angle along any line
> where a2 does not equal a1; in the special case where a2=a1, then the
> phase can only be 0 or 180 degrees all along the line. If you pick a
> different reference point (e.g. change the load or line lenght or
> frequency in a way that moves the generator away from a point where
> the return is in phase with the generator at the generator), then that
> just adds a constant phase offset. But also notice that if a2 does
> not equal a1, the phasor angle along the line goes through all
> possible values, zero to 360 degrees. If a2 is almost equal to a1,
> that phase shift occurs relatively quickly along the line, centered on
> points where cos(x/lambda) goes to zero. I expect the same to be true
> on a resonant antenna; the reflected wave is NOT the same amplitude as
> the forward, but is similar, so you'll find places where the phase
> change is quick but continuous as you move along the wire--this
> assumes that the antenna is long enough that you can find such places.
>
> Cheers,
> Tom
>

5219. Re: Impedance transformation question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 22:42:56 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <Q%uYh.300$J54.164@trnddc04>
Source record: 42085

<jgboyles@aol.com> wrote in message
news:1177712640.116329.181210@o40g2000prh.googlegroups.com...
> Hi,
>
> If EZNEC reports a source impedance for a balanced antenna, such as
> a loop, of R+-jX ohms, and I am trying to match the antenna to the
> line: I am using a Smith Chart program that is unbalanced i.e.
> everything is respect to ground. Question is, what impedance do I
> enter into the program such that I will get the correct matching
> solution for the balanced antenna? I have used this program numerous
> times and it works well for verticals, mobiles, and other unbalanced
> antennas. Thanks.
>
> Gary N4AST

Hi Gary

Is it practical for you to use a Smith Chart rather than a "Smith Chart
program"? A Smith Chart doesnt concern itself with ground. It is mearly
a plot of all possible R+/-jX with real R.

Jerry

5220. Re: Which modeler?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 22:43:24 UTC
From: "Larry Gauthier (K8UT)" <MyCallsign@ARRL.NET>
Message-ID: <m0vYh.1113$5Y.876@newsfe04.lga>
Source record: 42086

Even if you don't buy the ARRL Antenna course, you can buy the $39.95 "ARRL Antenna Book" which comes with a customized version of EZNec with models of every antenna discussed in the book.

I started with EZNEC using the customized (and somewhat crippled) ARRL version, but the program was essentially free with the ARRL book. When I decided that I wanted to model my own designs and save the modifications that I made to existing ARRL files, I bought the full program (which can still open and manipulate all the ARRL models).

-larry
K8UT
"John Ferrell" <johnferrell@sprintmail.com> wrote in message
news:iqm433d82oj5anvrjf14maisql5o5htpkk@4ax.com...
> On 27 Apr 2007 12:18:57 -0700, weaver5511@mypacks.net wrote:
>
>>I've been 'googling' for a MININEC-based antenna modeling program (or
>>programs) and I've decided a guy could get old and grey before he was
>>through looking at all the offerings. I've kind of (based on web page
>>descriptions) compiled a short list of candidates as follows:
>>
>>MMANA by JH3HHT
>>EZNEC by W7EL
>>NEC-Win Pro by Nitanny Scientific
>>
>>Is anyone here using any of those, especially NEC-Win Plus? Can
>>anyone recommend one that they KNOW is better than the ones on my
>>list? I have $450 budgeted for this but I might consider something a
>>little costlier if it were overwhelmingly better.
>>
>>73, RDW
>
> EZNEC has a free demo. I compared that against what I could glean from
> the advertising info of the other candidates. EZNEC allows me to think
> about antennas while I am using it rather than think about
> programming.
>
> EZNEC has saved me a lot of labor with my "antenna habit". EZNEC and
> Nittany Scientific products are used in the ARRL antenna course. That
> course is a good value as well.
>
> John Ferrell W8CCW
> "Life is easier if you learn to
> plow around the stumps"

5221. Re: Impedance transformation question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 22:53:17 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99205A6B22008nonenowhere@61.9.191.5>
Source record: 42087

jgboyles@aol.com wrote in news:1177712640.116329.181210
@o40g2000prh.googlegroups.com:

> Hi,
>
> If EZNEC reports a source impedance for a balanced antenna, such as
> a loop, of R+-jX ohms, and I am trying to match the antenna to the
> line: I am using a Smith Chart program that is unbalanced i.e.
> everything is respect to ground. Question is, what impedance do I
> enter into the program such that I will get the correct matching
> solution for the balanced antenna? I have used this program numerous
> times and it works well for verticals, mobiles, and other unbalanced
> antennas. Thanks.

Gary,

The impedance transformation is unaffected by whether the load is balanced or unbalanced. The Smith chart solution does not depend on balance or not, nor does the underlying maths.

Having said that, if you intend including a balun, you could treat it simply as an ideal n:1 impedance ratio transformer, dividing the load impedance at the appropriate point by n... though that may splitting your Smith chart solution into two parts each side of the transformer (if n!= 1). Some Smith chart software allows specification of a transformer as a system element, so it is real easy and all displayed on one map.

If you don't want to treat the balun as ideal, my view is that you really need to include the balun and a path for common mode currents in your NEC model, because they are actually couped to the radiator and form part of the system load.

Owen

5222. Re: Impedance transformation question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 22:54:25 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1177714464.794489.8230@n76g2000hsh.googlegroups.com>
Source record: 42088

On Apr 27, 3:24 pm, jgboy...@aol.com wrote:
> Hi,
>
> If EZNEC reports a source impedance for a balanced antenna, such as
> a loop, of R+-jX ohms, and I am trying to match the antenna to the
> line: I am using a Smith Chart program that is unbalanced i.e.
> everything is respect to ground. Question is, what impedance do I
> enter into the program such that I will get the correct matching
> solution for the balanced antenna? I have used this program numerous
> times and it works well for verticals, mobiles, and other unbalanced
> antennas. Thanks.
>
> Gary N4AST

The impedances will still be the same. If you want to keep things balanced, though, split any series elements into two equal parts. For example, if your program says to use 20pF in series, use 2 40pF caps, one on each side, to keep things balanced. With an inductance, use two inductors that are half as large as the single one. The idea is the two caps in series or the two inductors in series make the specified net capacitance or inductance. With shunt elements, there's no need to do that, just don't ground either side---the shunt elements go across the balanced network from one side to the other.

Cheers,
Tom

5223. Re: Impedance transformation question

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 23:09:31 UTC
From: jgboyles@aol.com
Message-ID: <1177715371.360703.54230@q75g2000hsh.googlegroups.com>
Source record: 42089

On Apr 27, 5:54ï¿½pm, K7ITM <k...@msn.com> wrote:
> On Apr 27, 3:24 pm, jgboy...@aol.com wrote:
>
> > Hi,
>
> > If EZNEC reports a source impedance for a balanced antenna, such as
> > a loop, of R+-jX ohms, and I am trying to match the antenna to the
> > line: I am using a Smith Chart program that is unbalanced i.e.
> > everything is respect to ground. Question is, what impedance do I
> > enter into the program such that I will get the correct matching
> > solution for the balanced antenna? I have used this program numerous
> > times and it works well for verticals, mobiles, and other unbalanced
> > antennas. Thanks.
>
> > Gary N4AST
>
> The impedances will still be the same. If you want to keep things
> balanced, though, split any series elements into two equal parts. For
> example, if your program says to use 20pF in series, use 2 40pF caps,
> one on each side, to keep things balanced. With an inductance, use
> two inductors that are half as large as the single one. The idea is
> the two caps in series or the two inductors in series make the
> specified net capacitance or inductance. With shunt elements, there's
> no need to do that, just don't ground either side---the shunt elements
> go across the balanced network from one side to the other.
>
> Cheers,
> Tom

Hi Tom, Thanks, I just wanted to confirm what appeared to be
happening.

Gary N4AST

5224. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 23:33:22 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <6LvYh.19166$JZ3.12354@newssvr13.news.prodigy.net>
Source record: 42090

Roy Lewallen wrote:
> EZNEC does not display "rotational speed". The user sets the rotational
> speed of all voltage, current, and field phasors by choosing the
> frequency, and it remains constant at that rate for all voltages,
> currents, ...

Sorry, that is not true for *total* current. Check it out
yourself. EZNEC says the phase of the total current only
varies ~3 degrees from end to end for a 1/2WL dipole.
Kraus agrees with that.

Here's what you said: "This is the total current. It has
magnitude and phase like any other phasor, and the same
rotational speed as its components."

That is simply a false statement. And because it is
false, your current phase measurements through a loading
coil were invalid. Here's what you said:

"What I measured was a 3.1% reduction in magnitude from input to output,
with no discernible phase shift."

Of course you measured no discernible phase shift since
you were using a current that doesn't change phase. The
current that you used gives us no clue as to the phase
delay through a loading coil.

The phase of the total current is naturally related to
the rotational speed and it is almost unchanging, i.e.
the total current doesn't rotate by more than ~3 degrees.
It certainly does NOT rotate at omega*t.

That is one thing that makes standing-wave current quite
different from traveling wave current. You used standing
wave current to try to measure the phase shift through
a loading coil. Since standing wave current doesn't change
phase by more than ~3 degrees along the entire length of
a 1/2WL dipole, using it to "measure" the phase shift
through a loading coil is invalid.

The reason that the total current phasor doesn't have the
same rotational speed as the forward and reflected currents
is that it is the sum of the forward and reflected currents
which are rotating in opposite directions. The two phase angles
add up to almost zero all along a 1/2WL dipole.
--
73, Cecil http://www.w5dxp.com

5225. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 23:36:34 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1177716994.814067.131680@e65g2000hsc.googlegroups.com>
Source record: 42091

On Apr 27, 3:37 pm, Roy Lewallen <w...@eznec.com> wrote:
> A phasor is a replacement of cos(omega * t + phi) with cos(omega * t +
> phi) + j * sin(omega * t + phi) = exp(j * (omega * t + phi)) = exp(j *
> omega * t) * exp(j * phi). The first of those quantities is understood
> but not generally written in phasor analysis, but is nonetheless an
> essential part of the definition of a phasor. This shows that a phasor
> is a vector which rotates in the complex plane, with a rotational speed
> of omega * t radians/sec. The reason the time-dependent rotational term
> is left out when speaking of phasors is that phasor analysis is used
> only for systems in which only one frequency is present, as you said.
> Therefore, all have the identical multiplying term exp(j * omega * t)
> and, basically, they all cancel out in phasor equations. Omega is, of
> course, 2 * pi * f.
>
> Cecil regularly confuses the change in phase angle of the phasor with
> position, with the rotation of the phasor with time.
>
> A proof of the validity of the replacement of the real cos function with
> the complex phasor function, as well as a good description of phasors in
> general, is given in Pearson and Maler, _Introductory Circuit Analysis_.
> A good graphical illustration and description of a phasor as a rotating
> vector can be found in Van Valkenburg, _Network Analysis_. Those are the
> only two basic circuit analysis texts I have, but I'm sure the topic is
> covered well in just about any other one.
>
> Roy Lewallen, W7EL

OK, noted, but your definition doesn't match what I was taught and
what is in the Wikipedia definition at http://en.wikipedia.org/wiki/Phasor_(electronics).
What I was taught, and what I see at that URL, is that the PHASOR is
ONLY the representation of phase and amplitude--that is, ONLY the
A*exp(j*phi). To me, what you guys are calling a phasor is just a
rotating vector describing the whole signal. To me, the value of
using a phasor representation is that it takes time out of the
picture. See also http://people.clarkson.edu/~svoboda/eta/phasors/Phasor10.html,
which defines the phasor very clearly as NOT being a function of time
(assuming things are in steady-state). But in my online search, I
also find other sites that, although they don't bother to actually
define the phasor, show it as a rotating vector. Grrrr. I'll try to
remember to check the couple of books I have that would talk about
phasors to see if I'm misrepresenting them, but I'm pretty sure they
are equally explicit in defining a phasor as a representation of ONLY
the phase and magnitude of the sinusoidal signal, and NOT as a vector
that rotates synchronously with the sinewave.

Cheers,
Tom

5226. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 23:40:58 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <eSvYh.1556$tp5.1444@newssvr23.news.prodigy.net>
Source record: 42092

Roy Lewallen wrote:
> All voltages, currents, E and H fields reported by EZNEC have the same
> (phasor) "rotational speed", which is 2 * pi * f radians/second where f
> is the frequency chosen by the user.

This is false!!! Set a zero load anywhere along a 1/2WL dipole
and check the phase. It will everywhere be within 3 degrees of
zero.

> Nothing which EZNEC reports alters
> this. The fact that the phase angle of the current is nearly constant
> over the length of a dipole indicates that the phase angles of the
> elements of current along the wire are nearly the same. This means only
> that at any instant, the phasors representing currents along the line
> are all pointing in nearly the same direction. All are rotating at
> exactly the speed given above.

This contradicts what you said before. You said the *total current*
phasor is rotating. Both Kraus and EZNEC disagree with you. Here's
what you said:

Roy wrote:
"This is the total current. It has magnitude and phase
like any other phasor, and the same rotational speed
as its components."

This is a false statement! And since it is false, it renders
your loading coil phase measurements invalid. The total current
does NOT have the same rotational speed as its components.
The phase of the total current does NOT change through a
loading coil or through a 1/2WL wire.
--
73, Cecil http://www.w5dxp.com

5227. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-27 23:44:25 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99206316449DDnonenowhere@61.9.191.5>
Source record: 42093

Roy Lewallen <w7el@eznec.com> wrote in
news:1334up0tkm8j3fc@corp.supernews.com:

> A phasor is a replacement of cos(omega * t + phi) with cos(omega * t +
> phi) + j * sin(omega * t + phi) = exp(j * (omega * t + phi)) = exp(j *
> omega * t) * exp(j * phi). The first of those quantities is understood
> but not generally written in phasor analysis, but is nonetheless an
> essential part of the definition of a phasor. This shows that a phasor
> is a vector which rotates in the complex plane, with a rotational speed
> of omega * t radians/sec. The reason the time-dependent rotational term

Should that be ...of omega radians/sec..., omega*t is the phase
displacement, omega is the phase velocity?

Owen

5228. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 00:01:16 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <13353mgmq2qjke0@corp.supernews.com>
Source record: 42094

K7ITM wrote:
>
> OK, noted, but your definition doesn't match what I was taught and
> what is in the Wikipedia definition at
http://en.wikipedia.org/wiki/Phasor_(electronics).
> What I was taught, and what I see at that URL, is that the PHASOR is
> ONLY the representation of phase and amplitude--that is, ONLY the
> A*exp(j*phi). To me, what you guys are calling a phasor is just a
> rotating vector describing the whole signal. To me, the value of
> using a phasor representation is that it takes time out of the
> picture. See also http://people.clarkson.edu/~svoboda/eta/phasors/Phasor10.html,
> which defines the phasor very clearly as NOT being a function of time
> (assuming things are in steady-state). But in my online search, I
> also find other sites that, although they don't bother to actually
> define the phasor, show it as a rotating vector. Grrrr. I'll try to
> remember to check the couple of books I have that would talk about
> phasors to see if I'm misrepresenting them, but I'm pretty sure they
> are equally explicit in defining a phasor as a representation of ONLY
> the phase and magnitude of the sinusoidal signal, and NOT as a vector
> that rotates synchronously with the sinewave.

Tom,

I'm sure a lot of people forget the derivation of a phasor after using it for a while, just as they do so many other things.

Again, a phasor is a complex representation of a real sinusoidal function and, as such, definitely has a time varying component. That the component isn't written doesn't mean it's not there. By all means, check your texts. I'm sure that any decent circuit analysis text has a serviceable development of the subject.

I always cringe when I see wikipedia quoted as a reference -- I was referred to an entry regarding transmission lines some time ago, and it contained some pretty major misconceptions. That leads me to mistrust it when looking up a topic which I don't have a good grasp of. I don't have a full understanding of the process by which it's written, but it seems that all participants in this newsgroup are equally qualified to create or modify a wikipedia entry. How could that result in a reliable reference?

Roy Lewallen, W7EL

5229. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 00:02:53 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <13353ph68ee8u6f@corp.supernews.com>
Source record: 42095

Owen Duffy wrote:
> Roy Lewallen <w7el@eznec.com> wrote in
> news:1334up0tkm8j3fc@corp.supernews.com:
>
>> A phasor is a replacement of cos(omega * t + phi) with cos(omega * t +
>> phi) + j * sin(omega * t + phi) = exp(j * (omega * t + phi)) = exp(j *
>> omega * t) * exp(j * phi). The first of those quantities is understood
>> but not generally written in phasor analysis, but is nonetheless an
>> essential part of the definition of a phasor. This shows that a phasor
>> is a vector which rotates in the complex plane, with a rotational speed
>> of omega * t radians/sec. The reason the time-dependent rotational term
>
> Should that be ...of omega radians/sec..., omega*t is the phase
> displacement, omega is the phase velocity?

You're right. Thank you for the correction. My apology for the error.

Roy Lewallen, W7EL

5230. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 00:05:38 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <mdwYh.1560$tp5.912@newssvr23.news.prodigy.net>
Source record: 42096

K7ITM wrote:
> I expect the same to be true
> on a resonant antenna; the reflected wave is NOT the same amplitude as
> the forward, but is similar, so you'll find places where the phase
> change is quick but continuous as you move along the wire--this
> assumes that the antenna is long enough that you can find such places.

On a 1/2WL standing wave antenna, the reflected current is
within about 10% of the forward current. I think you will
find that under those conditions, the phase change is NOT
continuous.

The total antenna current reported by EZNEC is the sum of
the forward current and reflected current all up and down
a 1/2WL dipole. With the feedpoint as the 0 deg reference,
EZNEC reports only ~3 degree change between the feedpoint
and the end segment of the dipole. The phase change is
NOT quick and never exceeds ~3 degrees.

A typical forward current at the feedpoint might be
1A @ 0 deg while the reflected current might be
0.9A @ 0 deg. That phase angle is obviously zero.

45 degrees out from the feedpoint, the forward current
might be 0.975A @ -45 deg. The reflected current might
be 0.925A @ 45 deg. Adding those two phasors gives a
phase angle very close to zero. The phase angle does
NOT change quickly - it changes hardly at all.

Kraus agrees. On page 464 of "Antennas for all Applications",
3rd edition, Figure 14-2, he graphs the amplitude and phase
of the current in a 1/2WL dipole. The current phase never
exceeds ~3 degrees over the entire length of the dipole.
The phase change is NOT quick. It is exceedingly slow.

This has to do with how the forward current phasor and the
reflected current phasor adding together to obtain a *constant*
zero degrees of phase in a thin-wire dipole. Kraus shows
both a thin-wire dipole and a dipole where the length to
diameter ratio is 75. The length to diameter ratio of a
75m dipole is in the many thousands, closer to a thin
wire than to 75.
--
73, Cecil http://www.w5dxp.com

5231. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 00:07:34 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <9fwYh.1561$tp5.23@newssvr23.news.prodigy.net>
Source record: 42097

Gene Fuller wrote:
> In the context of antenna and transmission line matters you have an
> interesting definition of "source" for an amateur transmitter. Why
> consider the source to be some place after the output conditioning, such
> as the output connector, when you can go all the way back to the wall plug?

The RF source is obviously the point where
DC is converted to RF. That's the point
under discussion.
--
73, Cecil http://www.w5dxp.com

5232. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 00:14:26 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177719266.182305.327520@l77g2000hsb.googlegroups.com>
Source record: 42098

On Apr 27, 7:36 pm, K7ITM <k...@msn.com> wrote:
> Grrrr. I'll try to
> remember to check the couple of books I have that would talk about
> phasors to see if I'm misrepresenting them, but I'm pretty sure they
> are equally explicit in defining a phasor as a representation of ONLY
> the phase and magnitude of the sinusoidal signal, and NOT as a vector
> that rotates synchronously with the sinewave.

My recollection is of being introduced to phasors with the study of
electric machines which have real rotating magnetic fields. By
jumping onto the rotor and rotating with those magnetic fields,
solutions became trivial by allowing vector arithmetic on the now
stationary phasors.

...Keith

5233. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 00:15:57 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <1nwYh.19174$JZ3.11268@newssvr13.news.prodigy.net>
Source record: 42099

Roy Lewallen wrote:
> Cecil regularly confuses the change in phase angle of the phasor with
> position, with the rotation of the phasor with time.

Everyone is wrong except you, huh? The fact still remains
that your following assertion was wrong:

Roy said:
"This is the total current. It has magnitude and phase
like any other phasor, and the same rotational speed
as its components."

Total current on a standing-wave antenna does NOT have
the same rotational speed as its components. It hardly
rotates at all up and down the entire 1/2WL dipole.
EZNEC and Kraus agree with me on that fact. All you
have to do is fire up EZNEC and prove it to yourself.

That means that your and Tom's phase measurements
through a loading coil were invalid. One cannot
use a current with unchanging phase to measure
a phase shift.
--
73, Cecil http://www.w5dxp.com

5234. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 00:21:02 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <OrwYh.19175$JZ3.13089@newssvr13.news.prodigy.net>
Source record: 42100

K7ITM wrote:
> I'll try to
> remember to check the couple of books I have that would talk about
> phasors to see if I'm misrepresenting them, but I'm pretty sure they
> are equally explicit in defining a phasor as a representation of ONLY
> the phase and magnitude of the sinusoidal signal, and NOT as a vector
> that rotates synchronously with the sinewave.

This brings up a point that I need to clarify. All my phasors
are referenced to a phase angle of zero at the feedpoint. Take
a snapshot when the feedpoint phasor is at zero degrees and
then look at all the other phasors up and down the antenna.
I hope that clears up any confusion I may have generated by
not explaining my reference point earlier.
--
73, Cecil http://www.w5dxp.com

5235. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 00:25:19 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <133553jhkj7hdf2@corp.supernews.com>
Source record: 42101

Keith Dysart wrote:
>
> My recollection is of being introduced to phasors with the study of
> electric machines which have real rotating magnetic fields. By
> jumping onto the rotor and rotating with those magnetic fields,
> solutions became trivial by allowing vector arithmetic on the now
> stationary phasors.

A most excellent description! Thanks for sharing it.

Now if we could just get a certain individual to either stay on the rotor or the stator and not keep jumping back and forth without telling anyone or even realizing it himself. . .

Roy Lewallen, W7EL

5236. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 00:28:51 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <6zwYh.1562$tp5.1251@newssvr23.news.prodigy.net>
Source record: 42102

Cecil Moore wrote:
> Total current on a standing-wave antenna does NOT have
> the same rotational speed as its components. It hardly
> rotates at all up and down the entire 1/2WL dipole.

This is, of course, referenced to the feedpoint signal
at zero degrees. The phase of a traveling wave changes
45 degrees in 45 degrees of wire. The phase of the
standing wave changes no more than a couple of degrees
in 45 degrees of wire. Sorry for any confusion that
might have occurred because I neglected to explain my
reference phasor.
--
73, Cecil http://www.w5dxp.com

5237. Re: Gauss again

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 00:37:24 UTC
From: Dave <noone@nowhere.com>
Message-ID: <8HwYh.199$%f7.54@trndny03>
Source record: 42103

"art" <aunwin@insightbb.com> wrote in message
news:1177717655.200186.223450@n59g2000hsh.googlegroups.com...
> On 27 Apr, 13:55, "Dave" <n...@nowhere.com> wrote:
>> "art" <aun...@insightbb.com> wrote in message
>>
>> news:1177634952.062090.283030@r30g2000prh.googlegroups.com...
>>
>>
>>
>>
>>
>> > On 26 Apr, 17:18, "Dave" <n...@nowhere.com> wrote:
>> >> "art" <aun...@insightbb.com> wrote in message
>>
>> >>news:1177630442.897054.150250@t38g2000prd.googlegroups.com...
>>
>> >> > On 26 Apr, 14:03, "Dave" <n...@nowhere.com> wrote:
>> >> >> "art" <aun...@insightbb.com> wrote in message
>>
>> >> >>news:1177553600.534533.261860@o40g2000prh.googlegroups.com...
>>
>> >> >> > I am a very old mechanical engineer not electrical so these are
>> >> >> > things
>> >> >> > as I see it and where electrical engineers would possibly differ.
>>
>> >> >> The FIRST think you have said that makes sense!
>>
>> >> > I just read your history again and you are posting every where ,
>> >> > slamming people on every different newsgroup for apparently no
>> >> > reason
>> >> > and it apears you view it as a full time job.
>> >> > One minuit here type a comment ,quickly move to cooking, type a
>> >> > slamming comment, move to another newsgroup and slam Nascar drivers.
>> >> > You are just one busy man with lots of hate comments to pass around,
>> >> > for why I do not know but I feel sorry for you and all those around
>> >> > you. Over 100,000 postings with the majority hate mail.
>>
>> >> you better get a better search method. you seem to know as much about
>> >> matching up headers as you do about fields and waves. i post in this
>> >> group
>> >> fairly regularly, and a couple of microsoft programming support groups
>> >> on
>> >> rare occasions, and a matlab group under a different alias... but
>> >> never

>> >> cooking, nascar, or whereever you found 100k postings!- Hide quoted
>> >> text -
>>
>> >> - Show quoted text -
>>
>> > Why not click on your profile?
>>
>> what profile? this is usenet, there are no profiles, only servers that
>> store and forward messages. you must be using one of those web sites
>> that
>> claims to host the discussion groups but is really just an on-line
>> version
>> of outlook express or some other message reading program. There must be
>> someone on the site you use that uses the same fake return address.- Hide
>> quoted text -
>>
>> - Show quoted text -
>
> I have google groups and they state at the top that I am posting to a
> usenet group. I t has occured to me that there was another Dave on the
> group that had this same profile !
> The newsgroup was down a couple of days ago so I suspect they got the
> "dave" profile
> changed over to another Dave which is you. On my computor it lists all
> postings made by an individual on any of the usenet groups which is
> extracted from the archives even if the individual uses different non
> de plumes for different groups. So I apologise for not recognising
> this profile error earlier and will check back on it in a week or so
> and let them know if they haven't corrected it. Jimmie stated that I
> have made a similar error before but I have no knoweledge of that
> instance
> Art
>

if you read the info you will see that 'this person has not created a
profile', so whatever is there is not my doing. and obviously the
noone@nowhere.com anti-spam address i use is a commonly used alias around
the world, and all that google can do is group all of them together.

5238. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 00:38:26 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <6IwYh.19176$JZ3.13331@newssvr13.news.prodigy.net>
Source record: 42104

Roy Lewallen wrote:
> Now if we could just get a certain individual to either stay on the
> rotor or the stator and not keep jumping back and forth without telling
> anyone or even realizing it himself. . .

I apologize for any confusion I may have created. All of my
phasors are referenced to the feedpoint current at zero
degrees, which is what EZNEC does.

If the feedpoint forward current is at zero degrees, the
forward current 45 degrees away will lag by 45 deg.
The reflected current 45 degrees away will lead by 45 deg.
The forward current 90 degrees away will lag by 90 deg.
The reflected current 90 degrees away will lead by 90 deg.
Thus the forward current and reflected current phasors
are rotating compared to the feedpoint reference.

The standing wave current phase, referenced to the feedpoint
phase, changes hardly at all. The standing wave current
phase is essentially the same all up and down the dipole.
The standing wave current phase is essentially the same at
the bottom and top of a loading coil. The standing wave
current phase is essentially unrelated to the position
on the antenna or loading coil. Standing wave current
cannot be used to determine the phase shift through
a loading coil.
--
73, Cecil http://www.w5dxp.com

5239. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 01:06:08 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns992070F17EEECnonenowhere@61.9.191.5>
Source record: 42105

Roy Lewallen <w7el@eznec.com> wrote in
news:13353ph68ee8u6f@corp.supernews.com:

>>> with a rotational speed of omega * t radians/sec. The reason the
>>> time-dependent rotational term
>>
>> Should that be ...of omega radians/sec..., omega*t is the phase
>> displacement, omega is the phase velocity?
>
> You're right. Thank you for the correction. My apology for the error.

And to correct myself, I really should have said angular displacement and
angular velocity respectively.

Owen

5240. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 01:12:54 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <46329fa3$0$17209$39cecf19@news.twtelecom.net>
Source record: 42106

Cecil Moore wrote:

> Gene Fuller wrote:
>
>> I heard a rumor that the FCC does not like people to inject class-C
>> type pulses directly into an antenna from the output of an amateur
>> transmitter.
>>
>> Perhaps that rumor is just an urban legend, however, and non-linear
>> outputs are welcome.
>
>
> The subject is modeling a class-C source, Gene,
> not filtering a class-C source. We all know how
> to filter a class-C source. Do you have a model
> for a class-C source?

Well, we used to have one waaay back in Non-linear Transistor Design.
Done with harmonics and relatively simple math as I remember. Gave
remarkably accurate answers only using the fundamental plus 2 or 3 of
them. The course was mostly about tank circuits, doublers, triplers,
PLLs, etc. though, since the non-linear stuff was so easy once learned.

Of course it wasn't really a model of a class-C source, since it
actually did anything you could think of. So I guess it wouldn't qualify.

Sorry I mentioned the concept.

tom
K0TAR

5241. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 01:15:33 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9920728A3E45Dnonenowhere@61.9.191.5>
Source record: 42107

Keith Dysart <kd1@sympatico.ca> wrote in news:1177719266.182305.327520
@l77g2000hsb.googlegroups.com:

> On Apr 27, 7:36 pm, K7ITM <k...@msn.com> wrote:
>> Grrrr. I'll try to
>> remember to check the couple of books I have that would talk about
>> phasors to see if I'm misrepresenting them, but I'm pretty sure they
>> are equally explicit in defining a phasor as a representation of ONLY
>> the phase and magnitude of the sinusoidal signal, and NOT as a vector
>> that rotates synchronously with the sinewave.
>
> My recollection is of being introduced to phasors with the study of
> electric machines which have real rotating magnetic fields. By
> jumping onto the rotor and rotating with those magnetic fields,
> solutions became trivial by allowing vector arithmetic on the now
> stationary phasors.

Isn't hopping onto the rotor (assuming synchronous speed) to make your
observations called moving from the time domain to the frequency domain,
and all the mathematical shortcuts are only valid if all quantities share
the same angular velocity (or frequency), implying sinusoidal waveform.

I guess a departure from the strict phasor environment is for example
when we consider a noise vector rotating about the end of a carrier
phasor in exploring FM detector S/N vs C/N.

Owen

5242. Re: Analyzing Stub Matching with Reflection Coefficients

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 01:20:22 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <qjxYh.19182$JZ3.8170@newssvr13.news.prodigy.net>
Source record: 42108

Tom Ring wrote:
> Well, we used to have one waaay back in Non-linear Transistor Design.

Yes, I remember one from college but would have trouble
locating it 50 years later. :-)
--
73, Cecil http://www.w5dxp.com

5243. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 01:22:45 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <FlxYh.19183$JZ3.8053@newssvr13.news.prodigy.net>
Source record: 42109

Owen Duffy wrote:
> Isn't hopping onto the rotor (assuming synchronous speed) to make your
> observations called moving from the time domain to the frequency domain,
> and all the mathematical shortcuts are only valid if all quantities share
> the same angular velocity (or frequency), implying sinusoidal waveform.

Ever wonder which direction, clockwise or counter-clockwise,
a standing-wave phasor is rotating?
--
73, Cecil http://www.w5dxp.com

5244. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 01:25:56 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <4632a29a$0$21250$39cecf19@news.twtelecom.net>
Source record: 42110

Richard Harrison wrote:

> I guessed that Arnold Bailey just assumed perfection in some instances
> for practical purposes. My own experience has been that differences of
> less than one dB were not to be confided in. Reg Edwards used to speak
> of "delusions of accuracy", and I think he grasped a lot of wisdom
> there.
>
> Best regards, Richard Harrison, KB5WZI
>

I was being a bit facetious, Richard. I couldn't resist after looking
at the page, and knowing that there really could not have been "no
response". ;)

tom
K0TAR

5245. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 01:39:17 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1177724357.784298.36150@o5g2000hsb.googlegroups.com>
Source record: 42111

On Apr 27, 4:01 pm, Roy Lewallen <w...@eznec.com> wrote:
> K7ITM wrote:
>
> > OK, noted, but your definition doesn't match what I was taught and
> > what is in the Wikipedia definition
athttp://en.wikipedia.org/wiki/Phasor_(electronics).
> > What I was taught, and what I see at that URL, is that the PHASOR is
> > ONLY the representation of phase and amplitude--that is, ONLY the
> > A*exp(j*phi). To me, what you guys are calling a phasor is just a
> > rotating vector describing the whole signal. To me, the value of
> > using a phasor representation is that it takes time out of the
> > picture. See alsohttp://people.clarkson.edu/~svoboda/eta/phasors/Phasor10.html,
> > which defines the phasor very clearly as NOT being a function of time
> > (assuming things are in steady-state). But in my online search, I
> > also find other sites that, although they don't bother to actually
> > define the phasor, show it as a rotating vector. Grrrr. I'll try to
> > remember to check the couple of books I have that would talk about
> > phasors to see if I'm misrepresenting them, but I'm pretty sure they
> > are equally explicit in defining a phasor as a representation of ONLY
> > the phase and magnitude of the sinusoidal signal, and NOT as a vector
> > that rotates synchronously with the sinewave.
>
> Tom,
>
> I'm sure a lot of people forget the derivation of a phasor after using
> it for a while, just as they do so many other things.
>
> Again, a phasor is a complex representation of a real sinusoidal
> function and, as such, definitely has a time varying component. That the
> component isn't written doesn't mean it's not there. By all means, check
> your texts. I'm sure that any decent circuit analysis text has a
> serviceable development of the subject.
>
> I always cringe when I see wikipedia quoted as a reference -- I was
> referred to an entry regarding transmission lines some time ago, and it
> contained some pretty major misconceptions. That leads me to mistrust it
> when looking up a topic which I don't have a good grasp of. I don't have
> a full understanding of the process by which it's written, but it seems
> that all participants in this newsgroup are equally qualified to create
> or modify a wikipedia entry. How could that result in a reliable reference?
>
> Roy Lewallen, W7EL

Hi Roy,

Well, I did not forget the derivation. In Balabanian, "Fundamentals of Circuit Theory," (a book I have but didn't actually study from) he uses "sinor" instead of "phasor" but says they are the same, then in a convoluted way gets around to saying that it's just the phase and magnitude, and not the real(exp(jwt)) part. Smith, "Circuits, Devices, and Systems," (most likely the book from which I learned about phasors) is much clearer about it. Under "Phasor Representation" in my edition,

"If an instantaneous voltage is described by a sinusoidal function of time such as
v(t) = V cos (wt + theta)
then v(t) can be interpreted as the "real part of" a complex function or
v(t) = Re {V exp[j*(wt + theta)]} = Re
{[V*exp(j*theta)]*[exp(j*wt)]} (eqn 3-18)
In the second form of eqn 3-18, the complex function in braces is separated into two parts; the first is a complex constant, the second is a function of tiem which implies rotation in the complex plane. The FIRST PART we DEFINE [Tom's emphasis...] as the phasor (bold) V (/bold), where
(bold) V (/bold) = V*exp(j*theta)
...
The phasor V is called a "transform" of the voltage v(t); it is obtained by transforming a function fo time into a complex constant which retains the essential information. ... "

OK, so your definition is different from mine. So far, I've found two actual definitions of the phasor on-line, and both agree with my books and my own useage. But if it's common useage to consider a phasor to be a rotating vector, I'll defer to that at least in this discussion. So far, though, I haven't found a reason to give up my definition of a phasor. ;-)

Cheers,
Tom

5246. Re: 10m ground wave expectations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 01:40:51 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <4632a630$0$17206$39cecf19@news.twtelecom.net>
Source record: 42112

Joey wrote:

> Hi,
> I'm trying to determine if I could use 10 meters to contact a station
> about 75 miles away with about 2500ft elevation of a couple sets of
> hills in between with just simple antennas on either end. Perhaps a
> 10m dipole on one end and some kind of stealthy one on the other. I
> assume this would have to be ground wave only given the distance and
> current band conditions.
> My parents are both techs so we're currrently limited to parts of 10m
> as the lowest band and I'd like to have something reliable without
> need repeaters for disaster comms. We actually only have a few single
> hop VHF/UHF repeaters between us, though quite a few linked ones.
> I've also thought of 6m due to smaller antenna requirements, but I'm
> pretty sure this is too far...
> Thanks!

2m SSB or CW with modest power and antennas have a great chance of doing what you wish.

A better description of the terrain would help.

2500 above mean average terrain? (I doubt that but have to ask)

A couple of hills. Sharp ridges? Above the line of sight?

Probably still quite doable. I used to work from Potsdam NY to Plattsburgh NY (and a good chunk of Vermont) virtually every evening on 144.200 with a 12 foot yagi at 25 feet on my end, a 17 foot on the other, using about 60 watts, and the Tug Hill Plateau and a couple small mountains in the way.

2m "weak signal" is an often overlooked mode for 60 to 150 miles that is very reliable for point to point.

tom
K0TAR

5247. Re: 10m ground wave expectations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 01:42:03 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <4632a677$0$17206$39cecf19@news.twtelecom.net>
Source record: 42113

Joey wrote:

> Hi,
> I'm trying to determine if I could use 10 meters to contact a station
> about 75 miles away with about 2500ft elevation of a couple sets of
> hills in between with just simple antennas on either end. Perhaps a
> 10m dipole on one end and some kind of stealthy one on the other. I
> assume this would have to be ground wave only given the distance and
> current band conditions.
> My parents are both techs so we're currrently limited to parts of 10m
> as the lowest band and I'd like to have something reliable without
> need repeaters for disaster comms. We actually only have a few single
> hop VHF/UHF repeaters between us, though quite a few linked ones.
> I've also thought of 6m due to smaller antenna requirements, but I'm
> pretty sure this is too far...
> Thanks!

Oh, 6 would work too, but 2 is easier and the antennas smaller yet.

tom
K0TAR

5248. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 01:43:35 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <13359mbq31psud4@corp.supernews.com>
Source record: 42114

Owen Duffy wrote:
>
> Isn't hopping onto the rotor (assuming synchronous speed) to make your
> observations called moving from the time domain to the frequency domain,
> and all the mathematical shortcuts are only valid if all quantities share
> the same angular velocity (or frequency), implying sinusoidal waveform.
>
> I guess a departure from the strict phasor environment is for example
> when we consider a noise vector rotating about the end of a carrier
> phasor in exploring FM detector S/N vs C/N.

That's why it's essential to not forget the implied exp(j * omega * t) term -- all waveforms in an analysis must include it, and it must be the same omega for all. In addition to inherently non-sinusoidal waveforms, waveforms resulting from any nonlinear operation, such as frequency modulation or multiplying or squaring waveforms, can't be analyzed in that environment.

Roy Lewallen, W7EL

5249. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 01:55:39 UTC
From: Mike Monett <No@email.adr>
Message-ID: <Xns991FDF0E77E06Noemailadr@208.49.80.251>
Source record: 42115

K7ITM <k7itm@msn.com> wrote:

> OK, so your definition is different from mine. So far, I've found two
> actual definitions of the phasor on-line, and both agree with my books
> and my own useage. But if it's common useage to consider a phasor to
> be a rotating vector, I'll defer to that at least in this discussion.
> So far, though, I haven't found a reason to give up my definition of a
> phasor. ;-)

> Cheers,
> Tom

I find it's convenient to think of a phasor as rotating with respect to some other frequency, or stationary when you want to show the phase relation at some specific frequency in a circuit with complex impedances.

For example, if you are discussing the phase relations in AM modulation, you can set the carrier as a vector pointing to the right, and the upper and lower sidebands rotating in opposite directions with their centers on the end of the carrier vector.

The sidebands each have one half the amplitude of the carrier, so when they are aligned in the same direction as the carrier, the resulting vector is twice the amplitude, or length. When they oppose the carrier, the result is zero amplitude.

So a phasor can be stationary or rotating depending on its relation to something else in the discussion.

Regards,

Mike Monett

5250. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 01:58:05 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177725485.729476.170360@y5g2000hsa.googlegroups.com>
Source record: 42116

On Apr 27, 9:15 pm, Owen Duffy <n...@no.where> wrote:
> Keith Dysart <k...@sympatico.ca> wrote in news:1177719266.182305.327520
> @l77g2000hsb.googlegroups.com:
> > My recollection is of being introduced to phasors with the study of
> > electric machines which have real rotating magnetic fields. By
> > jumping onto the rotor and rotating with those magnetic fields,
> > solutions became trivial by allowing vector arithmetic on the now
> > stationary phasors.
>
> Isn't hopping onto the rotor (assuming synchronous speed) to make your
> observations called moving from the time domain to the frequency domain,

I am not sure it is that; more like rotating the frame of reference to
stabilize the view (or a stroboscope perhaps?). The time domain is
now captured in the notation on the diagram that says it is all
happening
at 60 Hz, for example.

> and all the mathematical shortcuts are only valid if all quantities share
> the same angular velocity (or frequency), implying sinusoidal waveform.

But I agree with this. If everything is not rotating with the same
velocity
(and not just frequency), then it is difficult to find a useful frame
of reference
to rotate.

Which suggests that if there are two directions of rotation, phasors
don't help much with the solution.

> I guess a departure from the strict phasor environment is for example
> when we consider a noise vector rotating about the end of a carrier
> phasor in exploring FM detector S/N vs C/N.

...Keith

5251. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 02:09:19 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177726159.384766.38980@n76g2000hsh.googlegroups.com>
Source record: 42117

On Apr 27, 9:22 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Owen Duffy wrote:
> > Isn't hopping onto the rotor (assuming synchronous speed) to make your
> > observations called moving from the time domain to the frequency domain,
> > and all the mathematical shortcuts are only valid if all quantities share
> > the same angular velocity (or frequency), implying sinusoidal waveform.
>
> Ever wonder which direction, clockwise or counter-clockwise,
> a standing-wave phasor is rotating?

Clockwise, of course, by convention. Always look at the end of the
machine that lets you draw your phasor diagram clockwise.

This way, when a first phasor is clockwise from a second, the first
phasor occurs first when you convert back to time.

...Keith

5252. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 02:16:30 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <18yYh.1164$HX7.1136@newssvr19.news.prodigy.net>
Source record: 42118

Mike Monett wrote:
> So a phasor can be stationary or rotating depending on its relation to
> something else in the discussion.

This is the way I have been assuming that everyone was
thinking. I'm amazed at all the different concepts.
--
73, Cecil http://www.w5dxp.com

5253. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 02:25:14 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <egyYh.6038$rO7.2523@newssvr25.news.prodigy.net>
Source record: 42119

Keith Dysart wrote:
> Which suggests that if there are two directions of rotation, phasors
> don't help much with the solution.

By conventional definition, coherent phasors traveling
in opposite directions are rotating in different
directions, one clockwise and one counter-clockwise.

Adding a forward wave and a reflected wave of equal
amplitude results in:

E = Eot[sin(kx+wt) + sin(kx-wt)]

By convention, the forward +wt wave rotates counter-
clockwise as the angle increases in the + direction.

By convention, the reflected -wt wave rotates clockwise
as the angle increases in the - direction.

The standing wave equation becomes:

E(x,t) = 2*Eot*sin(kx)*cos(wt)

Which direction is the standing-wave phasor rotating?
--
73, Cecil http://www.w5dxp.com

5254. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 02:32:50 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <mnyYh.1165$HX7.1124@newssvr19.news.prodigy.net>
Source record: 42120

Keith Dysart wrote:
> On Apr 27, 9:22 pm, Cecil Moore <nos...@w5dxp.com> wrote:
>> Owen Duffy wrote:
>>> Isn't hopping onto the rotor (assuming synchronous speed) to make your
>>> observations called moving from the time domain to the frequency domain,
>>> and all the mathematical shortcuts are only valid if all quantities share
>>> the same angular velocity (or frequency), implying sinusoidal waveform.
>> Ever wonder which direction, clockwise or counter-clockwise,
>> a standing-wave phasor is rotating?
>
> Clockwise, of course, by convention. Always look at the end of the
> machine that lets you draw your phasor diagram clockwise.

The equation for a standing wave,

E(x,t) = 2*Eot*sin(kx)*cos(wt)

would have an identical value if it were written,

E(x,t) = 2*Eot*sin(kx)*cos(-wt)

Thus, a standing wave phasor can be considered to be
rotating either clockwise or counter-clockwise.
--
73, Cecil http://www.w5dxp.com

5255. Re: 10m ground wave expectations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 05:38:38 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99209F24B9703nonenowhere@61.9.191.5>
Source record: 42121

Joey <joey@nowhere.org> wrote in news:dd64339h0kluu9d5kqu0tff6h9r6nmpbdl@4ax.com:

> Hi,
> I'm trying to determine if I could use 10 meters to contact a station
> about 75 miles away with about 2500ft elevation of a couple sets of
> hills in between with just simple antennas on either end. Perhaps a
> 10m dipole on one end and some kind of stealthy one on the other. I
> assume this would have to be ground wave only given the distance and
> current band conditions.
> My parents are both techs so we're currrently limited to parts of 10m
> as the lowest band and I'd like to have something reliable without
> need repeaters for disaster comms. We actually only have a few single
> hop VHF/UHF repeaters between us, though quite a few linked ones.
> I've also thought of 6m due to smaller antenna requirements, but I'm
> pretty sure this is too far...
> Thanks!
>

Joey,

You have given a lot of information, and yet too little.

The distance you nominate can be a challenge, yet routinely possible on frequencies from 28MHz to 440MHz, depending....

My thoughts are that simplex contacts will be unlikely without effective outside antennas, though not necessarily directional antennas, but they would help.

You note you may have access to several repeaters, than can certainly equalise bad locations or impossible paths (eg granite), but then you might not want to conduct family chat on repeaters (though that is they way they seem to have gone here since many of our new six hour hams with their shack on their belt seem to be family members). An FM repeater in a very good location may support contacts reliably out to 150+km for each station, depending...

Another possibility might be using IRLP build a path.

To give you an example, I can work the 2m repeater at Mt Ginini (exceptional site) from the car on my driveway here at Narooma, 155km (~95mi) over mountains etc (but we don't have real mountains here do we?), it would be easier with a 5dB gain omni on the house.

I could use a handheld to make the trip to a repeater 90km (~56mi) away and use IRLP to anywhere in the world (if I liked IRLP). Then by

contrast, there would be places where you couldn't work a repeater 10km away with a handheld.

So, it may be that a path via a VHF or UHF repeater might be more viable than 10m.

Perhaps some experimentation is in order, that is what ham radio was about once.

Owen

5256. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 10:07:26 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177754846.888880.70860@q75g2000hsh.googlegroups.com>
Source record: 42122

On Apr 27, 10:25 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > Which suggests that if there are two directions of rotation, phasors
> > don't help much with the solution.
>
> By conventional definition, coherent phasors traveling
> in opposite directions are rotating in different
> directions, one clockwise and one counter-clockwise.

It would, I think, be more precise to say that the vectors are
rotating. When you change your point of view by rotating
the frame of reference along with the vectors, those vectors
become phasors which do not rotate. Although a little
looseness in the language easily leads to saying that
they do.

> Adding a forward wave and a reflected wave of equal
> amplitude results in:
>
> E = Eot[sin(kx+wt) + sin(kx-wt)]
>
> By convention, the forward +wt wave rotates counter-
> clockwise as the angle increases in the + direction.

I agree. I should have said counter-clockwise in my other
post. Once you jump on the rotor to rotate counter-
clockwise with the vectors, the rest of the world (e.g.
the stator) appears to be going clockwise around you.

> By convention, the reflected -wt wave rotates clockwise
> as the angle increases in the - direction.
>
> The standing wave equation becomes:
>
> E(x,t) = 2*Eot*sin(kx)*cos(wt)
>
> Which direction is the standing-wave phasor rotating?

Which I will try to answer in a response to your next post.

...Keith

5257. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 10:23:52 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177755832.758059.57480@y5g2000hsa.googlegroups.com>
Source record: 42123

On Apr 27, 10:32 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> Keith Dysart wrote:
> > On Apr 27, 9:22 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> >> Owen Duffy wrote:
> >>> Isn't hopping onto the rotor (assuming synchronous speed) to make your
> >>> observations called moving from the time domain to the frequency domain,
> >>> and all the mathematical shortcuts are only valid if all quantities share
> >>> the same angular velocity (or frequency), implying sinusoidal waveform.
> >> Ever wonder which direction, clockwise or counter-clockwise,
> >> a standing-wave phasor is rotating?
>
> > Clockwise, of course, by convention. Always look at the end of the
> > machine that lets you draw your phasor diagram clockwise.
>
> The equation for a standing wave,
>
> E(x,t) = 2*Eot*sin(kx)*cos(wt)
>
> would have an identical value if it were written,
>
> E(x,t) = 2*Eot*sin(kx)*cos(-wt)
>
> Thus, a standing wave phasor can be considered to be
> rotating either clockwise or counter-clockwise.

I suggest that the solution to this ambiguity is to do the
same analysis for the current, which should be found to
be 90 degrees shifted from the voltage. The real current
is either leading or lagging the voltage. Rotate the frame
of reference in the direction that will cause a lagging
current to appear counter-clockwise from the voltage
and a leading current to appear clockwise from the
voltage.

This is all convention, of course. You can rotate the
frame of reference in either direction, you just need
to remember which direction on the graph represents
earlier time and which represents later.

Physically, it is just a question of which end of the
rotor you climb on to.

...Keith

5258. Help picking ferrites for Choke Balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 10:49:40 UTC
From: Tehrasha Darkon <darkon@netins.net>
Message-ID: <f0v8s4gpk1@news.netins.net>
Source record: 42124

Need advice on how to pick appropriate ferrite material for use in baluns. In this case, a line isolator/choke to stop common mode current on the feedline to a Carolina Windom.

Specifically, if EPCOS # B64290-L638-X35 cores would be a good choice for such a project. What little information I have managed to find for this part number does not help me much. :)

OD: .870"
ID: .539"
H : .25"
AL: 3200
ui: 5300

Looks like they would not be very snug on RG8, but could easily get a few turns of RG58 through a stack of them.

--Teh

5259. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 12:54:56 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <AuHYh.19870$Um6.17514@newssvr12.news.prodigy.net>
Source record: 42125

Keith Dysart wrote:
> I suggest that the solution to this ambiguity is to do the
> same analysis for the current, which should be found to
> be 90 degrees shifted from the voltage. The real current
> is either leading or lagging the voltage. Rotate the frame
> of reference in the direction that will cause a lagging
> current to appear counter-clockwise from the voltage
> and a leading current to appear clockwise from the
> voltage.

This just illustrates how artificial standing waves are.
For 1/4WL the standing-wave current leads the standing-
wave voltage by 90 degrees then suddenly undergoes a step
function to lag the standing-wave voltage by 90 degrees for
the next 1/4WL.

In any case, the point is whether standing-wave current can
be used to measure the phase shift through a loading coil.
EZNEC indicates that it cannot. Kraus indicates that it cannot.
Yet the people who did exactly that continue to report the
results as valid.
--
73, Cecil http://www.w5dxp.com

5260. Re: Help picking ferrites for Choke Balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 13:04:41 UTC
From: Danny Richardson <n_group@k6mhe.com>
Message-ID: <3ih633dmt1tfkjhoqim1bgrcvecpdnaoe0@4ax.com>
Source record: 42126

On Sat, 28 Apr 2007 10:49:40 +0000 (UTC), Tehrasha Darkon
<darkon@netins.net> wrote:

>Need advice on how to pick appropriate ferrite material for use in
>baluns. In this case, a line isolator/choke to stop common mode current
>on the feedline to a Carolina Windom.
>
>Specifically, if EPCOS # B64290-L638-X35 cores would be a good choice for
>such a project. What little information I have managed to find for this
>part number does not help me much. :)
>
>OD: .870"
>ID: .539"
>H : .25"
>AL: 3200
>ui: 5300
>
>Looks like they would not be very snug on RG8, but could easily get a few
>turns of RG58 through a stack of them.
>
>--Teh

I think you'll find some good informaton here:

http://audiosystemsgroup.com/RFI-Ham.pdf

Danny, K6MHE

5261. Current in 1/2WL Dipoles

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 13:36:39 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <H5IYh.1645$tp5.306@newssvr23.news.prodigy.net>
Source record: 42027

The point I was trying to make on the "Rotational Speed"
thread got lost in semantics so here goes again.

Given - a 75m dipole modeled by EZNEC with 90 segments
in each leg of the dipole. 90 segments was chosen
to correspond to the number of degrees from the
feedpoint. Illustrating 1/2 of the dipole with
0 ohm loads at the following segments:

FP--------23--------46--------68--------90

EZNEC reports the following results:

Feedpoint current: 1 amp at 0 deg

Current at seg 23: 0.9281 amp at -1.06 deg

Current at seg 46: 0.7154 amp at -1.78 deg

Current at seg 68: 0.4049 amp at -2.31 deg

Current at seg 90: 0.0122 amp at -2.76 deg

Since the segment numbers correspond to the
number of degrees, it's obvious that the
segment numbers correspond to the expected
phase shift in the traveling waves.

Question: Assuming the current reported by
EZNEC is a ~cosine function, how does one use
that current to determine the traveling wave
phase shift in the wire?
--
73, Cecil http://www.w5dxp.com

5262. Re: Which modeler?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 13:42:35 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <5ij633hdm84cmnrkdobt4q5a00u00nmqh0@4ax.com>
Source record: 42028

On 27 Apr 2007 13:37:26 -0700, weaver5511@mypacks.net wrote:

>On Apr 27, 8:31 pm, John Ferrell <johnferr...@sprintmail.com> wrote:
>
>>
>> EZNEChas a free demo. I compared that against what I could glean from
>> the advertising info of the other candidates.EZNECallows me to think
>> about antennas while I am using it rather than think about
>> programming.
>>
>> EZNEChas saved me a lot of labor with my "antenna habit". EZNECand
>> Nittany Scientific products are used in the ARRL antenna course. That
>> course is a good value as well.
>>
>
>Thanks. I'll have a look at that ARRL course.
>
>73, RDW
>
>
I should also add that the ARRL Course was pretty tough on my ego. I
did not know nearly as much as I thought I did going into the course.

The up side is that it renewed my interest in antennas in general.
A humbling experience is sometimes a very good thing!

John Ferrell W8CCW
"Life is easier if you learn to
plow around the stumps"

5263. Re: Which modeler?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 16:44:07 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <f0vtkb$530$1@nnrp.linuxfan.it>
Source record: 42029

weaver5511@mypacks.net wrote:

[...]

Check some stuff out ...

http://www.cebik.com/model/nec.html

Regards,
JS

5264. Re: 10m ground wave expectations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 16:55:22 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <f0vu9e$5p4$1@nnrp.linuxfan.it>
Source record: 42030

Joey wrote:
> Hi,
> I'm trying to determine if I could use 10 meters to contact a station
> about 75 miles away with about 2500ft elevation of a couple sets of
> hills in between with just simple antennas on either end. Perhaps a
> 10m dipole on one end and some kind of stealthy one on the other. I
> assume this would have to be ground wave only given the distance and
> current band conditions.
> My parents are both techs so we're currrently limited to parts of 10m
> as the lowest band and I'd like to have something reliable without
> need repeaters for disaster comms. We actually only have a few single
> hop VHF/UHF repeaters between us, though quite a few linked ones.
> I've also thought of 6m due to smaller antenna requirements, but I'm
> pretty sure this is too far...
> Thanks!

Just off-hand, I would suspect for reliable and consistent
communications a three element yagi and ~100 watts on each end would
result in enjoyable rag chews ... same for 6m.

Height? More the better.

Seventy-five miles on omni antennas is very chancy, in my humble
opinion. But then, power/height would be the main variables, enough
height and power would certainly help.

Regards,
JS

5265. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 17:04:03 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1177779843.150271.239650@l77g2000hsb.googlegroups.com>
Source record: 42031

On Apr 27, 6:39 pm, K7ITM <k...@msn.com> wrote:
> On Apr 27, 4:01 pm, Roy Lewallen <w...@eznec.com> wrote:
>
>
>
> > K7ITM wrote:
>
> > > OK, noted, but your definition doesn't match what I was taught and
> > > what is in the Wikipedia definition
athttp://en.wikipedia.org/wiki/Phasor_(electronics).
> > > What I was taught, and what I see at that URL, is that the PHASOR is
> > > ONLY the representation of phase and amplitude--that is, ONLY the
> > > A*exp(j*phi). To me, what you guys are calling a phasor is just a
> > > rotating vector describing the whole signal. To me, the value of
> > > using a phasor representation is that it takes time out of the
> > > picture. See alsohttp://people.clarkson.edu/~svoboda/eta/phasors/Phasor10.html,
> > > which defines the phasor very clearly as NOT being a function of time
> > > (assuming things are in steady-state). But in my online search, I
> > > also find other sites that, although they don't bother to actually
> > > define the phasor, show it as a rotating vector. Grrrr. I'll try to
> > > remember to check the couple of books I have that would talk about
> > > phasors to see if I'm misrepresenting them, but I'm pretty sure they
> > > are equally explicit in defining a phasor as a representation of ONLY
> > > the phase and magnitude of the sinusoidal signal, and NOT as a vector
> > > that rotates synchronously with the sinewave.
>
> > Tom,
>
> > I'm sure a lot of people forget the derivation of a phasor after using
> > it for a while, just as they do so many other things.
>
> > Again, a phasor is a complex representation of a real sinusoidal
> > function and, as such, definitely has a time varying component. That the
> > component isn't written doesn't mean it's not there. By all means, check
> > your texts. I'm sure that any decent circuit analysis text has a
> > serviceable development of the subject.
>
> > I always cringe when I see wikipedia quoted as a reference -- I was
> > referred to an entry regarding transmission lines some time ago, and it
> > contained some pretty major misconceptions. That leads me to mistrust it
> > when looking up a topic which I don't have a good grasp of. I don't have
> > a full understanding of the process by which it's written, but it seems
> > that all participants in this newsgroup are equally qualified to create
> > or modify a wikipedia entry. How could that result in a reliable reference?

>
> > Roy Lewallen, W7EL
>
> Hi Roy,
>
> Well, I did not forget the derivation. In Balabanian, "Fundamentals
> of Circuit Theory," (a book I have but didn't actually study from) he
> uses "sinor" instead of "phasor" but says they are the same, then in a
> convoluted way gets around to saying that it's just the phase and
> magnitude, and not the real(exp(jwt)) part. Smith, "Circuits,
> Devices, and Systems," (most likely the book from which I learned
> about phasors) is much clearer about it. Under "Phasor
> Representation" in my edition,
>
> "If an instantaneous voltage is described by a sinusoidal function of
> time such as
> v(t) = V cos (wt + theta)
> then v(t) can be interpreted as the "real part of" a complex function
> or
> v(t) = Re {V exp[j*(wt + theta)]} = Re
> {[V*exp(j*theta)]*[exp(j*wt)]} (eqn 3-18)
> In the second form of eqn 3-18, the complex function in braces is
> separated into two parts; the first is a complex constant, the second
> is a function of tiem which implies rotation in the complex plane.
> The FIRST PART we DEFINE [Tom's emphasis...] as the phasor (bold) V (/
> bold), where
> (bold) V (/bold) = V*exp(j*theta)
> ...
> The phasor V is called a "transform" of the voltage v(t); it is
> obtained by transforming a function fo time into a complex constant
> which retains the essential information. ... "
>
> OK, so your definition is different from mine. So far, I've found two
> actual definitions of the phasor on-line, and both agree with my books
> and my own useage. But if it's common useage to consider a phasor to
> be a rotating vector, I'll defer to that at least in this discussion.
> So far, though, I haven't found a reason to give up my definition of a
> phasor. ;-)
>
> Cheers,
> Tom

More on this:

First, I agree with Mike's usage; if your phase reference is at one frequency and you're looking at a signal at a different frequency with respect to your reference, the phasor representing that different frequency will rotate at a rate equal to the difference in the frequencies: counterclockwise if the second frequency is higher, I suppose, since the second frequency's phase gets further and further ahead of the reference as time goes on.

Second, I did a google search for "phasor definition" and investigated a whole bunch of sites. Some didn't have anything worth noting. I made notes of 18 sites. Nine of them had strict mathematical definitions. Every one of the mathematical definitions agreed that a phasor contains only amplitude, and phase relative to a reference, and has the exp(wt) part stripped out. Some had a full development of the concept, and some only stated the end result, but in the result they all agreed. In the nine narrative definitions/descriptions, five were clear that a phasor contains only phase and amplitued and not time information--not a rotating vector with respect to time (unless it's representing a second frequency, presumably). Two of the narratives specifically said that a phasor is a time-rotating vector. The others were at best ambiguous, or simply didn't say.

To me, the whole idea of using phasors is to remove the time-varying quantity from discussion, so you can concentrate on phase and magnitude. As I showed in my first posting in this "subthread," phasors (as phase and magnitude only) very quickly lead you to an accurate description of what happens with forward and reflected waves on a transmission line, with respect to the amplitude and phase of the net signal at any point along the line. The phasor representation clearly shows that with waves of the same frequency of nearly equal amplitude in each direction, you get relatively long stretches along the line where the phase changes only slightly, and then a region where it changes very quickly. That's not something I can easily see in just thinking about the waves as time-varying quantites, but as phasors, the result is immediately obvious to me. There are plenty of other similar examples.

I'm very curious now to see exactly what Pearson & Maler and Van Valkenburg say in their texts. Are they clear with a mathematical definition, or do they end up just using words that can be interpreted in different ways? So far, I have investigated eleven references that define a phasor mathematically (the nine mentioned here plus the two college texts mentioned before), and all agree that it doesn't contain the exp(wt) component: in a linear system at steady-state excited by a single frequency, a phasor representing a quantity at a single point in space does not rotate.

I suppose I get a little carried away on things like this, but to me it's important that we're communicating with words for which we share a single definition, not words that mean distinctly different things to different people.

Cheers,
Tom

5266. Re: Current in 1/2WL Dipoles

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 17:20:47 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <4633825f$0$27071$4c368faf@roadrunner.com>
Source record: 42032

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:H5IYh.1645$tp5.306@newssvr23.news.prodigy.net...
> The point I was trying to make on the "Rotational Speed"
> thread got lost in semantics so here goes again.
>
> Given - a 75m dipole modeled by EZNEC with 90 segments
> in each leg of the dipole. 90 segments was chosen
> to correspond to the number of degrees from the
> feedpoint. Illustrating 1/2 of the dipole with
> 0 ohm loads at the following segments:
>
> FP--------23--------46--------68--------90
>
> EZNEC reports the following results:
>
> Feedpoint current: 1 amp at 0 deg
>
> Current at seg 23: 0.9281 amp at -1.06 deg
>
> Current at seg 46: 0.7154 amp at -1.78 deg
>
> Current at seg 68: 0.4049 amp at -2.31 deg
>
> Current at seg 90: 0.0122 amp at -2.76 deg
>
> Since the segment numbers correspond to the
> number of degrees, it's obvious that the
> segment numbers correspond to the expected
> phase shift in the traveling waves.
>
> Question: Assuming the current reported by
> EZNEC is a ~cosine function, how does one use
> that current to determine the traveling wave
> phase shift in the wire?
> --
> 73, Cecil http://www.w5dxp.com

What is the current phase relative to. The feedpoint , the voltage in that segment? As I have read this thread there seems to be some confusion on this point.

5267. Re: Help picking ferrites for Choke Balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 17:39:49 UTC
From: Tehrasha Darkon <darkon@netins.net>
Message-ID: <f100t5rsc1@news.netins.net>
Source record: 42033

On Sat, 28 Apr 2007 06:04:41 -0700, Danny Richardson wrote:

> I think you'll find some good informaton here:
>
> http://audiosystemsgroup.com/RFI-Ham.pdf
>
> Danny, K6MHE

It is very good information, provided you are dealing with cores of a known type. (#31 or #43) It would be nice if I had such material, and in the end I may have to resort to purchasing some. *SHOCK*

But as it is, I am looking at some cores that appear to be #35 material, and I cannot find any information as to how they react at freq. They most likely are not 'ideal for my purpose, but I am trying to determine if they can be used as 'close enough'. Either by adding more turns, or stacking more cores. But again, without a data sheet, or having one in hand to test manually this is rather difficult.

--Teh

5268. Re: Current in 1/2WL Dipoles

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 17:54:37 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <xTLYh.19894$Um6.4076@newssvr12.news.prodigy.net>
Source record: 42034

Jimmie D wrote:
> "Cecil Moore" <nospam@w5dxp.com> wrote in message
> news:H5IYh.1645$tp5.306@newssvr23.news.prodigy.net...
>> The point I was trying to make on the "Rotational Speed"
>> thread got lost in semantics so here goes again.
>>
>> Given - a 75m dipole modeled by EZNEC with 90 segments
>> in each leg of the dipole. 90 segments was chosen
>> to correspond to the number of degrees from the
>> feedpoint. Illustrating 1/2 of the dipole with
>> 0 ohm loads at the following segments:
>>
>> FP--------23--------46--------68--------90
>>
>> EZNEC reports the following results:
>>
>> Feedpoint current: 1 amp at 0 deg
>>
>> Current at seg 23: 0.9281 amp at -1.06 deg
>>
>> Current at seg 46: 0.7154 amp at -1.78 deg
>>
>> Current at seg 68: 0.4049 amp at -2.31 deg
>>
>> Current at seg 90: 0.0122 amp at -2.76 deg
>>
>> Since the segment numbers correspond to the
>> number of degrees, it's obvious that the
>> segment numbers correspond to the expected
>> phase shift in the traveling waves.
>>
>> Question: Assuming the current reported by
>> EZNEC is a ~cosine function, how does one use
>> that current to determine the traveling wave
>> phase shift in the wire?
>
> What is the current phase relative to. The feedpoint , the voltage in that
> segment? As I have read this thread there seems to be some confusion on
> this point.

I believe that EZNEC references net current to the
source current of 1A at 0 degrees. I consider it
to be a *snapshot* of conditions when the source
current is 1A at 0 degrees. This is what I have

been assuming in all of my postings. I believe
that is also what Kraus does in his graphs.
--
73, Cecil http://www.w5dxp.com

5269. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 18:01:26 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <WZLYh.1270$HX7.56@newssvr19.news.prodigy.net>
Source record: 42035

K7ITM wrote:
> To me, the whole idea of using phasors is to remove the time-varying
> quantity from discussion, so you can concentrate on phase and
> magnitude.

Yes, that was what I was doing. I think that is what EZNEC
does. I think that is what Kraus does. It seems to be the
key in determining what phase shift occurs through a 75m
loading coil.

Incidentally, one of the best treatments of this subject,
IMO, is in "Optics", by Hecht.

> I suppose I get a little carried away on things like this, but to me
> it's important that we're communicating with words for which we share
> a single definition, not words that mean distinctly different things
> to different people.

Apparently, someone needs to get carried away in order to
get this problem resolved. A measured zero phase shift
through a loading coil using a current that doesn't change
phase is meaningless and misleading.
--
73, Cecil http://www.w5dxp.com

5270. Re: Which modeler?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 18:18:14 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177784294.306409.178920@c35g2000hsg.googlegroups.com>
Source record: 42036

On 27 Apr, 12:18, weaver5...@mypacks.net wrote:
> I've been 'googling' for a MININEC-based antenna modeling program (or
> programs) and I've decided a guy could get old and grey before he was
> through looking at all the offerings. I've kind of (based on web page
> descriptions) compiled a short list of candidates as follows:
>
> MMANA by JH3HHT
> EZNEC by W7EL
> NEC-Win Pro by Nitanny Scientific
>
> Is anyone here using any of those, especially NEC-Win Plus? Can
> anyone recommend one that they KNOW is better than the ones on my
> list? I have $450 budgeted for this but I might consider something a
> little costlier if it were overwhelmingly better.
>
> 73, RDW

Interesting question. I use AO program by Brian Beazely which is
Minninec based but Brian
has not supported that program in years. Based on that info I suspect
that could be classed now as freeware so a Google search may well
supply a user that is willing to provide a copy. Ofcourse you would
have to pursue the subject of legality for yourself before purchasing
tho I do not know how you would do that. I personally would love to
have the basic program
with all details to see if it could be remodelled but I have not heard
of anybody pursueing that avenue.
Art

5271. Re: Which modeler?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 19:50:44 UTC
From: Brian Howie <brian@nospam.demon.co.uk>
Message-ID: <KS9rQDDUW6MGFwjK@b-howie.demon.co.uk>
Source record: 42037

In message <1177706137.965768.132130@n15g2000prd.googlegroups.com>,
weaver5511@mypacks.net writes
>On Apr 27, 8:11 pm, Roy Lewallen <w...@eznec.com> wrote:
>
>>
>> EZNECand NEC-Win products are not MININEC based.
>>
>
>Point taken. Should have said NEC-based. I had a brain-fart. Shame
>on me.

4NEC2 - free !

http://home.ict.nl/~arivoors/

Arie will be along in a minute to tell you anyway ;-p

73 Brian GM4DIJ
--
Brian Howie

5272. Re: Which modeler?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 20:14:12 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <aja733pv4j0pobtucbhn73n7i5dc8hfmuh@4ax.com>
Source record: 42038

On 28 Apr 2007 11:18:14 -0700, art <aunwin@insightbb.com> wrote:

>AO program by Brian Beazely which is
>Minninec based but Brian
>has not supported that program in years. Based on that info I suspect
>that could be classed now as freeware so a Google search may well
>supply a user that is willing to provide a copy.

This would be a clear case of piracy and the violation of copyright
held by the owner. Any attempts of others to provide "free" or "paid"
copies are violating that law.

73's
Richard Clark, KB7QHC

5273. Re: Turning fiberglass

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 20:19:49 UTC
From: "Roger (K8RI)" <validaddress@my.com>
Message-ID: <jia733hkqcivsubpbiuaba1ue70fbts75g@4ax.com>
Source record: 42039

On Wed, 25 Apr 2007 00:22:16 -0400, "Jimmie D"
<GFENDER@carolina.rr.com> wrote:

>I want to make some fiberglass antenna parts that would probably most easily
>be make by turning fiberglass rod in my lathe. Ive never done this before
>and was wonder how rough fiberglass would be on the tools/lathe. I have a
>piece of 1- 1/4 inch fiberglass rod I want to turn down to fit the inside
>diameter of a piece of 1-1/4 inch tubing. Im thinking get a piece of square
>stock and make a diposable cutting tool for this.
>

I do a lot of fiberglass work. Building a 335 MPH airplane. The two
most important points are the dust is quite hazardous which pretty
much mandates wearing a good mask and not the little disposable paper
or cloth ones. The filter needs to be very fine. As has already been
said, you want to keep the dust off you and your clothes. The other is
the dust is abrasive and you do not want it to spread. I use a "whole
shop" fan with a large filter set close to the work so the draft
carries the dust right into the filter. You also need to protect the
ways and moving parts on the lathe. Good bits have already been
discussed.

Remember that the resin is sensitive to UV light and unprotected with
degrade rapidly. Also the glass fibers are easily damaged by water
(which was a surprise to me) so the finished piece needs a good coat
of paint, or varnish to provided protection from both UV and moisture.

>Jimmie
>

5274. Re: Turning fiberglass

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 20:53:00 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <4633b41e$0$5743$4c368faf@roadrunner.com>
Source record: 42040

"Roger (K8RI)" <validaddress@my.com> wrote in message
news:jia733hkqcivsubpbiuaba1ue70fbts75g@4ax.com...
> On Wed, 25 Apr 2007 00:22:16 -0400, "Jimmie D"
> <GFENDER@carolina.rr.com> wrote:
>
>>I want to make some fiberglass antenna parts that would probably most
>>easily
>>be make by turning fiberglass rod in my lathe. Ive never done this before
>>and was wonder how rough fiberglass would be on the tools/lathe. I have a
>>piece of 1- 1/4 inch fiberglass rod I want to turn down to fit the inside
>>diameter of a piece of 1-1/4 inch tubing. Im thinking get a piece of
>>square
>>stock and make a diposable cutting tool for this.
>>
>
> I do a lot of fiberglass work. Building a 335 MPH airplane. The two
> most important points are the dust is quite hazardous which pretty
> much mandates wearing a good mask and not the little disposable paper
> or cloth ones. The filter needs to be very fine. As has already been
> said, you want to keep the dust off you and your clothes. The other is
> the dust is abrasive and you do not want it to spread. I use a "whole
> shop" fan with a large filter set close to the work so the draft
> carries the dust right into the filter. You also need to protect the
> ways and moving parts on the lathe. Good bits have already been
> discussed.
>
> Remember that the resin is sensitive to UV light and unprotected with
> degrade rapidly. Also the glass fibers are easily damaged by water
> (which was a surprise to me) so the finished piece needs a good coat
> of paint, or varnish to provided protection from both UV and moisture.
>
>>Jimmie
>>
Thanks Roger, probably didnt do it right then, I used some old high speed
steel tools and duct taped the shop vac to the tool holder. I was just
cutting down a fibeglass rod join two pieces of Al tubing together. It
really dulled the heck out of the tool. but I got it done. I was thinking of
mixing up a little resin to seal the raw edges and give it a coat of
automotive acrylic enamel to finish it off. I work with fiberglass encased
antennas I find they wil last seemingly forever if you keep them painted.

Jimmie

5275. Re: Help picking ferrites for Choke Balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 21:08:11 UTC
From: Chuck <no.spam@no.spam.at.all>
Message-ID: <1177794563_15295@sp12lax.superfeed.net>
Source record: 42041

Tehrasha Darkon wrote:
> On Sat, 28 Apr 2007 06:04:41 -0700, Danny Richardson wrote:
>
>> I think you'll find some good informaton here:
>>
>> http://audiosystemsgroup.com/RFI-Ham.pdf
>>
>> Danny, K6MHE
>
> It is very good information, provided you are dealing with cores of a
> known type. (#31 or #43) It would be nice if I had such material, and
> in the end I may have to resort to purchasing some. *SHOCK*
>
> But as it is, I am looking at some cores that appear to be #35 material,
> and I cannot find any information as to how they react at freq. They
> most likely are not 'ideal for my purpose, but I am trying to determine
> if they can be used as 'close enough'. Either by adding more turns, or
> stacking more cores. But again, without a data sheet, or having one in
> hand to test manually this is rather difficult.
>
> --Teh

What about characterizing what you have?

Here's a starting point:

http://k0bg.com/beads.html
Beads

Good luck.

Chuck

-----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

5276. Re: Help picking ferrites for Choke Balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 22:04:18 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9921521D5209Bnonenowhere@61.9.191.5>
Source record: 42042

Tehrasha Darkon <darkon@netins.net> wrote in news:f100t5rsc1
@news.netins.net:

...
> It is very good information, provided you are dealing with cores of a
> known type. (#31 or #43) It would be nice if I had such material, and
> in the end I may have to resort to purchasing some. *SHOCK*
>
> But as it is, I am looking at some cores that appear to be #35
material,
> and I cannot find any information as to how they react at freq. They

Keep in mind that cores for chokes for suppression purposes need not and are usually not of low loss material. Often the materials used for suppression up to 500MHz might be quite lossy above 1MHz. Not only does that loss not prevent them being effective, it is the main mechanisme operating above typically 10 to 50 MHz. #43 is such a material.

I can't help you with characteristics of #35 material.

You might have to try to characterise it yourself, it isn't hard if you have access to an MFJ259B or the like (or better). It is easy enough, here is one I did for a part readily available in Australia: http://www.vk1od.net/balun/index.htm . BTW, these cores cost about A $35/metre whereas #43 cores of similar OD & ID cost about A$586/m (a 1600% price increas), or translated to a 300mm length for a balun, the Jaycar LF1258 costs A$10.50 vs T-37-43 for A$175. (I know that the #43 cores are much cheaper in the US.)

Owen

5277. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 22:14:18 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177798458.692572.63610@n76g2000hsh.googlegroups.com>
Source record: 42043

On Apr 28, 8:54 am, Cecil Moore <nos...@w5dxp.com> wrote:
> This just illustrates how artificial standing waves are.

You have hit the nail on the head here.

In another post you provided two expressions for the spatial
and temporal distribution of voltage on the line...

A) E(x,t) = Eot[sin(kx+wt) + sin(kx-wt)]
B) E(x,t) = 2*Eot*sin(kx)*cos(wt)

There are an infinite number. Three immediately come to mind...

C) E(x,t) = expressed as an exponental
D) E(x,t) = expressed as a differential equation
E) expression A) can be re-expressed as an infinite
sum keeping track of all the individual reflections.

All of these accurately yield the correct E(x,t) and there are
similar expressions which correctly yield I(x,t). In the same
sense that B) (called by you the standing wave expression) is
artificial, they are all equally artificial. And yet they each
have their place for solving problems since they all, in the end,
yield the correct E(x,t), the only thing that actually exists.

For reasons hard to fathom, you have latched on to A) as
being THE TRUTH, though it really lacks any features to
distinguish it from the rest. D) is arguably a much better
choice for truth since it will handle signals other than
sinusoidal.

As said before, you would find it valuable to let go of A) as
THE TRUTH, since it would permit you to solve real world
problems that you currently refuse to solve because you
believe the technique for solution conflicts with A) as
TRUTH.

...Keith

5278. Re: Current in 1/2WL Dipoles

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 22:20:59 UTC
From: Keith Dysart <kd1@sympatico.ca>
Message-ID: <1177798859.005449.77280@n76g2000hsh.googlegroups.com>
Source record: 42044

On Apr 28, 9:36 am, Cecil Moore <nos...@w5dxp.com> wrote:
> Question: Assuming the current reported by
> EZNEC is a ~cosine function, how does one use
> that current to determine the traveling wave
> phase shift in the wire?

Why is the answer to this question important?
Is it not the actual currents and voltages that are responsible
for radiation?

If I understand correctly, you are not disputing that the
actual currents in the wire show a small phase shift as
you move down the wire?

...Keith

5279. Re: Help picking ferrites for Choke Balun

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-28 23:34:35 UTC
From: Chuck <no.spam@no.spam.at.all>
Message-ID: <1177803347_15925@sp12lax.superfeed.net>
Source record: 42045

Tehrasha Darkon wrote:
> Need advice on how to pick appropriate ferrite material for use in
> baluns. In this case, a line isolator/choke to stop common mode current
> on the feedline to a Carolina Windom.
>
> Specifically, if EPCOS # B64290-L638-X35 cores would be a good choice for
> such a project. What little information I have managed to find for this
> part number does not help me much. :)
>
> OD: .870"
> ID: .539"
> H : .25"
> AL: 3200
> ui: 5300
>
> Looks like they would not be very snug on RG8, but could easily get a few
> turns of RG58 through a stack of them.
>
> --Teh

Sorry, Teh. I misunderstood your
original post. Somehow I thought you
already had the beads.

If you're looking for a great "how-to"
on the subject, including choosing
proper beads, take a look at this:

http://www.yccc.org/Articles/W1HIS/CommonModeChokesW1HIS2006Apr06.pdf
CommonModeChokesW1HIS2006Apr06.pdf
(application/pdf Object)

Chuck

-----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

5280. Re: Current in 1/2WL Dipoles

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 00:08:08 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <HIRYh.3227$uJ6.751@newssvr17.news.prodigy.net>
Source record: 42046

Keith Dysart wrote:
> On Apr 28, 9:36 am, Cecil Moore <nos...@w5dxp.com> wrote:
>> Question: Assuming the current reported by
>> EZNEC is a ~cosine function, how does one use
>> that current to determine the traveling wave
>> phase shift in the wire?
>
> Why is the answer to this question important?

Because it holds the key to determining the phase delay
through a 75m mobile loading coil.
--
73, Cecil http://www.w5dxp.com

5281. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 00:14:35 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <LrRYh.3229$uJ6.2610@newssvr17.news.prodigy.net>
Source record: 42047

Keith Dysart wrote:
> On Apr 28, 8:54 am, Cecil Moore <nos...@w5dxp.com> wrote:
> A) E(x,t) = Eot[sin(kx+wt) + sin(kx-wt)]
> B) E(x,t) = 2*Eot*sin(kx)*cos(wt)
>
> In the same
> sense that B) (called by you the standing wave expression) is
> artificial, they are all equally artificial.

A) is easy to understand. The amplitude is where it needs
to be and the phase is where it needs to be to be properly
comprehended.

B) is what has everyone confused. The phase information
readily apparent in A) is embedded in the amplitude in
equation B). For a lot of people, comprehension has
disappeared.
--
73, Cecil http://www.w5dxp.com

5282. Re: Which modeler?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 00:20:40 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177806040.905177.140940@c35g2000hsg.googlegroups.com>
Source record: 42048

On 28 Apr, 13:14, Richard Clark <kb7...@comcast.net> wrote:
> On 28 Apr 2007 11:18:14 -0700, art <aun...@insightbb.com> wrote:
>
> >AO program by Brian Beazely which is
> >Minninec based but Brian
> >has not supported that program in years. Based on that info I suspect
> >that could be classed now as freeware so a Google search may well
> >supply a user that is willing to provide a copy.
>
> This would be a clear case of piracy and the violation of copyright
> held by the owner. Any attempts of others to provide "free" or "paid"
> copies are violating that law.
>
> 73's
> Richard Clark, KB7QHC

Nothing is "clear" with respect to copyright. As with patents there
are rules that must be followed and the particulars of the particular
copyright has to be clear and approved which may not apply to the
subject as a whole. Even music moguls are finding it hard to control
copying and on top of that there are several exemptions with respect
to educational and libraries neither of which have been specifically
defined in changes by Congress in the latter part of the last century.
The antenna programmers also suffer from the fact that the general
routines were supplied by the government for general use which also
apply restrictions as to what specifically can be copyrighted. I
believe also that if a transfer is made via public E mail
can allow further reductions as to what is termed infringment. For
antenna programs I would assume that such a thing as an algorithm can
be copy righted but to try and cover all screen representations could
possibly be a nightmare. The bottom line is of course is that you are
copying something that was put together in some sort of ingenious way
then it is not yours to copy but people use the copy machines with
abandon so attorneys would have a field day with respect to expenses
in areas so murkey as copyright laws which is presently crippling the
music industry since infringment is enourmous and recompense for
violation is ridiculously small on a case by case basis. If a library
owns a copy and then makes another copy for patrons use you again get
into another murky area because that involves a exception area that is
not clear in substance.
Art

5283. Re: Which modeler?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 01:06:07 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <27r733ha31m3ecu0ob21f3bh0b2gnnen1o@4ax.com>
Source record: 42049

On 28 Apr 2007 17:20:40 -0700, art <aunwin@insightbb.com> wrote:

>On 28 Apr, 13:14, Richard Clark <kb7...@comcast.net> wrote:
>> On 28 Apr 2007 11:18:14 -0700, art <aun...@insightbb.com> wrote:
>>
>> >AO program by Brian Beazely which is
>> >Minninec based but Brian
>> >has not supported that program in years. Based on that info I suspect
>> >that could be classed now as freeware so a Google search may well
>> >supply a user that is willing to provide a copy.
>>
>> This would be a clear case of piracy and the violation of copyright
>> held by the owner. Any attempts of others to provide "free" or "paid"
>> copies are violating that law.
>>
>> 73's
>> Richard Clark, KB7QHC
>
>Nothing is "clear" with respect to copyright.

I am quite sure that Brian Beazely "clearly" marked his product with
the necessary marks of intellectual property ownership.

>If a library owns a copy and then makes another copy for patrons use

That never happens in any reputable Library. They have absolutely no
interest in supporting piracy.

>you again get
>into another murky area because that involves a exception area that is
>not clear in substance.

There is nothing murky about copying Brian Beazely's product and
distributing it. You are not going to get a pirated copy from any
Library.

73's
Richard Clark, KB7QHC

5284. Re: Which modeler?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 03:02:23 UTC
From: Tom Ring <news0003@taring.org>
Message-ID: <46340acc$0$17202$39cecf19@news.twtelecom.net>
Source record: 42050

Richard Clark wrote:

> On 28 Apr 2007 17:20:40 -0700, art <aunwin@insightbb.com> wrote:

>>
>>Nothing is "clear" with respect to copyright.
>
>
> I am quite sure that Brian Beazely "clearly" marked his product with
> the necessary marks of intellectual property ownership.
>
<snip>
>
> There is nothing murky about copying Brian Beazely's product and
> distributing it. You are not going to get a pirated copy from any
> Library.
>
> 73's
> Richard Clark, KB7QHC

Brian no longer sells antenna software to Amateur Radio customers for precisely Art's enlightened attitude. I alpha tested much of his software, and I am quite sure that even I couldn't get a copy of anything from him anymore. Nor would I try. He was royally screwed by our community. I don't blame him a bit for pulling out of our market.

I am also very thankful that we have Roy sticking around with an excellent product, and putting up with the slings and arrows and BS.

tom
K0TAR

5285. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 03:14:19 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1177816458.989102.116510@h2g2000hsg.googlegroups.com>
Source record: 42051

On Apr 28, 11:01 am, Cecil Moore <nos...@w5dxp.com> wrote:
> It seems to be the
> key in determining what phase shift occurs through a 75m
> loading coil.

Cecil, don't even THINK of dragging that stinky old thing out again.
You're reminding me how incredibly rude you were to me one of the
previous times you beat your head against loading coils. What happens
with them is crystal clear to me and not in need of any further
discussion.

:-(

Tom

5286. Re: 10m ground wave expectations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 03:31:39 UTC
From: "P.Gregory" <hoonz@bigpond.com>
Message-ID: <vkUYh.31113$M.28795@news-server.bigpond.net.au>
Source record: 42052

Not enough info , who is at 2500 and how high are the inbetween bumps?
seriously its like asking how long do i cook bacon before its cooked....

"Joey" <joey@nowhere.org> wrote in message
news:dd64339h0kluu9d5kqu0tff6h9r6nmpbdl@4ax.com...
> Hi,
> I'm trying to determine if I could use 10 meters to contact a station
> about 75 miles away with about 2500ft elevation of a couple sets of
> hills in between with just simple antennas on either end. Perhaps a
> 10m dipole on one end and some kind of stealthy one on the other. I
> assume this would have to be ground wave only given the distance and
> current band conditions.
> My parents are both techs so we're currrently limited to parts of 10m
> as the lowest band and I'd like to have something reliable without
> need repeaters for disaster comms. We actually only have a few single
> hop VHF/UHF repeaters between us, though quite a few linked ones.
> I've also thought of 6m due to smaller antenna requirements, but I'm
> pretty sure this is too far...
> Thanks!

5287. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 03:40:19 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <CsUYh.2574$HX7.1792@newssvr19.news.prodigy.net>
Source record: 42053

K7ITM wrote:
> Cecil, don't even THINK of dragging that stinky old thing out again.
> You're reminding me how incredibly rude you were to me one of the
> previous times you beat your head against loading coils. What happens
> with them is crystal clear to me and not in need of any further
> discussion.

I remember being rude to another Tom, but I don't remember
being rude to you. I don't even remember your position.

Would you mind summarizing your crystal clear position on
how many degrees a 75m bugcatcher coil occupies in a resonant
mobile antenna?
--
73, Cecil http://www.w5dxp.com

5288. Re: Which modeler?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 03:44:44 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177818284.702595.123420@n59g2000hsh.googlegroups.com>
Source record: 42054

On 28 Apr, 18:06, Richard Clark <kb7...@comcast.net> wrote:
> On 28 Apr 2007 17:20:40 -0700, art <aun...@insightbb.com> wrote:
>
>
>
>
>
> >On 28 Apr, 13:14, Richard Clark <kb7...@comcast.net> wrote:
> >> On 28 Apr 2007 11:18:14 -0700, art <aun...@insightbb.com> wrote:
>
> >> >AO program by Brian Beazely which is
> >> >Minninec based but Brian
> >> >has not supported that program in years. Based on that info I suspect
> >> >that could be classed now as freeware so a Google search may well
> >> >supply a user that is willing to provide a copy.
>
> >> This would be a clear case of piracy and the violation of copyright
> >> held by the owner. Any attempts of others to provide "free" or "paid"
> >> copies are violating that law.
>
> >> 73's
> >> Richard Clark, KB7QHC
>
> >Nothing is "clear" with respect to copyright.
>
> I am quite sure that Brian Beazely "clearly" marked his product with
> the necessary marks of intellectual property ownership.
>
> >If a library owns a copy and then makes another copy for patrons use
>
> That never happens in any reputable Library. They have absolutely no
> interest in supporting piracy.
>
> >you again get
> >into another murky area because that involves a exception area that is
> >not clear in substance.
>
> There is nothing murky about copying Brian Beazely's product and
> distributing it. You are not going to get a pirated copy from any
> Library.
>
> 73's
> Richard Clark, KB7QHC- Hide quoted text -
>

> - Show quoted text -

Libraries have a specific exemption with respect to copyright laws and most libraries now have a CD library for its patrons. Same goes for enterprises that lease movies e.t.c..
Same goes for educational facilities and their faculty and pupils and as far as educational facilities go, even a ham radio club would qualify for that!. With all that being said I am not advocating piracy per se, I was ENQUIRING (not advocating) on the legitimacy of copying when a product is abandoned which in the case of a patent is done when a holder does not pay the regular maintenance fee required.and that include software patents.
On the other side of the coin one must remember we are talking about federal law which is an entity to itself in what laws it decides it wants to honor as well as the finances to do the job.. From a morality point of view piracy is wrong, from a reality point of view if a law cannot be enforced then it is a bad law because it is an example of laws that are seen that can be defied. I agree that Brians absence is a huge loss for the ham community but I am not fully aware of all the reasons tho I have heard rumours, but I remind you again I was enquiring about a properties standing in LAW when it was not only abandoned but also not for sale, plus the underlying principles being of the freeware type i.e. supplied by the Government free of charge.
Art

5289. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 04:07:52 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177819672.909855.261750@e65g2000hsc.googlegroups.com>
Source record: 42055

On 5 Mar, 14:14, "Wayne" <mygarbage...@verizon.net> wrote:
> > Wayne wrote:
> >> When the subject of antenna efficiency comes up, it often involves a
> >> discussion of ground losses on verticals. What about, for example, a
> >> dipole? Could one calculate "power out/power in" by measuring the VSWR
> >> and declaring that everything not reflected was transmitted? It would
> >> seem more accurate to actually measure power out and power in, but that
> >> introduces inaccuracies by having to calibrate the setup. Thoughts?
> > "Roy Lewallen" <w...@eznec.com> wrote in message
> >
> > news:12uojd0go1faad8@corp.supernews.com...
> >
> > > There's no direct way to measure the total power being radiated other than
> > > sampling the field at many points in all directions and integrating.
> > > "Reflected" power is not power that isn't transmitted. You can find the
> > > power being applied to the antenna by subtracting the "reverse" or
> > > "reflected" power from the "forward" power, but that tells you nothing
> > > about what fraction is radiated and what fraction lost as heat.
> >
> > > Roy Lewallen, W7EL
> >
> Thanks for the reply. My dipole example is intended to avoid transmission
> line issues by not having one, and the elements are assumed to be reasonably
> low loss. If I do some quick back-of-the-envelope calculations, for a VSWR
> of 1.3:1, I get an efficiency of about 98.3% (using the equation
> 1-gamma^2). Assuming a resistance of 1 ohm in the dipole conductors the
> efficiency I calculate is about 98.6% (72/73).
>
> Are there any other loss issues missing in this example.

I would say you are close enough to say you are correct. Because you
chose a dipole which is in a state of equilibrium and thus particles
projected from the dipole cannot collide with other particles from
other parasitic radiators. Aren't you not basically refering to the
foundations of Poyntings vector which like Gauss is refering to an
item in equilibrium when subjected to a time variable of zero value ?
If the item is not in a state of equilibrium collision
of particles may well occur without a radiation field reaction thus
one cannot calculate the resultant field since energy transfer due to
particle collision prevents the return of particles to the mother
radiator.

5290. Re: 10m ground wave expectations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 04:19:12 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177820352.089920.225730@p77g2000hsh.googlegroups.com>
Source record: 42056

On 28 Apr, 09:55, John Smith I <assemblywiz...@gmail.com> wrote:
> Joey wrote:
> > Hi,
> > I'm trying to determine if I could use 10 meters to contact a station
> > about 75 miles away with about 2500ft elevation of a couple sets of
> > hills in between with just simple antennas on either end. Perhaps a
> > 10m dipole on one end and some kind of stealthy one on the other. I
> > assume this would have to be ground wave only given the distance and
> > current band conditions.
> > My parents are both techs so we're currrently limited to parts of 10m
> > as the lowest band and I'd like to have something reliable without
> > need repeaters for disaster comms. We actually only have a few single
> > hop VHF/UHF repeaters between us, though quite a few linked ones.
> > I've also thought of 6m due to smaller antenna requirements, but I'm
> > pretty sure this is too far...
> > Thanks!
>
> Just off-hand, I would suspect for reliable and consistent
> communications a three element yagi and ~100 watts on each end would
> result in enjoyable rag chews ... same for 6m.
>
> Height? More the better.
>
> Seventy-five miles on omni antennas is very chancy, in my humble
> opinion. But then, power/height would be the main variables, enough
> height and power would certainly help.
>
> Regards,
> JS

Hmmmm. I would think that going to a frequency such as 144 MHz would be the way to go as radiation would tend to hug the earths surface.With 28 MHz the height factor not only be impracticable (point to point) but no amount of extra power is going to lower the TOA. When my son was in a hospital over 100 miles away he used his hand held to a local repeater and I used 10 watts with a directional antenna to the distant repeater with intervening land less than 100 foot elevation variance. Contact was always assured.
Art

5291. Distributed capacitance effects Q?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 04:32:18 UTC
From: Bill Bowden <wrongaddress@att.net>
Message-ID: <1177821138.653191.285430@u30g2000hsc.googlegroups.com>
Source record: 42057

Does anyone know why the distributed winding capacitance of a loop antenna, or any inductor, degrades the efficiency?

It would seem that a loop antenna with 100pF of winding capacitance in parallel with a external capacitor of 200pF would resonate at the same frequency as a antenna with no winding capacitance and a external capacitor of 300pF,but apparently that's not the case.

The best explanation I got was that winding capacitance represents 'low Q' and a external tuning capacitor represents ' High Q'

What is the difference between high and low Q, and why should a loop antenna with no winding capacitance perform any better than one with 50% of the total capacitance in the windings? Where is the energy loss?

Thanks,

-Bill

5292. Re: 10m ground wave expectations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 05:08:11 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <1LVYh.217788$p17.136691@newsfe11.phx>
Source record: 42058

"Joey" <joey@nowhere.org> wrote in message
news:dd64339h0kluu9d5kqu0tff6h9r6nmpbdl@4ax.com...
> Hi,
> I'm trying to determine if I could use 10 meters to contact a station
> about 75 miles away with about 2500ft elevation of a couple sets of
> hills in between with just simple antennas on either end. Perhaps a
> 10m dipole on one end and some kind of stealthy one on the other. I
> assume this would have to be ground wave only given the distance and
> current band conditions.
> My parents are both techs so we're currrently limited to parts of 10m
> as the lowest band and I'd like to have something reliable without
> need repeaters for disaster comms. We actually only have a few single
> hop VHF/UHF repeaters between us, though quite a few linked ones.
> I've also thought of 6m due to smaller antenna requirements, but I'm
> pretty sure this is too far...
> Thanks!

I have been on 10m myself lately, having just upgraded. I find it nearly worthless for anything over fifteen miles. Without skip, you need an elevated antenna, high ERP or both. 75 miles is inside the skip zone; that is, if 10 were going to skip, it is still overhead at 75 miles and is going to come down farther away.

Sure, investigate NVIS, but I think it needs a particular anntenna at *both* ends.

If you're not committed to 10m, I would recommend 2m, since at least one end can have a high gain antenna. I use a 13-element yagi for 2m at Field Day and I routinely work dozens of stations 75 miles away (or more). We are in southern San Diego County and I work Los Angeles all day and night on 35w with the yagi at 20 feet. 2m is almost noise-free, too, both with respect to QRM and to receiver noise in FM mode.

73

5293. Re: 10m ground wave expectations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 05:09:30 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <f1199s$ks2$1@nnrp.linuxfan.it>
Source record: 42059

art wrote:

> ...
> Hmmmm. I would think that going to a frequency such as 144 MHz would
> be the way to go as radiation would tend to hug the earths
> surface.With 28 MHz the height factor not only be impracticable (point
> to point) but no amount of extra power is going to lower the TOA. When
> my son was in a hospital over 100 miles away he used his hand held to
> a local repeater and I used 10 watts with a directional antenna to the
> distant repeater with intervening land less than 100 foot elevation
> variance. Contact was always assured.
> Art
>

A couple of decades ago on 10 meters with a 3 element yagi and 100
watts, I frequently chatted with a grass valley station from a location
in calaveras county, a distance of over 75 miles as the crow flies (also
made a few contacts in San Francisco.) Antenna was 35 ft in the air and
the other guy in grass valley had a similar setup.

You never know, 'ya just never know ... but with two omni antennas, I
doubt it would have been done.

Now australia with an omni and a 100 watts? No problem with good sun spots!

JS

5294. Re: 10m ground wave expectations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 05:19:29 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <f119sk$ks2$2@nnrp.linuxfan.it>
Source record: 42060

art wrote:

[...]

By the way, antennas never intimidated me much ...

The stacked 6 element hygain or mosley (modified CB antenna) on a 100 ft. tower with a ham m rotor was a real signal magnet and ionosphere burner ... I still have that antenna leaning up against a shed in the back 40 ...

Only real problem with that antenna was forgetting to face it into the high winds in a storm and ripping the gears in the rotor.

Regards,
JS

5295. Re: H F Antenna - BWD-90 VS G5RV

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 05:24:51 UTC
From: N8NOE <N8NOE@Comcast.Net>
Message-ID: <C259A463.3069%N8NOE@Comcast.Net>
Source record: 42061

I used the B&W for a while here, and find the AlphaDelta DX-CC Works better
and can handle the Amplifier.. BEWARE the ratings on the B&W!..
The antenna is good to 250W RTTY or full duty use, and 500W Voice..
Spend your money on a Different antenna!..
N8NOE-Jeff

> Bob D. wrote:
>> Can the Barker & Williamson's BWD-90 really be used without an antenna
>> tuner?
>
> Any antenna can be equipped with a resistor that will
> dissipate so much RF energy that a tuner is not required.
> A dummy load will do the same thing. One review of the
> BWD-90 says it is the biggest air-cooled dummy load in
> the world.
>
> http://www.eham.net/reviews/detail/1016
>
>> Does the G5RV really need an antenna tuner?
>
> Yes, unless you install a resistor at the coax/twinlead
> junction.
>
> http://www.vk1od.net/G5RV/

5296. The Formula

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 05:30:30 UTC
From: "Sal M. Onella" <salmonella@food.poisoning.org>
Message-ID: <Y3WYh.285661$6P2.14611@newsfe16.phx>
Source record: 42062

As an engineer, I have taken all the courses to make me as smart as I need to be, right? No, not a chance. Here I sit, stupified, not even knowing which variables to put in a formula.

To be found: How far will I get into a newsgroup thread before it degenerates into name calling, circular reasoning, begging the question, etc.

Maxwell never dreamed of this.

5297. Re: Distributed capacitance effects Q?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 06:00:42 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <jnc833dcnc89holgsgsct3stfvgarcobet@4ax.com>
Source record: 42063

On 28 Apr 2007 21:32:18 -0700, Bill Bowden <wrongaddress@att.net>
wrote:

>Does anyone know why the distributed winding capacitance of a loop
>antenna, or any inductor, degrades the efficiency?

Hi Bill,

For the usual reasons: Resistance (not capacitance).

>It would seem that a loop antenna with 100pF of winding capacitance in
>parallel with a external capacitor of 200pF would resonate at the
>same frequency as a antenna with no winding capacitance and a external
>capacitor of 300pF,but apparently that's not the case.

It could be the case, your mileage may vary.

>The best explanation I got was that winding capacitance represents
>'low Q' and a external tuning capacitor represents ' High Q'

You got bum explanations then.

>What is the difference between high and low Q, and why should a loop
>antenna with no winding capacitance perform any better than one with
>50% of the total capacitance in the windings? Where is the energy
>loss?

It seems you may be, instead, writing about Unloaded and Loaded Q.
Loaded Q would be that found in service (in the actual application,
whatever that might be). Unloaded Q would be that found at the bench
with no other attachments. The Loaded Q's lower value is due to the R
of the "load" ...as it stands to reason. That load will be an
antenna's radiation resistance (and any Ohmic loss of the structure).

The energy loss is called radiation - if you do it right.

73's
Richard Clark, KB7QHC

5298. Re: The Formula

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 08:22:47 UTC
From: John Smith I <assemblywizard@gmail.com>
Message-ID: <f11kk9dpe1@nnrp.linuxfan.it>
Source record: 42064

Sal M. Onella wrote:

[...]

plonk ...

JS

5299. Re: Distributed capacitance effects Q?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 09:04:11 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1177837451.667641.230330@c35g2000hsg.googlegroups.com>
Source record: 42065

On 29 abr, 06:32, Bill Bowden <wrongaddr...@att.net> wrote:
> Does anyone know why the distributed winding capacitance of a loop
> antenna, or any inductor, degrades the efficiency?
>
> It would seem that a loop antenna with 100pF of winding capacitance in
> parallel with a external capacitor of 200pF would resonate at the
> same frequency as a antenna with no winding capacitance and a external
> capacitor of 300pF,but apparently that's not the case.
>
> The best explanation I got was that winding capacitance represents
> 'low Q' and a external tuning capacitor represents ' High Q'
>
> What is the difference between high and low Q, and why should a loop
> antenna with no winding capacitance perform any better than one with
> 50% of the total capacitance in the windings? Where is the energy
> loss?
>
> Thanks,
>
> -Bill

Hello Bill,

I assume that you mean radiation efficiency (ratio between actual
radiated power and total electrical input power).

I think inter-winding capacitance does not decrease efficiency, it may
only change the radiation pattern when the inter-winding capacitance
is that much, that the current distribution in the coil is affected.
This is almost the case with relative large loops.

When you have a loop close to a halve wave, just the own capacitance
is sufficient to get resonance (as with, for example, a halve wave
dipole).

Radiation efficiency may be reduced by losses in the insulation. When
windings are close together, the Electric Field strength in the
insulation can be that high, that loss becomes significant. This is
mostly the case when windings are touching.

Another thing can be corona discharge (that may in the end destroy
your insulation).

Best regards,

Wim
PA3DJS

5300. Re: Which modeler?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 09:49:46 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <46346a27$0$1380$4c368faf@roadrunner.com>
Source record: 42066

"John Ferrell" <johnferrell@sprintmail.com> wrote in message
news:5ij633hdm84cmnrkdobt4q5a00u00nmqh0@4ax.com...
> On 27 Apr 2007 13:37:26 -0700, weaver5511@mypacks.net wrote:
>
>>On Apr 27, 8:31 pm, John Ferrell <johnferr...@sprintmail.com> wrote:
>>
>>>
>>> EZNEChas a free demo. I compared that against what I could glean from
>>> the advertising info of the other candidates.EZNECallows me to think
>>> about antennas while I am using it rather than think about
>>> programming.
>>>
>>> EZNEChas saved me a lot of labor with my "antenna habit". EZNECand
>>> Nittany Scientific products are used in the ARRL antenna course. That
>>> course is a good value as well.
>>>
>>
>>Thanks. I'll have a look at that ARRL course.
>>
>>73, RDW
>>
>>
> I should also add that the ARRL Course was pretty tough on my ego. I
> did not know nearly as much as I thought I did going into the course.
>
> The up side is that it renewed my interest in antennas in general.
> A humbling experience is sometimes a very good thing!
>
> John Ferrell W8CCW
> "Life is easier if you learn to
> plow around the stumps"

I ve found there is a lot of disinformation on antennas and if you have
pretty much learned it on your own without very much interaction with others
you will be very much surprised about what you dont know. Probably true
about a lot of subjects.

Jimmie

5301. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 11:48:18 UTC
From: Mike Lucas <w5chr@bellsouth.net>
Message-ID: <Qw%Yh.567$0x4.142@bignews4.bellsouth.net>
Source record: 42067

"art" wrote:
>
> I would say you are close enough to say you are correct. Because you
> chose a dipole which is in a state of equilibrium and thus particles
> projected from the dipole cannot collide with other particles from
> other parasitic radiators. Aren't you not basically refering to the
> foundations of Poyntings vector which like Gauss is refering to an
> item in equilibrium when subjected to a time variable of zero value ?
> If the item is not in a state of equilibrium collision
> of particles may well occur without a radiation field reaction thus
> one cannot calculate the resultant field since energy transfer due to
> particle collision prevents the return of particles to the mother
> radiator.
>
I've been reading Art's posts for some time now, mostly for the
entertainment value. Some of the recent posts were starting to make
sense, and this was causing me some concern: that my bafflegab
filter in the computor (sic) had gone out. Well, the above quote was
a wakeup call... I don't have a clue what he's saying. Can someone
translate, please.

Mike W5CHR

5302. Re: Distributed capacitance effects Q?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 11:52:17 UTC
From: amdx <amdx@knology.net>
Message-ID: <2f11f$463486e2$18d6b40c$28267@KNOLOGY.NET>
Source record: 42068

"Bill Bowden" <wrongaddress@att.net> wrote in message
news:1177821138.653191.285430@u30g2000hsc.googlegroups.com...
> Does anyone know why the distributed winding capacitance of a loop
> antenna, or any inductor, degrades the efficiency?
>
> -Bill
>
Hi Bill.
I agree with your assertion that distributed winding capacitance
degrades efficiency.
My thoughts about this are ;
Assume a 10 turn loop, between each turn there is a capacitance,
so, you have a complete circuit, (L,C,R) there is current
flowing through this circuit that is not flowing through the entire 10
turn loop. (this happens in the other 9 turns also)
I think these extra currents flowing that don't make the entire 10
turn circuit increase the losses.

Anyone care to run with that, or explain it more clearly, or shoot it
down.

Mike

5303. Re: Distributed capacitance effects Q?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 13:40:52 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <Ef1Zh.1496$RX.248@newssvr11.news.prodigy.net>
Source record: 42069

Bill Bowden wrote:
> It would seem that a loop antenna with 100pF of winding capacitance in
> parallel with a external capacitor of 200pF would resonate at the
> same frequency as a antenna with no winding capacitance and a external
> capacitor of 300pF, but apparently that's not the case.

The "100pF of winding capacitance" is NOT across the
entire coil as is the 200pF external capacitor. When
the operating frequency of a coil is more than ~15% of
the self-resonant frequency, the lumped circuit model
starts to fall apart. In your above example, the operating
frequency is ~60% of the self-resonant frequency so you
need to use the distributed network model (or Maxwell's
equations).

Quoting from an IEEE white paper about RF coils at:

http://www.ttr.com/TELSIKS2001-MASTER-1.pdf

"... lumped element circuit theory does not (and cannot)
accurately embody a world of second order partial
differential equations in space and time."

"The concept of coil 'self-capacitance' is an attempt
to circumvent transmission line effects on small coils
when the current distribution begins to depart from
its DC behavior. The notion has been developed by
starting with Maxwell's equations and using only the
first two terms in the Taylor series expansion for
the distributed current to obtain an expression for
the self-impedance of a generalized closed circuit.
Upon extracting Neumann's formula for the self inductance,
the remaining negative component of the reactance permits
an expression for the coil self-capacitance. These formulae
are valid for a PARALLEL combination of an inductance and
a capacitance when the operating frequency is well below
1/SQRT(L*CL). They permit a coil with a SLIGHTLY
nonuniform current distribution to be treated AS THOUGH THE
CURRENT WERE UNIFORM and the coil was shunted with a lumped
element capacitance."

The author shows how to estimate the VF and Z0 of a coil
that is operated at more than 15% of its self-resonant
frequency. It can thus be modeled as a transmission line.

The same author shows in his class notes at:

http://www.ttr.com/corum/index.htm

that the calculated self-resonant frequency of a particular
coil based on the measured self-capacitance was in error
by 65.2% when the "lumped-element assumption" was used.

The calculated self-resonant frequency based on the
transmission line distributed network model was within
5% of the measured self-resonant frequency.
--
73, Cecil http://www.w5dxp.com

5304. Re: Distributed capacitance effects Q?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 13:47:52 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <cm1Zh.1498$RX.535@newssvr11.news.prodigy.net>
Source record: 42070

amdx wrote:
> Assume a 10 turn loop, between each turn there is a capacitance,
> so, you have a complete circuit, (L,C,R) there is current
> flowing through this circuit that is not flowing through the entire 10
> turn loop. (this happens in the other 9 turns also)

Reminds me of a transmission line distributed network
for which a velocity factor can be calculated.

> Anyone care to run with that, or explain it more clearly, or shoot it
> down.

Please see my other reply where an IEEE white paper
agrees with you.
--
73, Cecil http://www.w5dxp.com

5305. Re: Distributed capacitance effects Q?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 13:50:17 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <to1Zh.1501$RX.1485@newssvr11.news.prodigy.net>
Source record: 42071

Wimpie wrote:
> I think inter-winding capacitance does not decrease efficiency, it may
> only change the radiation pattern when the inter-winding capacitance
> is that much, that the current distribution in the coil is affected.
> This is almost the case with relative large loops.

This is almost *always* the case with relatively
large loops?
--
73, Cecil http://www.w5dxp.com

5306. Re: 10m ground wave expectations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 13:51:10 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <468933h1fpvnv0ts289haiotraq6oi1n16@4ax.com>
Source record: 42072

>
>I have been on 10m myself lately, having just upgraded. I find it nearly
>worthless for anything over fifteen miles. Without skip, you need an
>elevated antenna, high ERP or both. 75 miles is inside the skip zone; that
>is, if 10 were going to skip, it is still overhead at 75 miles and is going
>to come down farther away.
>
>Sure, investigate NVIS, but I think it needs a particular anntenna at *both*
>ends.
>
>If you're not committed to 10m, I would recommend 2m, since at least one end
>can have a high gain antenna. I use a 13-element yagi for 2m at Field Day
>and I routinely work dozens of stations 75 miles away (or more). We are in
>southern San Diego County and I work Los Angeles all day and night on 35w
>with the yagi at 20 feet. 2m is almost noise-free, too, both with respect
>to QRM and to receiver noise in FM mode.
>
>73
>
I have always been amazed with the 10m band. I usually have a look see
there before I go to any other band. Lately, I have had no luck. I
recall that a long time ago I worked an Italian station on 10 who was
on a holiday at the beach. He was using a quarter wave whip stuck in
the sand on the beach and 10 watts. He sounded like a local to me in
Ohio.

Sometimes an opening comes and goes like a summer breeze...
Sometimes the band is open and nobody knows until someone calls CQ!

John Ferrell W8CCW
"Life is easier if you learn to
plow around the stumps"

5307. Re: Distributed capacitance effects Q?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 14:54:35 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <v0c9339tduv6gjula9duhvt3fmc3h7e3th@4ax.com>
Source record: 42075

On Sun, 29 Apr 2007 06:52:17 -0500, "amdx" <amdx@knology.net> wrote:

>I agree with your assertion that distributed winding capacitance
>degrades efficiency.
> My thoughts about this are ;
> Assume a 10 turn loop, between each turn there is a capacitance,
>so, you have a complete circuit, (L,C,R) there is current
>flowing through this circuit that is not flowing through the entire 10
>turn loop. (this happens in the other 9 turns also)
> I think these extra currents flowing that don't make the entire 10
>turn circuit increase the losses.

Hi Mike,

Capacitance does not bring loss. Loss ALWAYS resides in Resistance
and nothing else.

Between you and Bill, there appears to be a fixation on the loopS
(emphasis on there being more than one). If you are going to blame
them (that emphasis on there being more than one), and try to tie it
to loss (that emphasis being naturally in Resistance, not
Capacitance); then it follows it is in the natural increase in
conductor Resistance that occurs when wires are spaced closer than 3
or 4 wire diameters to each other. When wires (or loops in this case)
are in close proximity, the magnetic field of the near wire (or loop
in this case, and each loop in proximity to the next) FORCES the
current in that loop to the surface of the wire - INCREASING that
conductor's Skin Resistance. Loss thus increases by proximity.
Capacitance does too, but that is merely a correlating factor.
Remember (and this is good advice, especially suited to Newsgroup
rumors you may pick up): Correlation is NOT causality.

73's
Richard Clark, KB7QHC

5308. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 14:54:55 UTC
From: Yuri Blanarovich <K3BU@optonline.net>
Message-ID: <f12bk2$p3$1@aioe.org>
Source record: 42073

"Mike Lucas" <w5chr@bellsouth.net> wrote in message
news:Qw%Yh.567$0x4.142@bignews4.bellsouth.net...
>
> "art" wrote:
>>
>> I would say you are close enough to say you are correct. Because you
>> chose a dipole which is in a state of equilibrium and thus particles
>> projected from the dipole cannot collide with other particles from
>> other parasitic radiators. Aren't you not basically refering to the
>> foundations of Poyntings vector which like Gauss is refering to an
>> item in equilibrium when subjected to a time variable of zero value ?
>> If the item is not in a state of equilibrium collision
>> of particles may well occur without a radiation field reaction thus
>> one cannot calculate the resultant field since energy transfer due to
>> particle collision prevents the return of particles to the mother
>> radiator.
>>
> I've been reading Art's posts for some time now, mostly for the
> entertainment value. Some of the recent posts were starting to make
> sense, and this was causing me some concern: that my bafflegab
> filter in the computor (sic) had gone out. Well, the above quote was
> a wakeup call... I don't have a clue what he's saying. Can someone
> translate, please.
>
> Mike W5CHR
>

Maybe if you put this in a word blender and spun long enough, maybe you
could get one sentence that would make some sense. :-)
I gave up way back when I could not understand what is the POLARITY in
antennas, which end up? So I guess humanity has to evolve for few more
centuries to catch up with "antenna wizard" and understand and appreciate
his piosneering work.
Judging by some other posts on other more earthly subjects, looks like there
are some missing gears in the gear box. What you expect from inventor that
has a patent on reflector beeing director and vice-voica. Looks like that
one will not ever be copyright violated. So take it with grain of salt and
enjoy the mumbo-jumbo-entoitenmeint. :-)

73 bada BUm

5309. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 14:55:01 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177858501.719341.177180@o5g2000hsb.googlegroups.com>
Source record: 42074

On 29 Apr, 04:48, "Mike Lucas" <w...@bellsouth.net> wrote:
> "art" wrote:
>
> > I would say you are close enough to say you are correct. Because you
> > chose a dipole which is in a state of equilibrium and thus particles
> > projected from the dipole cannot collide with other particles from
> > other parasitic radiators. Aren't you not basically refering to the
> > foundations of Poyntings vector which like Gauss is refering to an
> > item in equilibrium when subjected to a time variable of zero value ?
> > If the item is not in a state of equilibrium collision
> > of particles may well occur without a radiation field reaction thus
> > one cannot calculate the resultant field since energy transfer due to
> > particle collision prevents the return of particles to the mother
> > radiator.
>
> I've been reading Art's posts for some time now, mostly for the
> entertainment value. Some of the recent posts were starting to make
> sense, and this was causing me some concern: that my bafflegab
> filter in the computor (sic) had gone out. Well, the above quote was
> a wakeup call... I don't have a clue what he's saying. Can someone
> translate, please.
>
> Mike W5CHR

Mike, you must first understand that that two unlike particles in
combination from the same radiator creates radiation. Lock that into
your mind. Other collisions or combinations do not creat radiation so
their energy has to be ascertained so they do not finish up on the
radiation side of the equation. If the radiating article is in
equilibrium there is no other radiator in competition in the same
space to create radiation thus the single radiator is free to emit
particles in isolation where errent collisions or combinations can not
occur. You must also note that all particles emitted from a single
radiator do not all finish up on the radiation side of the equation
since some return to the mother element with the same kinetic impact
that was imparted on them in the first place and thus these must be
accounted for in any equation. If one is to ascertain the final
arrangement of any energy transfer from a black box it is desirable
not to introduce energy exchange phenomina by introducing rival or
cumulative exchanges which cannot be accounted for. All equations that
do not allow for the unit of time are purely mathematical exercises of
theory thus one must be absolutely sure that the numbers add up on
both sides of the equation to justify the addition of that very
important symbol called equal. That is why the subject of ther terms

of "time" and "equilibrium" is important to transform an equation from a fantasy form to one of reality in both Poyntings vector and the Gaussian equation.
Art

5310. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 15:00:52 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <kfc9339durp8d2r1cesqhl6cl0tbbpogit@4ax.com>
Source record: 42076

On Sun, 29 Apr 2007 06:48:18 -0500, "Mike Lucas" <w5chr@bellsouth.net>
wrote:

>
>"art" wrote:
>>
>> I would say you are close enough to say you are correct. Because you
>> chose a dipole which is in a state of equilibrium and thus particles
>> projected from the dipole cannot collide with other particles from
>> other parasitic radiators. Aren't you not basically refering to the
>> foundations of Poyntings vector which like Gauss is refering to an
>> item in equilibrium when subjected to a time variable of zero value ?
>> If the item is not in a state of equilibrium collision
>> of particles may well occur without a radiation field reaction thus
>> one cannot calculate the resultant field since energy transfer due to
>> particle collision prevents the return of particles to the mother
>> radiator.
>>
> I've been reading Art's posts for some time now, mostly for the
>entertainment value. Some of the recent posts were starting to make
>sense, and this was causing me some concern: that my bafflegab
>filter in the computor (sic) had gone out. Well, the above quote was
>a wakeup call... I don't have a clue what he's saying. Can someone
>translate, please.

Equi Librium is a drug, that is too big to swallow, so you have to
crush it into particles on one mother of a radiator. If you try to
swallow it whole, you will get one massive field reaction (a buzz) in
a time variable of zero value (like really fast) which may induce
projectile vomiting.

Maybe.

If not, then we will have to Gauss again.

73's
Richard Clark, KB7QHC

5311. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 15:07:14 UTC
From: Tom Donaly <dtdonaly@sbcglobal.net>
Message-ID: <Uw2Zh.4160$H84.1715@newssvr22.news.prodigy.net>
Source record: 41927

K7ITM wrote:
> On Apr 28, 11:01 am, Cecil Moore <nos...@w5dxp.com> wrote:
>> It seems to be the
>> key in determining what phase shift occurs through a 75m
>> loading coil.
>
> Cecil, don't even THINK of dragging that stinky old thing out again.
> You're reminding me how incredibly rude you were to me one of the
> previous times you beat your head against loading coils. What happens
> with them is crystal clear to me and not in need of any further
> discussion.
>
> :-(
>
> Tom
>
>

Cecil is trolling for an argument again. Ignore him.
73,
Tom Donaly, KA6RUH

5312. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 15:14:39 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <yD2Zh.1854$tp5.909@newssvr23.news.prodigy.net>
Source record: 41928

Tom Donaly wrote:
> Cecil is trolling for an argument again. Ignore him.

Actually, I am trolling to reopen a technical discussion
that was not resolved in the past. What is your aversion
to a technical discussion?
--
73, Cecil http://www.w5dxp.com

5313. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 15:18:32 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177859912.001049.226000@o5g2000hsb.googlegroups.com>
Source record: 41929

On 29 Apr, 07:54, "Yuri Blanarovich" <K...@optonline.net> wrote:
> "Mike Lucas" <w...@bellsouth.net> wrote in message
>
> news:Qw%Yh.567$0x4.142@bignews4.bellsouth.net...
>
>
>
>
>
>
>
> > "art" wrote:
>
> >> I would say you are close enough to say you are correct. Because you
> >> chose a dipole which is in a state of equilibrium and thus particles
> >> projected from the dipole cannot collide with other particles from
> >> other parasitic radiators. Aren't you not basically refering to the
> >> foundations of Poyntings vector which like Gauss is refering to an
> >> item in equilibrium when subjected to a time variable of zero value ?
> >> If the item is not in a state of equilibrium collision
> >> of particles may well occur without a radiation field reaction thus
> >> one cannot calculate the resultant field since energy transfer due to
> >> particle collision prevents the return of particles to the mother
> >> radiator.
>
> > I've been reading Art's posts for some time now, mostly for the
> > entertainment value. Some of the recent posts were starting to make
> > sense, and this was causing me some concern: that my bafflegab
> > filter in the computor (sic) had gone out. Well, the above quote was
> > a wakeup call... I don't have a clue what he's saying. Can someone
> > translate, please.
>
> > Mike W5CHR
>
> Maybe if you put this in a word blender and spun long enough, maybe you
> could get one sentence that would make some sense. :-)
> I gave up way back when I could not understand what is the POLARITY in
> antennas, which end up? So I guess humanity has to evolve for few more
> centuries to catch up with "antenna wizard" and understand and appreciate
> his piosneering work.
> Judging by some other posts on other more earthly subjects, looks like there
> are some missing gears in the gear box. What you expect from inventor that
> has a patent on reflector beeing director and vice-voica. Looks like that
> one will not ever be copyright violated. So take it with grain of salt and

> enjoy the mumbo-jumbo-entoitenmeint. :-)
>
> 73 bada BUm- Hide quoted text -
>
> - Show quoted text -

I don't know which patent you are refering to but I will examine your particular statement.
Length alone is not an indication of reflective or atractive atributes especially when viewed in combination of nearby elements. When elements are in close association it is the cumulative effect that determines whether it attracts or repels action from the driven element and where the increased diametrical action of two intertwined parasitic elements come to the fore. Knowing that english is not your first language I must point out to you that the term reflector and director are names applied to the function of a parasitic and not necessarily a
physical description of length.
Art

5314. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 16:01:56 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <4634c165$0$4658$4c368faf@roadrunner.com>
Source record: 41930

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:kfc9339durp8d2r1cesqhl6cl0tbbpogit@4ax.com...
> On Sun, 29 Apr 2007 06:48:18 -0500, "Mike Lucas" <w5chr@bellsouth.net>
> wrote:
>
>>
>>"art" wrote:
>>>
>>> I would say you are close enough to say you are correct. Because you
>>> chose a dipole which is in a state of equilibrium and thus particles
>>> projected from the dipole cannot collide with other particles from
>>> other parasitic radiators. Aren't you not basically refering to the
>>> foundations of Poyntings vector which like Gauss is refering to an
>>> item in equilibrium when subjected to a time variable of zero value ?
>>> If the item is not in a state of equilibrium collision
>>> of particles may well occur without a radiation field reaction thus
>>> one cannot calculate the resultant field since energy transfer due to
>>> particle collision prevents the return of particles to the mother
>>> radiator.
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>> I've been reading Art's posts for some time now, mostly for the
>>entertainment value. Some of the recent posts were starting to make
>>sense, and this was causing me some concern: that my bafflegab
>>filter in the computor (sic) had gone out. Well, the above quote was
>>a wakeup call... I don't have a clue what he's saying. Can someone
>>translate, please.
>
> Equi Librium is a drug, that is too big to swallow, so you have to
> crush it into particles on one mother of a radiator. If you try to
> swallow it whole, you will get one massive field reaction (a buzz) in
> a time variable of zero value (like really fast) which may induce
> projectile vomiting.
>
> Maybe.
>
> If not, then we will have to Gauss again.
>
> 73's
> Richard Clark, KB7QHC

Now I know what my daughter means when she talks about the random kids.

5315. Re: 10m ground wave expectations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 16:24:42 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <4634c6c4$0$9961$4c368faf@roadrunner.com>
Source record: 41931

"John Ferrell" <johnferrell@sprintmail.com> wrote in message
news:468933h1fpvnv0ts289haiotraq6oi1n16@4ax.com...
>
>>
>>I have been on 10m myself lately, having just upgraded. I find it nearly
>>worthless for anything over fifteen miles. Without skip, you need an
>>elevated antenna, high ERP or both. 75 miles is inside the skip zone;
>>that
>>is, if 10 were going to skip, it is still overhead at 75 miles and is
>>going
>>to come down farther away.
>>
>>Sure, investigate NVIS, but I think it needs a particular anntenna at
>>*both*
>>ends.
>>
>>If you're not committed to 10m, I would recommend 2m, since at least one
>>end
>>can have a high gain antenna. I use a 13-element yagi for 2m at Field Day
>>and I routinely work dozens of stations 75 miles away (or more). We are
>>in
>>southern San Diego County and I work Los Angeles all day and night on 35w
>>with the yagi at 20 feet. 2m is almost noise-free, too, both with respect
>>to QRM and to receiver noise in FM mode.
>>
>>73
>>
> I have always been amazed with the 10m band. I usually have a look see
> there before I go to any other band. Lately, I have had no luck. I
> recall that a long time ago I worked an Italian station on 10 who was
> on a holiday at the beach. He was using a quarter wave whip stuck in
> the sand on the beach and 10 watts. He sounded like a local to me in
> Ohio.
>
> Sometimes an opening comes and goes like a summer breeze...
> Sometimes the band is open and nobody knows until someone calls CQ!

A very good description of 10 meters, I talked ro North Dakota from Florida
and thought the band was dead it was so quiet. I heard someone talking and
thought they were local at first. 10 M is a fun band.

Jimmie

5316. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 16:54:14 UTC
From: Tom Donaly <dtdonaly@sbcglobal.net>
Message-ID: <X44Zh.4209$uJ6.3087@newssvr17.news.prodigy.net>
Source record: 41932

Cecil Moore wrote:
> Tom Donaly wrote:
>> Cecil is trolling for an argument again. Ignore him.
>
> Actually, I am trolling to reopen a technical discussion
> that was not resolved in the past. What is your aversion
> to a technical discussion?

Nice try, Cecil.
73,
Tom Donaly, KA6RUH

5317. Re: Measuring Antenna Efficiency

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 17:30:04 UTC
From: herbert.don@gmail.com
Message-ID: <1177867804.858891.283320@y5g2000hsa.googlegroups.com>
Source record: 41933

On Apr 28, 8:07 pm, art <aun...@insightbb.com> wrote:
> On 5 Mar, 14:14, "Wayne" <mygarbage...@verizon.net> wrote:
>
>
>
>
>
> > > Wayne wrote:
> > >> When the subject of antenna efficiency comes up, it often involves a
> > >> discussion of ground losses on verticals. What about, for example, a
> > >> dipole? Could one calculate "power out/power in" by measuring the VSWR
> > >> and declaring that everything not reflected was transmitted? It would
> > >> seem more accurate to actually measure power out and power in, but that
> > >> introduces inaccuracies by having to calibrate the setup. Thoughts?
> > "Roy Lewallen" <w...@eznec.com> wrote in message
>
> >news:12uojd0go1faad8@corp.supernews.com...
>
> > > There's no direct way to measure the total power being radiated other than
> > > sampling the field at many points in all directions and integrating.
> > > "Reflected" power is not power that isn't transmitted. You can find the
> > > power being applied to the antenna by subtracting the "reverse" or
> > > "reflected" power from the "forward" power, but that tells you nothing
> > > about what fraction is radiated and what fraction lost as heat.
>
> > > Roy Lewallen, W7EL
>
> > Thanks for the reply. My dipole example is intended to avoid transmission
> > line issues by not having one, and the elements are assumed to be reasonably
> > low loss. If I do some quick back-of-the-envelope calculations, for a VSWR
> > of 1.3:1, I get an efficiency of about 98.3% (using the equation
> > 1-gamma^2). Assuming a resistance of 1 ohm in the dipole conductors the
> > efficiency I calculate is about 98.6% (72/73).
>
> > Are there any other loss issues missing in this example.
>
> I would say you are close enough to say you are correct. Because you
> chose a dipole which is in a state of equilibrium and thus particles
> projected from the dipole cannot collide with other particles from
> other parasitic radiators. Aren't you not basically refering to the
> foundations of Poyntings vector which like Gauss is refering to an
> item in equilibrium when subjected to a time variable of zero value ?
> If the item is not in a state of equilibrium collision
> of particles may well occur without a radiation field reaction thus

> one cannot calculate the resultant field since energy transfer due to
> particle collision prevents the return of particles to the mother
> radiator.- Hide quoted text -
>
> - Show quoted text -

what is a particle?

5318. Re: Distributed capacitance effects Q?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 18:13:17 UTC
From: Wimpie <wimtel@tetech.nl>
Message-ID: <1177870397.528343.129070@l77g2000hsb.googlegroups.com>
Source record: 41934

On 29 abr, 15:50, Cecil Moore <nos...@w5dxp.com> wrote:
> Wimpie wrote:
> > I think inter-winding capacitance does not decrease efficiency, it may
> > only change the radiation pattern when the inter-winding capacitance
> > is that much, that the current distribution in the coil is affected.
> > This is almost the case with relative large loops.
>
> This is almost *always* the case with relatively
> large loops?
> --
> 73, Cecil http://www.w5dxp.com

Hello, Cecil,

Yes you are right, as soon as electric flux is leaking via inter
winding capacitance, the current distribution is no longer uniform.

Maybe Bill can find more info when searching for Tesla coil inductors.
I made a small one myself (H-bridge, running at about 700 kHz, [yes, I
know it is in the AM broadcast band]). The vertical coil behaves
almost as a quarter wave resonator, just a small top capacitor was
necessary.

Best regards and thanks for the correction.

Wim
PA3DJS

5319. Re: Distributed capacitance effects Q?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 18:21:17 UTC
From: Jim Kelley <jwkelley@uci.edu>
Message-ID: <1177870877.865334.146930@l77g2000hsb.googlegroups.com>
Source record: 41935

On Apr 29, 6:47 am, Cecil Moore <nos...@w5dxp.com> wrote:
> amdx wrote:
> > Assume a 10 turn loop, between each turn there is a capacitance,
> > so, you have a complete circuit, (L,C,R) there is current
> > flowing through this circuit that is not flowing through the entire 10
> > turn loop. (this happens in the other 9 turns also)
>
> Reminds me of a transmission line distributed network
> for which a velocity factor can be calculated.

Cecil -

I think this will interest you:
http://www.rhombus-ind.com/dlcat/app1_pas.pdf

73, ac6xg

5320. 3,7 to 4,5meter diameter disch

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 19:20:26 UTC
From: Euro-Motors <euromotors@village.uunet.be>
Message-ID: <BLudnSvPE-B2cqnbnZ2dnUVZ8tKsnZ2d@scarlet.biz>
Source record: 41936

Hello i am looking for a dish steerable in both ways vertical and horizontal
second hand
hard to find guess
anybody?
regards
willy

5321. Re: Distributed capacitance effects Q?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 19:30:29 UTC
From: amdx <amdx@knology.net>
Message-ID: <5b178$4634f242$18d6b40c$17421@KNOLOGY.NET>
Source record: 41937

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:v0c9339tduv6gjula9duhvt3fmc3h7e3th@4ax.com...
> On Sun, 29 Apr 2007 06:52:17 -0500, "amdx" <amdx@knology.net> wrote:
>
>>I agree with your assertion that distributed winding capacitance
>>degrades efficiency.
>> My thoughts about this are ;
>> Assume a 10 turn loop, between each turn there is a capacitance,
>>so, you have a complete circuit, (L,C,R) there is current
>>flowing through this circuit that is not flowing through the entire 10
>>turn loop. (this happens in the other 9 turns also)
>> I think these extra currents flowing that don't make the entire 10
>>turn circuit increase the losses.
>
> Hi Mike,
>
> Capacitance does not bring loss.

I'm not ready to give on that yet, but I could be convinced.
It seems I could add capacitors across turns of a coil and increase
circulating currents that would show as a lower Q. But I haven't
built a coil to test this.

>Loss ALWAYS resides in Resistance and nothing else.

I agree, X/R=Q Lower Q means more loss.
(let's not get into radiation resistance right now)

> Between you and Bill, there appears to be a fixation on the loopS
> (emphasis on there being more than one). If you are going to blame
> them (that emphasis on there being more than one), and try to tie it
> to loss (that emphasis being naturally in Resistance, not
> Capacitance); then it follows it is in the natural increase in
> conductor Resistance that occurs when wires are spaced closer than 3
> or 4 wire diameters to each other. When wires (or loops in this case)
> are in close proximity, the magnetic field of the near wire (or loop
> in this case, and each loop in proximity to the next) FORCES the
> current in that loop to the surface of the wire - INCREASING that
> conductor's Skin Resistance. Loss thus increases by proximity.
> Capacitance does too, but that is merely a correlating factor.

Proximity effect could cause all of the additional losses.
Or it might just be part of the additional losses.

Why is it that when you get near self resonance of a coil the Q gets lower?
Note; to help clearify my question,

(as you get nearer and nearer resonance the capacitor you are using to tune
the inductor is getting smaller and smaller, and closer to equalling the
self
capacitance of the inductor)

> Remember---Correlation is NOT causality.

If you measure reading skills in an elementary school you will find the
kids with big feet read better.

But then 5th graders usually have bigger feet than kindergarteners.

Thanks for the discussion____

Mike

5322. Re: Distributed capacitance effects Q?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 19:54:17 UTC
From: Jerry Martes <j.jmartes@verizon.net>
Message-ID: <JJ6Zh.3555$iR2.1105@trnddc05>
Source record: 41938

"amdx" <amdx@knology.net> wrote in message
news:5b178$4634f242$18d6b40c$17421@KNOLOGY.NET...
>
> "Richard Clark" <kb7qhc@comcast.net> wrote in message
> news:v0c9339tduv6gjula9duhvt3fmc3h7e3th@4ax.com...
>> On Sun, 29 Apr 2007 06:52:17 -0500, "amdx" <amdx@knology.net> wrote:
>>
>>>I agree with your assertion that distributed winding capacitance
>>>degrades efficiency.
>>> My thoughts about this are ;
>>> Assume a 10 turn loop, between each turn there is a capacitance,
>>>so, you have a complete circuit, (L,C,R) there is current
>>>flowing through this circuit that is not flowing through the entire 10
>>>turn loop. (this happens in the other 9 turns also)
>>> I think these extra currents flowing that don't make the entire 10
>>>turn circuit increase the losses.
>>
>> Hi Mike,
>>
>> Capacitance does not bring loss.
>
> I'm not ready to give on that yet, but I could be convinced.
> It seems I could add capacitors across turns of a coil and increase
> circulating currents that would show as a lower Q. But I haven't
> built a coil to test this.
>
>>Loss ALWAYS resides in Resistance and nothing else.
>
> I agree, X/R=Q Lower Q means more loss.
> (let's not get into radiation resistance right now)
>
>
>> Between you and Bill, there appears to be a fixation on the loopS
>> (emphasis on there being more than one). If you are going to blame
>> them (that emphasis on there being more than one), and try to tie it
>> to loss (that emphasis being naturally in Resistance, not
>> Capacitance); then it follows it is in the natural increase in
>> conductor Resistance that occurs when wires are spaced closer than 3
>> or 4 wire diameters to each other. When wires (or loops in this case)
>> are in close proximity, the magnetic field of the near wire (or loop
>> in this case, and each loop in proximity to the next) FORCES the
>> current in that loop to the surface of the wire - INCREASING that
>> conductor's Skin Resistance. Loss thus increases by proximity.
>> Capacitance does too, but that is merely a correlating factor.

>
> Proximity effect could cause all of the additional losses.
> Or it might just be part of the additional losses.
>
> Why is it that when you get near self resonance of a coil the Q gets
> lower?
> Note; to help clearify my question,
> (as you get nearer and nearer resonance the capacitor you are using to
> tune
> the inductor is getting smaller and smaller, and closer to equalling the
> self
> capacitance of the inductor)
>
> > Remember---Correlation is NOT causality.
>
> If you measure reading skills in an elementary school you will find the
> kids with big feet read better.
>
> But then 5th graders usually have bigger feet than kindergarteners.
>
> Thanks for the discussion____
>
> Mike

Hi Mike

I am curious about how the comment in your post ---
>It seems I could add capacitors across turns of a coil and increase
> circulating currents that would show as a lower Q. But I haven't
> built a coil to test this.
I would have thought that, when the circulating current increases when a passive devce is introduced, the Q would have Increased.

Jerry

5323. Re: Distributed capacitance effects Q?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 19:58:05 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4dt933db1qdt8e8pqtm24ihqrkorgoqc6h@4ax.com>
Source record: 41939

On Sun, 29 Apr 2007 14:30:29 -0500, "amdx" <amdx@knology.net> wrote:

>> Capacitance does not bring loss.
>
> I'm not ready to give on that yet, but I could be convinced.
>It seems I could add capacitors across turns of a coil and increase
>circulating currents that would show as a lower Q. But I haven't
>built a coil to test this.

Hi Mike,

This is then a characteristic of the Capacitor called D (dissipation).
Any increase in current tied to loss immediately goes to the bottom
line of resistance - it is a square law relationship, after all.

>>Loss ALWAYS resides in Resistance and nothing else.
>
> I agree, X/R=Q Lower Q means more loss.
>(let's not get into radiation resistance right now)

Why not? Small loops suffer by comparison, and multi-turn loops even
more so.

> Proximity effect could cause all of the additional losses.
>Or it might just be part of the additional losses.

For wire separations beyond 3 or 4 wire diameters, the increase in
skin effect is small. It might be noted that interwinding Capacitance
also falls.

>Why is it that when you get near self resonance of a coil the Q gets lower?
>Note; to help clearify my question,
>(as you get nearer and nearer resonance the capacitor you are using to tune
>the inductor is getting smaller and smaller, and closer to equalling the
>self
>capacitance of the inductor)

Again, the answer must reside in Resistance. There are many
characteristics (wavelength, solenoid diameter, length, pitch, wire
gauge, self-capacitance, distributed capacitance, balance,
connections, earth proximity, radiation resistance) being juggled with
small Loop antennas and some (even many) choices that can be made to
resonate the antenna do not lead to an efficient solution.

73's
Richard Clark, KB7QHC

5324. Re: Distributed capacitance effects Q?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 20:36:43 UTC
From: amdx <amdx@knology.net>
Message-ID: <1f95a$463501c9$18d6b40c$23635@KNOLOGY.NET>
Source record: 41940

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:4dt933db1qdt8e8pqtm24ihqrkorgoqc6h@4ax.com...
> On Sun, 29 Apr 2007 14:30:29 -0500, "amdx" <amdx@knology.net> wrote:
>
>>> Capacitance does not bring loss.
>>
>> I'm not ready to give on that yet, but I could be convinced.
>>It seems I could add capacitors across turns of a coil and increase
>>circulating currents that would show as a lower Q. But I haven't
>>built a coil to test this.
>
> Hi Mike,
>
> This is then a characteristic of the Capacitor called D (dissipation).
> Any increase in current tied to loss immediately goes to the bottom
> line of resistance - it is a square law relationship, after all.

So your saying yes, the thought experiment would show more loss,
but the loss is in the capacitor. The loss in a capacitor would be
dielectric
and loss in the plates right?

>
>>>Loss ALWAYS resides in Resistance and nothing else.
>>
>> I agree, X/R=Q Lower Q means more loss.
>>(let's not get into radiation resistance right now)
>
> Why not? Small loops suffer by comparison, and multi-turn loops even
> more so.
>
I figure it would only confuse the issue.
I was trying to stay away from radiation resistance because my experience of
the effect Bill ask about has been with small aircore inductors. But on
second thought
even those have Rr.

>> Proximity effect could cause all of the additional losses.
>>Or it might just be part of the additional losses.
>
> For wire separations beyond 3 or 4 wire diameters, the increase in
> skin effect is small. It might be noted that interwinding Capacitance
> also falls.
>
>>Why is it that when you get near self resonance of a coil the Q gets

>>lower?
>>Note; to help clearify my question,
>>(as you get nearer and nearer resonance the capacitor you are using to
>>tune
>>the inductor is getting smaller and smaller, and closer to equalling the
>>self
>>capacitance of the inductor)
>

> Again, the answer must reside in Resistance. There are many
> characteristics (wavelength, solenoid diameter, length, pitch, wire
> gauge, self-capacitance, distributed capacitance, balance,
> connections, earth proximity, radiation resistance) being juggled with
> small Loop antennas and some (even many) choices that can be made to
> resonate the antenna do not lead to an efficient solution.
>
Richard, I don't think anyone would disagree that the losses are resistive.
You seem to have answered the question I posted by saying it's increased
resistance.
Yes I agree,
Why does the reistance go up near resonance?

Mike

5325. Re: Which modeler?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 21:05:48 UTC
From: Jim - NN7K <NN7K@NOWAY.NET>
Message-ID: <NM7Zh.1929$tp5.1014@newssvr23.news.prodigy.net>
Source record: 41941

IF you read Brian's material, you will find out WHY
he no longer supports it-- too many pirated copies
includeing some of the "Ham SHAREWARE" and Freeware"
disks! Cant say I can blame him- Those his bread
and butter- NOT for free! Jim

Richard Clark wrote:
> On 28 Apr 2007 17:20:40 -0700, art <aunwin@insightbb.com> wrote:
>
>> On 28 Apr, 13:14, Richard Clark <kb7...@comcast.net> wrote:
>>> On 28 Apr 2007 11:18:14 -0700, art <aun...@insightbb.com> wrote:
>>>
>>>> AO program by Brian Beazely which is
>>>> Minninec based but Brian
>>>> has not supported that program in years. Based on that info I suspect
>>>> that could be classed now as freeware so a Google search may well
>>>> supply a user that is willing to provide a copy.
>>> This would be a clear case of piracy and the violation of copyright
>>> held by the owner. Any attempts of others to provide "free" or "paid"
>>> copies are violating that law.
>>>
>>> 73's
>>> Richard Clark, KB7QHC
>> Nothing is "clear" with respect to copyright.
>
> I am quite sure that Brian Beazely "clearly" marked his product with
> the necessary marks of intellectual property ownership.
>
>> If a library owns a copy and then makes another copy for patrons use
>
> That never happens in any reputable Library. They have absolutely no
> interest in supporting piracy.
>
>> you again get
>> into another murky area because that involves a exception area that is
>> not clear in substance.
>
> There is nothing murky about copying Brian Beazely's product and
> distributing it. You are not going to get a pirated copy from any
> Library.
>
> 73's
> Richard Clark, KB7QHC

5326. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 21:18:44 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <133a2too81gnv27@corp.supernews.com>
Source record: 41942

K7ITM wrote:
> . . .
> I'm very curious now to see exactly what Pearson & Maler and Van
> Valkenburg say in their texts. Are they clear with a mathematical
> definition, or do they end up just using words that can be interpreted
> in different ways? . . .

Sorry, I've been swamped, but will post some quotes soon.

Roy Lewallen, W7EL

5327. Re: Distributed capacitance effects Q?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 21:20:00 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <332a33dbi01nfckden1unvl2hb8thfbnlv@4ax.com>
Source record: 41943

On Sun, 29 Apr 2007 15:36:43 -0500, "amdx" <amdx@knology.net> wrote:

>> This is then a characteristic of the Capacitor called D (dissipation).
>> Any increase in current tied to loss immediately goes to the bottom
>> line of resistance - it is a square law relationship, after all.
>
> So your saying yes, the thought experiment would show more loss,
>but the loss is in the capacitor. The loss in a capacitor would be
>dielectric
>and loss in the plates right?

Hi Mike,

Depending upon construction, most assuredly. However, little loss is found in dielectrics (unless you are using particularly crummy examples). For bad dielectric, you can expects arcs and sparks followed by carbon, and then catastrophic heat accumulation. Most lost is in what is specified in ESR (effective series resistance) which you have already identified as in the plates, but often more in the leads and their connections to the plates. To pack in more capacitance, the trend is for thinner plates for a given package volume. You can guess where the resistance will rise there when the circulating currents are see-sawing in that thin metal.

>>>(let's not get into radiation resistance right now)
>>
>> Why not? Small loops suffer by comparison, and multi-turn loops even
>> more so.
>>
> I figure it would only confuse the issue.
>I was trying to stay away from radiation resistance because my experience of
> the effect Bill ask about has been with small aircore inductors. But on
>second thought
>even those have Rr.

The smaller, the worse. It is not so much about the size of Rr, but its relation (ratio) to Ohmic loss. For instance, a 1 meter loop composed of #40 wire is going to be deaf and dumb at 80M, but you might have a chance with 10cM hollow pipe with tight connections. Both exhibit the same Rr, but the wire's Ohmic loss is clearly deadly in comparison to it, than for the pipe's Ohmic loss. Rr in this band, for this size, runs on the order of 0.0075 Ohms.

> Why does the reistance go up near resonance?

I haven't seen that happen. However, for the same resistance, as you approach resonance, the circulating currents climb, and loss is by the square.

73's
Richard Clark, KB7QHC

5328. Re: Current in 1/2WL Dipoles

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 22:40:03 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <799Zh.386308$5j1.345960@bgtnsc04-news.ops.worldnet.att.net>
Source record: 41944

Cecil Moore wrote:
> The point I was trying to make on the "Rotational Speed"
> thread got lost in semantics so here goes again.
>
> Given - a 75m dipole modeled by EZNEC with 90 segments
> in each leg of the dipole. 90 segments was chosen
> to correspond to the number of degrees from the
> feedpoint. Illustrating 1/2 of the dipole with
> 0 ohm loads at the following segments:
>
> FP--------23--------46--------68--------90
>
> EZNEC reports the following results:
>
> Feedpoint current: 1 amp at 0 deg
>
> Current at seg 23: 0.9281 amp at -1.06 deg
>
> Current at seg 46: 0.7154 amp at -1.78 deg
>
> Current at seg 68: 0.4049 amp at -2.31 deg
>
> Current at seg 90: 0.0122 amp at -2.76 deg
>
> Since the segment numbers correspond to the
> number of degrees, it's obvious that the
> segment numbers correspond to the expected
> phase shift in the traveling waves.
>
> Question: Assuming the current reported by
> EZNEC is a ~cosine function, how does one use
> that current to determine the traveling wave
> phase shift in the wire?

Cecil,

So soon we forget. In a standing wave antenna the phase is gone, kaput.
I believe you have even quoted me on occasion when it was convenient for
the purpose you had at the moment.

Since the traveling wave phase exists only in your imagination, just
pick a number that supports whatever you are trying to "prove" now.

73,
Gene

W4SZ

5329. Scanned Antennas book by Kraus

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 23:01:29 UTC
From: "Dave (from the UK)" <see-my-signature@southminster-branch-line.org.uk>
Message-ID: <463523ca@212.67.96.135>
Source record: 41945

There is a scanned copy of a book you may find interesting:

Antennas, John D. Kraus, Ph.D.., 1950, 553 pages

This book is a college text and engineering reference on antennas. A
pretty thorough theoretical treatment along with practical information
on antenna design.

See

http://www.pmillett.com/Books/Kraus_antennas.pdf (7.9 MB)

More books at

http://www.pmillett.com/technical_books_online.htm

Apparently the copyright has expired on these books, so they are not
pirated. I actually own a copy of the Kraus book, but it is attractive
to have a copy on my laptop.

--
Dave (from the UK)

Please note my email address changes periodically to avoid spam.
It is always of the form: month-year@althorne.org
Hitting reply will work for a few months only - later set it manually.

http://chessdb.sourceforge.net/ - a Free open-source Chess Database

5330. Re: Which modeler?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 23:18:18 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177888698.815013.143280@u30g2000hsc.googlegroups.com>
Source record: 41946

On 29 Apr, 14:05, Jim - NN7K <N...@NOWAY.NET> wrote:
> IF you read Brian's material, you will find out WHY
> he no longer supports it-- too many pirated copies
> includeing some of the "Ham SHAREWARE" and Freeware"
> disks! Cant say I can blame him- Those his bread
> and butter- NOT for free! Jim
>
>
>
> Richard Clark wrote:
> > On 28 Apr 2007 17:20:40 -0700, art <aun...@insightbb.com> wrote:
>
> >> On 28 Apr, 13:14, Richard Clark <kb7...@comcast.net> wrote:
> >>> On 28 Apr 2007 11:18:14 -0700, art <aun...@insightbb.com> wrote:
>
> >>>> AO program by Brian Beazely which is
> >>>> Minninec based but Brian
> >>>> has not supported that program in years. Based on that info I suspect
> >>>> that could be classed now as freeware so a Google search may well
> >>>> supply a user that is willing to provide a copy.
> >>> This would be a clear case of piracy and the violation of copyright
> >>> held by the owner. Any attempts of others to provide "free" or "paid"
> >>> copies are violating that law.
>
> >>> 73's
> >>> Richard Clark, KB7QHC
> >> Nothing is "clear" with respect to copyright.
>
> > I am quite sure that Brian Beazely "clearly" marked his product with
> > the necessary marks of intellectual property ownership.
>
> >> If a library owns a copy and then makes another copy for patrons use
>
> > That never happens in any reputable Library. They have absolutely no
> > interest in supporting piracy.
>
> >> you again get
> >> into another murky area because that involves a exception area that is
> >> not clear in substance.
>
> > There is nothing murky about copying Brian Beazely's product and
> > distributing it. You are not going to get a pirated copy from any
> > Library.
>

> > 73's
> > Richard Clark, KB7QHC- Hide quoted text -
>
> - Show quoted text -

Very interesting Jim, I hadn't heard that. The rumor that I heard was that his computor was hacked which I thought was strange. None the less I see the law as being unenforceable because copying is difficult to prove and as the music industry has found out the fed courts are not interested in individual prosecutions. Another point that is murky with respect to a copyright is that the complaintant has to illustrate how the offence marred his ability to collect money on his ownership and if there is evidence that financial reward is no longer being pursued the copyright can easily be declared withdrawn. This action can also be taken if a patent is not actively pursued. In both patent and copyright laws the "intent" is to encourage declaration of ones ingenuety for the benefit of all in exchange for the sole right to reap rewards that are being actively sort. During the last decade Congress have acted in the areas of patent law and copyright law which benefitted the former but weakened the latter. Either way the law does provide a method of compensation if the offender has resources, if he hasn't prosecution becomes moot. Morally I see it as wrong to copy what does not belong to you but to enforce moral behavior is a very dicy exercise.
Art

5331. Re: Scanned Antennas book by Kraus

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 23:24:00 UTC
From: art <aunwin@insightbb.com>
Message-ID: <1177889040.121529.112320@l77g2000hsb.googlegroups.com>
Source record: 41947

On 29 Apr, 16:01, "Dave (from the UK)" <see-my-signat...@southminster-
branch-line.org.uk> wrote:
> There is a scanned copy of a book you may find interesting:
>
> ----
> Antennas, John D. Kraus, Ph.D.., 1950, 553 pages
>
> This book is a college text and engineering reference on antennas. A
> pretty thorough theoretical treatment along with practical information
> on antenna design.
> -----
>
> See
>
> http://www.pmillett.com/Books/Kraus_antennas.pdf(7.9 MB)
>
> More books at
>
> http://www.pmillett.com/technical_books_online.htm
>
> Apparently the copyright has expired on these books, so they are not
> pirated. I actually own a copy of the Kraus book, but it is attractive
> to have a copy on my laptop.
>
> --
> Dave (from the UK)
>
> Please note my email address changes periodically to avoid spam.
> It is always of the form: month-y...@althorne.org
> Hitting reply will work for a few months only - later set it manually.
>
> http://chessdb.sourceforge.net/- a Free open-source Chess Database

I suspect that could happen if the book was out of print or a new
edition was being offered.
Art

5332. Re: Distributed capacitance effects Q?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-29 23:51:52 UTC
From: amdx <amdx@knology.net>
Message-ID: <e5b32$46352f85$18d6b40c$12159@KNOLOGY.NET>
Source record: 41948

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:332a33dbi01nfckden1unvl2hb8thfbnlv@4ax.com...
> On Sun, 29 Apr 2007 15:36:43 -0500, "amdx" <amdx@knology.net> wrote:
>
>>> This is then a characteristic of the Capacitor called D (dissipation).
>>> Any increase in current tied to loss immediately goes to the bottom
>>> line of resistance - it is a square law relationship, after all.
>>
>> So your saying yes, the thought experiment would show more loss,
>>but the loss is in the capacitor. The loss in a capacitor would be
>>dielectric
>>and loss in the plates right?
>
> Hi Mike,
>
> Depending upon construction, most assuredly. However, little loss is
> found in dielectrics (unless you are using particularly crummy
> examples). For bad dielectric, you can expects arcs and sparks
> followed by carbon, and then catastrophic heat accumulation. Most
> lost is in what is specified in ESR (effective series resistance)
> which you have already identified as in the plates, but often more in
> the leads and their connections to the plates. To pack in more
> capacitance, the trend is for thinner plates for a given package
> volume. You can guess where the resistance will rise there when the
> circulating currents are see-sawing in that thin metal.

I gave you a little bit of a trick question when I ask,

> The loss in a capacitor would be dielectric and loss in the plates right?

In my inductor the interwinding capacitance is made of a dielectric
(some type of insulation and air) and the plates (made by the wire).
The wire has more current because of that interwinding capacitance,
and as you say "loss is by the square".
Is my argument moving you at all?

>>>>(let's not get into radiation resistance right now)
>>>
>>> Why not? Small loops suffer by comparison, and multi-turn loops even
>>> more so.
>>>
>> I figure it would only confuse the issue.
>>I was trying to stay away from radiation resistance because my experience
>>of
>> the effect Bill ask about has been with small aircore inductors. But on

>>second thought
>>even those have Rr.
>
> The smaller, the worse. It is not so much about the size of Rr, but
> its relation (ratio) to Ohmic loss. For instance, a 1 meter loop
> composed of #40 wire is going to be deaf and dumb at 80M, but you
> might have a chance with 10cM hollow pipe with tight connections. Both
> exhibit the same Rr, but the wire's Ohmic loss is clearly deadly in
> comparison to it, than for the pipe's Ohmic loss. Rr in this band,
> for this size, runs on the order of 0.0075 Ohms.
>
>> Why does the resistance go up near resonance?
>
> I haven't seen that happen.
Try measureing the Q of an aircore coil close to it's self resonance
(or worse, at self resonance without an additional capacitor)
and then at half that frequency.

>However, for the same resistance, as you
> approach resonance, the circulating currents climb, and loss is by the
> square.
>
I'm defining circulating currents as those that circulate between turns
and don't necessarily go through the capacitor used to resonate the coil.
Does that fit your definition as used in your paragraph above?

Thanks, Mike

5333. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 00:36:49 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1177893409.014388.57570@h2g2000hsg.googlegroups.com>
Source record: 41949

On Apr 28, 8:40 pm, Cecil Moore <nos...@w5dxp.com> wrote:
> K7ITM wrote:
> > Cecil, don't even THINK of dragging that stinky old thing out again.
> > You're reminding me how incredibly rude you were to me one of the
> > previous times you beat your head against loading coils. What happens
> > with them is crystal clear to me and not in need of any further
> > discussion.
>
> I remember being rude to another Tom, but I don't remember
> being rude to you. I don't even remember your position.
>
> Would you mind summarizing your crystal clear position on
> how many degrees a 75m bugcatcher coil occupies in a resonant
> mobile antenna?
> --
> 73, Cecil http://www.w5dxp.com

Yes, I would mind. It's in the archives of the newsgroup if you care
to look.

Tom

5334. Re: Distributed capacitance effects Q?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 01:46:36 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <%TbZh.3013$HX7.1837@newssvr19.news.prodigy.net>
Source record: 41950

Wimpie wrote:
> The vertical coil behaves
> almost as a quarter wave resonator, just a small top capacitor was
> necessary.

Sounds like a 75m mobile bugcatcher antenna. :-)
--
73, Cecil http://www.w5dxp.com

5335. Re: Distributed capacitance effects Q?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 01:48:27 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <KVbZh.3014$HX7.1458@newssvr19.news.prodigy.net>
Source record: 41951

Jim Kelley wrote:
> I think this will interest you:
> http://www.rhombus-ind.com/dlcat/app1_pas.pdf

Thanks very much, Jim.
--
73, Cecil http://www.w5dxp.com

5336. Re: Current in 1/2WL Dipoles

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 02:01:32 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <%5cZh.3016$HX7.664@newssvr19.news.prodigy.net>
Source record: 41952

Gene Fuller wrote:
> So soon we forget. In a standing wave antenna the phase is gone, kaput.
> I believe you have even quoted me on occasion when it was convenient for
> the purpose you had at the moment.

And it is again convenient to quote you:

> The only "phase" remaining is the cos (kz) term, which is really
> an amplitude description, not a phase.

You also have said that all the phase information is still there,
that superposition doesn't destroy any information. I believe you.
The standing wave current is a cosine function. The arc-cosine of
the amplitude yields the phase of the component waves.

> Since the traveling wave phase exists only in your imagination, just
> pick a number that supports whatever you are trying to "prove" now.

The point is that this is the very current that Roy used to
"measure" the phase shift through a loading coil. I agree with
you that standing wave current cannot be used to measure the
phase shift through a loading coil. Now if you will tell that
technical fact to Roy, he can withdraw his previous assertions.

It seems that you are contradicting yourself by saying that all
the information in the component waves is still there after
superposition yet you say the phase is gone. Both statements
cannot be true.
--
73, Cecil http://www.w5dxp.com

5337. Re: Scanned Antennas book by Kraus

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 02:08:07 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <accZh.3018$HX7.605@newssvr19.news.prodigy.net>
Source record: 41953

Dave (from the UK) wrote:
> http://www.pmillett.com/Books/Kraus_antennas.pdf (7.9 MB)

This is great, Dave. Everyone who wants to see the standing wave phase shift up and down a 1/2WL antenna can look at page 239. Kraus shows a ~3 degree phase shift all up and down the antenna. EZNEC shows the same thing. Now how did Roy use this current to determine the phase shift through a loading coil if it cannot be used to determine the phase shift through a wire?
--
73, Cecil http://www.w5dxp.com

5338. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 02:11:17 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <8fcZh.3020$HX7.858@newssvr19.news.prodigy.net>
Source record: 41954

K7ITM wrote:
> Yes, I would mind. It's in the archives of the newsgroup if you care
> to look.

Millions of postings are in the archives. Would you please give
a subject line and date? If it was in 2003, everyone was wrong
back then.
--
73, Cecil http://www.w5dxp.com

5339. Re: Scanned Antennas book by Kraus

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 03:09:44 UTC
From: "P.Gregory" <hoonz@bigpond.com>
Message-ID: <Y5dZh.31492$M.4560@news-server.bigpond.net.au>
Source record: 41955

That is a credit to that guy , thumbs up from me :-) ....
"Dave (from the UK)" <see-my-signature@southminster-branch-line.org.uk>
wrote in message news:463523ca@212.67.96.135...
> There is a scanned copy of a book you may find interesting:
>
> ----
> Antennas, John D. Kraus, Ph.D.., 1950, 553 pages
>
> This book is a college text and engineering reference on antennas. A
> pretty thorough theoretical treatment along with practical information
> on antenna design.
> -----
>
> See
>
> http://www.pmillett.com/Books/Kraus_antennas.pdf (7.9 MB)
>
> More books at
>
> http://www.pmillett.com/technical_books_online.htm
>
> Apparently the copyright has expired on these books, so they are not
> pirated. I actually own a copy of the Kraus book, but it is attractive
> to have a copy on my laptop.
>
>
> --
> Dave (from the UK)
>
> Please note my email address changes periodically to avoid spam.
> It is always of the form: month-year@althorne.org
> Hitting reply will work for a few months only - later set it manually.
>
> http://chessdb.sourceforge.net/ - a Free open-source Chess Database

5340. Re: Scanned Antennas book by Kraus

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 03:24:30 UTC
From: Jimmie D <GFENDER@carolina.rr.com>
Message-ID: <4635615b$0$17381$4c368faf@roadrunner.com>
Source record: 41956

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:accZh.3018$HX7.605@newssvr19.news.prodigy.net...
> Dave (from the UK) wrote:
>> http://www.pmillett.com/Books/Kraus_antennas.pdf (7.9 MB)
>
> This is great, Dave. Everyone who wants to see the standing
> wave phase shift up and down a 1/2WL antenna can look at
> page 239. Kraus shows a ~3 degree phase shift all up and
> down the antenna. EZNEC shows the same thing. Now how did
> Roy use this current to determine the phase shift through
> a loading coil if it cannot be used to determine the phase
> shift through a wire?
> --
> 73, Cecil http://www.w5dxp.com

A real shame you cant copy and paste text from a pdf file.

Jimmie

5341. Re: Scanned Antennas book by Kraus

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 03:38:10 UTC
From: "Paul E. Cater" <paulcater@roadrunner.com>
Message-ID: <AfOdnT5pJ_Hv-ajbnZ2dnUVZ_r7inZ2d@adelphia.com>
Source record: 41957

Dave (from the UK) wrote:
> There is a scanned copy of a book you may find interesting:
>
> ----
> Antennas, John D. Kraus, Ph.D.., 1950, 553 pages
>
> This book is a college text and engineering reference on antennas. A
> pretty thorough theoretical treatment along with practical information
> on antenna design.
> -----
>
> See
>
> http://www.pmillett.com/Books/Kraus_antennas.pdf (7.9 MB)
>
> More books at
>
> http://www.pmillett.com/technical_books_online.htm
>
> Apparently the copyright has expired on these books, so they are not
> pirated. I actually own a copy of the Kraus book, but it is attractive
> to have a copy on my laptop.
>
>
Dave,

Thank you so much for this post. I had the pleasure of attending some
of his classes. As you Brits say, "outstanding chap!"

Paul
WD8OSU

5342. Effectiveness of decoupling radials

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 03:53:06 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99228D403252Cnonenowhere@61.9.191.5>
Source record: 41958

I have been playing with some NEC-2 models of a multiband vertical with radials.

The vertical is an unloaded vertical of 13m height, and it is mounted on a 6m high grounded metal mast, and an ATU installed at the feedpoint (base of the radiator). I have fitted a pair of opposed nominal quarter wave radials for each of the 80, 40, 30 and 20m bands.

To simulate ground loss, I have modelled a 20 ohm resistance in the bottom of the mast, and used a MININEC ground.

An interesting observation is the sensitivity of this model to length of the radials. Properly adjusted, each pair of opposed radials near eliminate current on the mast (more than 20dB below the current into the radiator). The exception to this is the 30m radials which seem to suffer some interaction with the 80m radials (near third harmonic). Without the appropriate radials, current in the mast to ground is large, and losses can be 10dB or more.

The ideas I take away from the modelling excercise is that:
- inadequate decoupling exacerbates ground loss;
- decoupling is very dependent on the length of the radials;
- one pair of opposed radials is enough for a narrow band;
- the radials for different bands have some interaction; and
- the optimum length may be quite a deal longer than the expected length of legs of a half wave dipole in the same place.

I am grappling with some other way to optimise such a system, other than measuring the mast current (which often isn't easy).

These effects probably also apply to a trapped vertical with similar counterpoise, and the traditional wisdom of tuning either the length of the vertical or radial length to achieve low VSWR is probably less than optimal, there is an optimal length for each of them.

The traditional wisdom that elevated radials are generally significantly lower loss than buried radials probably depends on careful "tuning" or isolation of feed point ground to minimise current flowing to the real ground.

Comments, thoughts?

Owen

5343. Re: 10m ground wave expectations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 04:45:15 UTC
From: Joey <joey29034atyawwhodotcom>
Message-ID: <g0ta33laocgu6naao6t7t8gp6g5f800utl@4ax.com>
Source record: 41959

There are actually very few repeaters that one can use handheld
between here and there... D'oh! I can use the big antenna on the
house here and hit quite a few more tho. Plenty of linked 440 systems
tho...

Joey

On Fri, 27 Apr 2007 16:14:44 -0500, richardharrison@webtv.net (Richard
Harrison) wrote:

>Joey wrote:
>"My parents are both techs so we`re currently limited to parts of 10m as
>the lowest band and I`d like to have something available without
>needing repeaters for disaster comms."
>
>I`d like a million dollars too!
>
>75 miles is reliably unlikely without a line of sight path between
>radios at VHF unless expensive techniques are used.
>
>A repeater located between the radios makes success much more likely.
>Examine the ARRL "Repeater Directory" and borrow a hand-held (likely for
>2-meters) and see which repeaters you can call up from both ends of the
>path you would like to work. You will probably find you are in-business
>but not for profit as it is amateur radio. For back up in emergencies,
>you can use your cell phone or a wired phone.
>
>Best regards, Richard Harrison, KB5WZI

5344. Re: 10m ground wave expectations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 04:50:51 UTC
From: Joey <joey29034atyawwhodotcom>
Message-ID: <13ta335e61b04vbassr6ijg5jn6plaoank@4ax.com>
Source record: 41960

The local station here is at 1500 ft + 35ft hi gain vertical at 50W,
with a 2200ft ridge less than 5 miles away... back down to probably
1500 ft until... About 60 miles from here is the tallish 3500ish ft.
mountains and then its down basically to sea level for the remainder.
This does seem to produce a rather sharp angle at the both ends. So
much so that I have trouble hitting the 3500ft repeaters from here
without going up to the big antenna. I do remember hitting some
repeater off to the side of the direct path about 10 years ago with
just a handheld and some gainy portable antenna (don't even remember
which one)... but haven't been able to find it since! Doh!

I'll probably end up just finding some 2m stuff to work. We have a
few linked 440 systems (California) too...

Joey

On Fri, 27 Apr 2007 20:40:51 -0500, Tom Ring <news0003@taring.org>
wrote:

>Joey wrote:
>
>> Hi,
>> I'm trying to determine if I could use 10 meters to contact a station
>> about 75 miles away with about 2500ft elevation of a couple sets of
>> hills in between with just simple antennas on either end. Perhaps a
>> 10m dipole on one end and some kind of stealthy one on the other. I
>> assume this would have to be ground wave only given the distance and
>> current band conditions.
>> My parents are both techs so we're currrently limited to parts of 10m
>> as the lowest band and I'd like to have something reliable without
>> need repeaters for disaster comms. We actually only have a few single
>> hop VHF/UHF repeaters between us, though quite a few linked ones.
>> I've also thought of 6m due to smaller antenna requirements, but I'm
>> pretty sure this is too far...
>> Thanks!
>
>2m SSB or CW with modest power and antennas have a great chance of doing
>what you wish.
>
>A better description of the terrain would help.
>
>2500 above mean average terrain? (I doubt that but have to ask)
>
>A couple of hills. Sharp ridges? Above the line of sight?
>

>Probably still quite doable. I used to work from Potsdam NY to
>Plattsburgh NY (and a good chunk of Vermont) virtually every evening on
>144.200 with a 12 foot yagi at 25 feet on my end, a 17 foot on the
>other, using about 60 watts, and the Tug Hill Plateau and a couple small
>mountains in the way.
>
>2m "weak signal" is an often overlooked mode for 60 to 150 miles that is
>very reliable for point to point.
>
>tom
>K0TAR

5345. Re: 10m ground wave expectations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 05:00:52 UTC
From: Joey <joey29034atyawwhodotcom>
Message-ID: <tdta33l848lo9urgcdde8brlekqon1mnhg@4ax.com>
Source record: 41961

On Sat, 28 Apr 2007 05:38:38 GMT, Owen Duffy <none@no.where> wrote:

>Joey <joey@nowhere.org> wrote in news:dd64339h0kluu9d5kqu0tff6h9r6nmpbdl@
>4ax.com:
>
>> Hi,
>> I'm trying to determine if I could use 10 meters to contact a station
>> about 75 miles away with about 2500ft elevation of a couple sets of
>> hills in between with just simple antennas on either end. Perhaps a
>> 10m dipole on one end and some kind of stealthy one on the other. I
>> assume this would have to be ground wave only given the distance and
>> current band conditions.
>> My parents are both techs so we're currrently limited to parts of 10m
>> as the lowest band and I'd like to have something reliable without
>> need repeaters for disaster comms. We actually only have a few single
>> hop VHF/UHF repeaters between us, though quite a few linked ones.
>> I've also thought of 6m due to smaller antenna requirements, but I'm
>> pretty sure this is too far...
>> Thanks!
>>
>
>Joey,
>
>You have given a lot of information, and yet too little.
>
>The distance you nominate can be a challenge, yet routinely possible on
>frequencies from 28MHz to 440MHz, depending....
>
>My thoughts are that simplex contacts will be unlikely without effective
>outside antennas, though not necessarily directional antennas, but they
>would help.
>
>You note you may have access to several repeaters, than can certainly
>equalise bad locations or impossible paths (eg granite), but then you
>might not want to conduct family chat on repeaters (though that is they
>way they seem to have gone here since many of our new six hour hams with
>their shack on their belt seem to be family members). An FM repeater in a
>very good location may support contacts reliably out to 150+km for each
>station, depending...
>
>Another possibility might be using IRLP build a path.
>
>To give you an example, I can work the 2m repeater at Mt Ginini
>(exceptional site) from the car on my driveway here at Narooma, 155km (~

>95mi) over mountains etc (but we don't have real mountains here do we?),
>it would be easier with a 5dB gain omni on the house.
>
>I could use a handheld to make the trip to a repeater 90km (~56mi) away
>and use IRLP to anywhere in the world (if I liked IRLP). Then by
>contrast, there would be places where you couldn't work a repeater 10km
>away with a handheld.
>
>So, it may be that a path via a VHF or UHF repeater might be more viable
>than 10m.
>
>Perhaps some experimentation is in order, that is what ham radio was
>about once.
>
>Owen

It sounds like I pictured 10 meters as a lot lower that it really is... Sounds like it's really VHF-like during low cycles .. I'll probably go back to 2 or 440 and mess around tho there only a couple repeaters on 2m but a bunch on 440 that are linked.

I am going to try to get at least my dad to upgrade to General tho. I think he'd like to have something long distance while camping, and HF is of course perfect for that :)

Yes, back to experimentation!!

5346. Re: 10m ground wave expectations

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 05:05:10 UTC
From: Joey <joey29034atyawwhodotcom>
Message-ID: <64ua33htb50l7po26hvo7v43rs1bj8mvik@4ax.com>
Source record: 41962

On Sat, 28 Apr 2007 22:08:11 -0700, "Sal M. Onella"
<salmonella@food.poisoning.org> wrote:

>
>"Joey" <joey@nowhere.org> wrote in message
>news:dd64339h0kluu9d5kqu0tff6h9r6nmpbdl@4ax.com...
>> Hi,
>> I'm trying to determine if I could use 10 meters to contact a station
>> about 75 miles away with about 2500ft elevation of a couple sets of
>> hills in between with just simple antennas on either end. Perhaps a
>> 10m dipole on one end and some kind of stealthy one on the other. I
>> assume this would have to be ground wave only given the distance and
>> current band conditions.
>> My parents are both techs so we're currrently limited to parts of 10m
>> as the lowest band and I'd like to have something reliable without
>> need repeaters for disaster comms. We actually only have a few single
>> hop VHF/UHF repeaters between us, though quite a few linked ones.
>> I've also thought of 6m due to smaller antenna requirements, but I'm
>> pretty sure this is too far...
>> Thanks!
>
>I have been on 10m myself lately, having just upgraded. I find it nearly
>worthless for anything over fifteen miles. Without skip, you need an
>elevated antenna, high ERP or both. 75 miles is inside the skip zone; that
>is, if 10 were going to skip, it is still overhead at 75 miles and is going
>to come down farther away.
>
>Sure, investigate NVIS, but I think it needs a particular anntenna at *both*
>ends.
>
>If you're not committed to 10m, I would recommend 2m, since at least one end
>can have a high gain antenna. I use a 13-element yagi for 2m at Field Day
>and I routinely work dozens of stations 75 miles away (or more). We are in
>southern San Diego County and I work Los Angeles all day and night on 35w
>with the yagi at 20 feet. 2m is almost noise-free, too, both with respect
>to QRM and to receiver noise in FM mode.
>
>73
>
ts o
Thanks for all who've responded... Good info!!.

The path I'm lookin for is Oceanside to Redlands, similar to San Diego
to LA, but we have the OC mountains in between... as well as those by
moreno valley...

Time to play with what I have....

Joey

5347. Re: Scanned Antennas book by Kraus

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 05:40:11 UTC
From: David Ryeburn <ryeburn@sfu.caz>
Message-ID: <ryeburn-6E9CF6.22401129042007@morgoth.sfu.ca>
Source record: 41963

In article <4635615b$0$17381$4c368faf@roadrunner.com>,
"Jimmie D" <GFENDER@carolina.rr.com> wrote:

> A real shame you cant copy and paste text from a pdf file.

I don't know whether you can do this on a Windows computer, but I have been copying text, as well as pictures, from PDF files with my Macs for about as long as there have been PDF files. But to copy text, there has to *BE* text. The Kraus book PDF file, which I have just downloaded, consists of 568 pages of (scanned) pictures.

One can select, as a picture, any portion (or all) of any one page, copy it, and paste it into a document in a graphics program. I just did this with one page of the Kraus "Antennas" book. Such files can be pretty big -- one page produced a 16.2 MB TIFF file which is more than twice as large as the entire PDF file for the Kraus "Antennas" book -- but quite compressible (I compressed that page, losslessly, to 173 kB).

In retirement, for fun and profit, I've been doing pre-publication debugging (for publishers) of math texts written by others. When I receive manuscripts, these are usually sent as PDF files from scans of the actual paper pages produced by the authors. (Paper is used since often scanners, scissors, and Scotch tape are used to produce some of the material in Edition (N + 1) from pages from Edition N.) As such, the files are enormous (thank goodness for a DSL Internet connection) and not searchable -- there's not a single word in such a file, just a succession of pictures, one page at a time. Later in the editing and revision process, I receive PDF files made from TeX files produced by the typesetters which, except for errors needing to be corrected, are ready to print. These files, much smaller than the scanned manuscript files, are searchable, and I can find a word in a few seconds -- much nicer than eyeballing my way through hundreds of sheets of paper, which is the way I did it in the old days ten years ago. At this stage of the game, I can copy and paste text, and I do a lot of that to construct my reports which get sent back to the authors and editors. Needless to say, the reports get sent as PDF files, and the nice thing is that Mac- or UNIX-using authors, Mac users at the typesetting plant, and Windows-using people at the publishing company, can all read my files without any problems.

David, ex-W8EZE

--
David Ryeburn
ryeburn@sfu.caz
To send e-mail, use "ca" instead of "caz".

5348. Re: Effectiveness of decoupling radials

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 06:20:07 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3b2b33lpg57i0pjjr2n012mcbni3lmnkaj@4ax.com>
Source record: 41964

On Mon, 30 Apr 2007 03:53:06 GMT, Owen Duffy <none@no.where> wrote:

>The traditional wisdom that elevated radials are generally significantly
>lower loss than buried radials probably depends on careful "tuning" or
>isolation of feed point ground to minimise current flowing to the real
>ground.

Hi Owen,

As Reggie would have pointed out at this juncture, tuning of radials in very close proximity to the ground would have been an exercise in futility (that is, expecting a sharp resonance as would be evidenced in elevated radials). As was his wont, his description of radials as lossy transmission lines would have held sway in this analysis.

This, of course, is contingent upon my having understood the implication of the quoted text above relating to tuning radials near the ground (instead of on high).

73's
Richard Clark, KB7QHC

5349. EZNEC Example of Short Vertical w/ Matching Coil

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 06:41:13 UTC
From: Al Lorona <al_lorona@agilent.com>
Message-ID: <1177913916.934042@newsreg.cos.agilent.com>
Source record: 41965

Hi, Everybody,

A short vertical such as for mobile use is capacitive and this Xc is usually tuned out with a shunt coil at the feedpoint. Yet, when I model this with EZNEC I cannot simulate this effect properly. I must be doing something wrong. Does anyone have an EZNEC example showing a shunt matching coil inserted as an EZNEC Load at the feedpoint that they can send me?

Thanks very much.

Regards,

Al W6LX

5350. Re: Distributed capacitance effects Q?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 07:04:39 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <kc4b33tavdna6habulkrf1lhpikirv7q9g@4ax.com>
Source record: 41966

On Sun, 29 Apr 2007 18:51:52 -0500, "amdx" <amdx@knology.net> wrote:

>I gave you a little bit of a trick question when I ask,
>
>> The loss in a capacitor would be dielectric and loss in the plates right?
>
> In my inductor the interwinding capacitance is made of a dielectric
>(some type of insulation and air) and the plates (made by the wire).
>The wire has more current because of that interwinding capacitance,
> and as you say "loss is by the square".
> Is my argument moving you at all?

Hi Mike,

I'm afraid that if you have expressed an argument, it was lost on me.

>>> Why does the resistance go up near resonance?
>>
>> I haven't seen that happen.
> Try measureing the Q of an aircore coil close to it's self resonance
>(or worse, at self resonance without an additional capacitor)
>and then at half that frequency.

You have a moving target. Skin effect is shifting as you double/halve
the frequency. What does it mean to compare Q at so disparate
frequencies? Are you exploring an intellectual curiosity or trying to
remedy a defect in application?

>>However, for the same resistance, as you
>> approach resonance, the circulating currents climb, and loss is by the
>> square.
>>
> I'm defining circulating currents as those that circulate between turns
>and don't necessarily go through the capacitor used to resonate the coil.
> Does that fit your definition as used in your paragraph above?

Going between turns can be through a turn-to-turn capacitive coupling,
the magnetic coupling has already been discussed in regard to
increased skin effect due to proximity. Loss still remains the
province of resistance. Your best argument is that Capacitance
exacerbates loss, but it does not cause it.

73's
Richard Clark, KB7QHC

5351. Re: Effectiveness of decoupling radials

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 07:20:05 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9922B05835647nonenowhere@61.9.191.5>
Source record: 41967

Richard Clark <kb7qhc@comcast.net> wrote in
news:3b2b33lpg57i0pjjr2n012mcbni3lmnkaj@4ax.com:

> This, of course, is contingent upon my having understood the
> implication of the quoted text above relating to tuning radials near
> the ground (instead of on high).

Richard,

The radials in this case are 4m to 6m above the ground, so should exhibit a fairly clear resonance.

Owen

5352. Re: Scanned Antennas book by Kraus

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 07:40:05 UTC
From: "Dave (from the UK)" <see-my-signature@southminster-branch-line.org.uk>
Message-ID: <46359d56@212.67.96.135>
Source record: 41968

David Ryeburn wrote:

> In retirement, for fun and profit, I've been doing pre-publication
> debugging (for publishers) of math texts written by others. When I
> receive manuscripts, these are usually sent as PDF files from scans of
> the actual paper pages produced by the authors.

They could well be like that to stop one reproducing them easily.

--
Dave (from the UK)

Please note my email address changes periodically to avoid spam.
It is always of the form: month-year@althorne.org
Hitting reply will work for a few months only - later set it manually.

http://chessdb.sourceforge.net/ - a Free open-source Chess Database

5353. Re: EZNEC Example of Short Vertical w/ Matching Coil

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 07:52:33 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9922B5D986CDEnonenowhere@61.9.191.5>
Source record: 41969

"Al Lorona" <al_lorona@agilent.com> wrote in
news:1177913916.934042@newsreg.cos.agilent.com:

> Hi, Everybody,
>
> A short vertical such as for mobile use is capacitive and this Xc is
> usually tuned out with a shunt coil at the feedpoint. Yet, when I
> model this with EZNEC I cannot simulate this effect properly. I must
> be doing something wrong. Does anyone have an EZNEC example showing a
> shunt matching coil inserted as an EZNEC Load at the feedpoint that
> they can send me?

In my experience, the capacitive reactance of a short vertical is usually
"tuned out" with a series inductor (inductance and resistance).

If you do offset all of the reactance, you may have a very low feedpoint
resistance, and that may drive you to consider some form of L match at
the base, the L match formed by a radiator that is not resonated and some
shunt L or C element.

Owen

>
> Thanks very much.
>
> Regards,
>
> Al W6LX
>
>
>
>
>

5354. Re: EZNEC Example of Short Vertical w/ Matching Coil

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 09:39:29 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <133beamdgirtpcd@corp.supernews.com>
Source record: 41970

A source and load placed on the same segment are always connected in series. The only ways in EZNEC to simulate a coil in parallel with a source are:

1. Construct a physical model of the coil using wires (if it's an air core coil), and connect it appropriately using wires.

2. Make a small loop of three or four one-segment wires. Put the source in one leg of the loop and a load in another. This is a bit tricky, and doesn't always work -- NEC doesn't like small loops, so there's a minimum practical size. But if the loop is too large, the wires it's made from add reactance and radiate. You might or might not be able to find a size which works. This is one of the very few situations where the double precision calculating engine of EZNEC+ might be an advantage, since it'll tolerate loops which are a bit smaller than the standard engine. You should run an Average Gain test on the antenna to make sure the NEC calculating engine isn't getting unhappy with the small loop.

But as some others have commented, it's much more common to take care of the capacitive reactance of a short whip with a series, rather than shunt, inductor.

Roy Lewallen, W7EL

Al Lorona wrote:
> Hi, Everybody,
>
> A short vertical such as for mobile use is capacitive and this Xc is usually
> tuned out with a shunt coil at the feedpoint. Yet, when I model this with
> EZNEC I cannot simulate this effect properly. I must be doing something
> wrong. Does anyone have an EZNEC example showing a shunt matching coil
> inserted as an EZNEC Load at the feedpoint that they can send me?
>
> Thanks very much.
>
> Regards,
>
> Al W6LX
>
>
>
>

5355. Re: Scanned Antennas book by Kraus

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 10:52:07 UTC
From: LA4RT Jon Kåre Hellan <dev@null.com>
Message-ID: <1mhcqy2kyw.fsf@persaunet.uninett.no>
Source record: 41972

"Dave (from the UK)" <see-my-signature@southminster-branch-line.org.uk> writes:

> There is a scanned copy of a book you may find interesting:
>
> ----
> Antennas, John D. Kraus, Ph.D.., 1950, 553 pages
>
> This book is a college text and engineering reference on antennas. A
> pretty thorough theoretical treatment along with practical information
> on antenna design.
> -----
>
> See
>
> http://www.pmillett.com/Books/Kraus_antennas.pdf (7.9 MB)
>
> More books at
>
> http://www.pmillett.com/technical_books_online.htm
>
> Apparently the copyright has expired on these books, so they are not
> pirated. I actually own a copy of the Kraus book, but it is attractive
> to have a copy on my laptop.

I don't know the rules for when copyright expires in different
countries. But I do know that John Kraus died in July 2004. I have the
3rd edition of his "Antennas", it is from 2001. The front matter says
"Copyright 1950, <don't remember>, 2001"

So I am not sure that the 1950 edition is in the public domain.

Kraus was a very interesting character. Invented ham antennas in the
thirties, the helix antenna ca. 1945, central in the development of
radio astronomy, and finally one of the driving forces behind SETI at
home.

Of course, it is much easier to keep up with the times if you shape
them yourself :-)

73
Jon

5356. Re: Distributed capacitance effects Q?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 11:37:10 UTC
From: amdx <amdx@knology.net>
Message-ID: <7f931$4635d4d1$18d6b40c$22501@KNOLOGY.NET>
Source record: 41971

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:kc4b33tavdna6habulkrf1lhpikirv7q9g@4ax.com...
> On Sun, 29 Apr 2007 18:51:52 -0500, "amdx" <amdx@knology.net> wrote:
>
>>I gave you a little bit of a trick question when I ask,
>>
>>> The loss in a capacitor would be dielectric and loss in the plates
>>> right?
>>
>> In my inductor the interwinding capacitance is made of a dielectric
>>(some type of insulation and air) and the plates (made by the wire).
>>The wire has more current because of that interwinding capacitance,
>> and as you say "loss is by the square".
>> Is my argument moving you at all?
>
> Hi Mike,
>
> I'm afraid that if you have expressed an argument, it was lost on me.
>
>>>> Why does the resistance go up near resonance?
>>>
>>> I haven't seen that happen.
>> Try measureing the Q of an aircore coil close to it's self resonance
>>(or worse, at self resonance without an additional capacitor)
>>and then at half that frequency.
>
> You have a moving target. Skin effect is shifting as you double/halve
> the frequency. What does it mean to compare Q at so disparate
> frequencies?

I agree that skin effect is just one more charactistic that needs to be
added to the mix.

>Are you exploring an intellectual curiosity or trying to
> remedy a defect in application?

No, I just have experienced the effect that Bill ask about and
gave my own pet theory about why it happens.
Now I'm looking for a little confirmation or where I went wrong.

>>>However, for the same resistance, as you
>>> approach resonance, the circulating currents climb, and loss is by the
>>> square.
>>>
>> I'm defining circulating currents as those that circulate between

>> turns
>>and don't necessarily go through the capacitor used to resonate the coil.
>> Does that fit your definition as used in your paragraph above?
>
> Going between turns can be through a turn-to-turn capacitive coupling,
> the magnetic coupling has already been discussed in regard to
> increased skin effect due to proximity.

>Loss still remains the province of resistance.

Richard, That's like saying rain has water in it. No matter how many times
you say it,
I'm still going to agree with you.

>Your best argument is that Capacitance exacerbates loss.

I would rephrase that as "interwinding capacitance exacerbates loss".

And with that, you have summed up my argument perfectly.

You have helped reduce my argument to 4 words.

Now, do you agree that interwinding capacitance will reduce Q?
(yes, I know it's the province of resistance)

Thanks, Mike

5357. Re: Scanned Antennas book by Kraus

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 12:35:32 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <nolZh.2305$tp5.1550@newssvr23.news.prodigy.net>
Source record: 41973

Jimmie D wrote:
> A real shame you cant copy and paste text from a pdf file.

Will the full-featured Adobe Acrobat do that?
--
73, Cecil http://www.w5dxp.com

5358. Re: Effectiveness of decoupling radials

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 12:48:51 UTC
From: Danny Richardson <n_group@k6mhe.com>
Message-ID: <9uob335pfh9ma695fphogo10gicu05m21i@4ax.com>
Source record: 41974

On Mon, 30 Apr 2007 03:53:06 GMT, Owen Duffy <none@no.where> wrote:

>
>I have been playing with some NEC-2 models of a multiband vertical with
>radials.
>
>The vertical is an unloaded vertical of 13m height, and it is mounted on
>a 6m high grounded metal mast, and an ATU installed at the feedpoint
>(base of the radiator). I have fitted a pair of opposed nominal quarter
>wave radials for each of the 80, 40, 30 and 20m bands.
>
[snip]
>Comments, thoughts?
>

Owen.

My first thoughts are while such a situation can be modeled, in the
real world I would doubt you can build a system as you describe where
the radials are balance. Just as one can not install a dipole in a
typical back yard (garden) that is truly balanced.

My two cents worth. <G>

Danny, K6MHE

5359. Re: Scanned Antennas book by Kraus

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 12:53:49 UTC
From: Danny Richardson <n_group@k6mhe.com>
Message-ID: <ogpb3395uf2e221kgpdhnqgpkr24731ves@4ax.com>
Source record: 41975

On Sun, 29 Apr 2007 23:24:30 -0400, "Jimmie D"
<GFENDER@carolina.rr.com> wrote:

>
>"Cecil Moore" <nospam@w5dxp.com> wrote in message
>news:accZh.3018$HX7.605@newssvr19.news.prodigy.net...
>> Dave (from the UK) wrote:
>>> http://www.pmillett.com/Books/Kraus_antennas.pdf (7.9 MB)
>>
>> This is great, Dave. Everyone who wants to see the standing
>> wave phase shift up and down a 1/2WL antenna can look at
>> page 239. Kraus shows a ~3 degree phase shift all up and
>> down the antenna. EZNEC shows the same thing. Now how did
>> Roy use this current to determine the phase shift through
>> a loading coil if it cannot be used to determine the phase
>> shift through a wire?
>> --
>> 73, Cecil http://www.w5dxp.com
>
>A real shame you cant copy and paste text from a pdf file.
>
>Jimmie
>

You can, but in the case where a book is scanned the pages are handled
as graphics and not text. To do so all pages would have to be
processed using OCR software after scanning which is a major pain and
very time consuming.

Danny, K6MHE

5360. Re: EZNEC Example of Short Vertical w/ Matching Coil

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 12:58:27 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <TJlZh.2307$tp5.112@newssvr23.news.prodigy.net>
Source record: 41877

Owen Duffy wrote:
> In my experience, the capacitive reactance of a short vertical is usually
> "tuned out" with a series inductor (inductance and resistance).

Owen, he is probably trying to achieve a feedpoint
impedance of 50 ohms instead of a resonant feedpoint
of 20 ohms. If one makes the feedpoint 25-j25, for
instance, and installs a base shunt coil, one can
twist the feedpoint impedance to 50+j0 ohms using
a +j50 ohm shunt coil.

In like manner, a -j50 base shunt capacitor will
twist 25+j25 to 50+j0 ohms.

The ARRL Handbook describes such shunt matching
techniques in the mobile antenna section.
--
73, Cecil http://www.w5dxp.com

5361. Re: EZNEC Example of Short Vertical w/ Matching Coil

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 12:58:56 UTC
From: John Ferrell <johnferrell@sprintmail.com>
Message-ID: <ljpb33p651nh87qtebqaso8ldinnvfcnfc@4ax.com>
Source record: 41976

On Sun, 29 Apr 2007 23:41:13 -0700, "Al Lorona"
<al_lorona@agilent.com> wrote:

>Hi, Everybody,
>
>A short vertical such as for mobile use is capacitive and this Xc is usually
>tuned out with a shunt coil at the feedpoint. Yet, when I model this with
>EZNEC I cannot simulate this effect properly. I must be doing something
>wrong. Does anyone have an EZNEC example showing a shunt matching coil
>inserted as an EZNEC Load at the feedpoint that they can send me?
>
>Thanks very much.
>
>Regards,
>
>Al W6LX
>
>
>

FWIW, I use the information provided by EZNEC as input to the TLW
program (ARRL Antenna Book) for this set of conditions.

Note that radiation from the matching device is ignored under this
circumstance.

John Ferrell W8CCW
"Life is easier if you learn to
plow around the stumps"

5362. Re: EZNEC Example of Short Vertical w/ Matching Coil

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 13:09:15 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <%TlZh.2309$tp5.274@newssvr23.news.prodigy.net>
Source record: 41878

Roy Lewallen wrote:
> But as some others have commented, it's much more common to take care of
> the capacitive reactance of a short whip with a series, rather than
> shunt, inductor.

Quoting the ARRL Antenna Book: "The input impedance of
short, high-Q coil-loaded antennas is quite low. For
example, an 8-foot antenna optimized for 3.9 MHz with
a coil Q of 300 and a ground loss resistance of two
ohms has a base input impedance of about 13 ohms."

It is common practice to adjust the feedpoint impedance
to about 13-j22 and install a base shunt inductive
reactance of ~+j30 to twist the feedpoint impedance
to a near perfect 50+j0 ohms.
--
73, Cecil http://www.w5dxp.com

5363. Re: Effectiveness of decoupling radials

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 13:25:12 UTC
From: Chuck <no.spam@no.spam.at.all>
Message-ID: <1177939588_22029@sp12lax.superfeed.net>
Source record: 41879

Owen Duffy wrote:
> I have been playing with some NEC-2 models of a multiband vertical with
> radials.
>
> The vertical is an unloaded vertical of 13m height, and it is mounted on
> a 6m high grounded metal mast, and an ATU installed at the feedpoint
> (base of the radiator). I have fitted a pair of opposed nominal quarter
> wave radials for each of the 80, 40, 30 and 20m bands.
>
> To simulate ground loss, I have modelled a 20 ohm resistance in the
> bottom of the mast, and used a MININEC ground.
>
> An interesting observation is the sensitivity of this model to length of
> the radials. Properly adjusted, each pair of opposed radials near
> eliminate current on the mast (more than 20dB below the current into the
> radiator). The exception to this is the 30m radials which seem to suffer
> some interaction with the 80m radials (near third harmonic). Without the
> appropriate radials, current in the mast to ground is large, and losses
> can be 10dB or more.
>
> The ideas I take away from the modelling excercise is that:
> - inadequate decoupling exacerbates ground loss;
> - decoupling is very dependent on the length of the radials;
> - one pair of opposed radials is enough for a narrow band;
> - the radials for different bands have some interaction; and
> - the optimum length may be quite a deal longer than the expected length
> of legs of a half wave dipole in the same place.
>
> I am grappling with some other way to optimise such a system, other than
> measuring the mast current (which often isn't easy).
>
> These effects probably also apply to a trapped vertical with similar
> counterpoise, and the traditional wisdom of tuning either the length of
> the vertical or radial length to achieve low VSWR is probably less than
> optimal, there is an optimal length for each of them.
>
> The traditional wisdom that elevated radials are generally significantly
> lower loss than buried radials probably depends on careful "tuning" or
> isolation of feed point ground to minimise current flowing to the real
> ground.
>
> Comments, thoughts?
>
> Owen

Just as an aside, Owen, have you considered just a single pair of non-resonant, opposed radials for all bands? The ATU can just as easily "tune" a single radial pair + vertical element as it can the vertical element alone.

Any additional benefit of separate radial pairs for different bands may be slight.

Chuck

----== Posted via Newsfeeds.Com - Unlimited-Unrestricted-Secure Usenet News==----
http://www.newsfeeds.com The #1 Newsgroup Service in the World! 120,000+ Newsgroups
----= East and West-Coast Server Farms - Total Privacy via Encryption =----

5364. Re: Current in 1/2WL Dipoles

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 13:40:09 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <ZkmZh.90882$VU4.79833@bgtnsc05-news.ops.worldnet.att.net>
Source record: 41880

Cecil Moore wrote:

>
> It seems that you are contradicting yourself by saying that all
> the information in the component waves is still there after
> superposition yet you say the phase is gone. Both statements
> cannot be true.

Cecil,

Both statements are true. Superposition does not favor one description over the other. If there is no phase information remaining in the superposed result (the standing wave) then there is no phase information remaining at all, regardless of your mathematical manipulations. There are no hidden variables.

Someone else recently pointed out that Mother Nature does not care what models we use; the underlying physical reality will be the same. You continue to try to get around that fundamental principle, but it won't work.

73,
Gene
W4SZ

5365. Re: Effectiveness of decoupling radials

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 13:42:32 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <bnmZh.2312$tp5.1542@newssvr23.news.prodigy.net>
Source record: 41881

Chuck wrote:
> Just as an aside, Owen, have you considered just a single pair of
> non-resonant, opposed radials for all bands? The ATU can just as easily
> "tune" a single radial pair + vertical element as it can the vertical
> element alone.

I have such an antenna and am very satisfied with it.
It is a 22 foot vertical with the feedpoint at 22 feet.
Four 22 foot radials slant down at a 45 degree angle
and double as guy wires. An SG-230 is installed at the
feedpoint.

EZNEC says it has a radiation pattern ranging from
0.5 dBi at 22 deg TOA on 40m to 4.2 dBi at 11 deg
TOA on 10m. Come on sunspots!
--
73, Cecil http://www.w5dxp.com

5366. Re: Current in 1/2WL Dipoles

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 14:38:03 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <fbnZh.18170$Kd3.8905@newssvr27.news.prodigy.net>
Source record: 41882

Gene Fuller wrote:
> Cecil Moore wrote:
>> It seems that you are contradicting yourself by saying that all
>> the information in the component waves is still there after
>> superposition yet you say the phase is gone. Both statements
>> cannot be true.
>
> Both statements are true. Superposition does not favor one description
> over the other. If there is no phase information remaining in the
> superposed result (the standing wave) then there is no phase information
> remaining at all, regardless of your mathematical manipulations. There
> are no hidden variables.

But you said (and for some unknown reason trimmed):

> The only "phase" remaining is the cos (kz) term, which is really
> an amplitude description, not a phase.

I agree with you. The phase of the underlying forward and
reflected traveling waves can be deduced from the *amplitude*
of the standing wave. Here is a graphic excerpted from the
recently available PDF 1st edition of "Antennas" by Kraus.
EZNEC can also be used with the same results.

http://www.w5dxp.com/krausdip.jpg

As you can see, the current amplitude is a ~cosine function.
The phase of the forward traveling wave relative to a source
wave of 1.0 amp at 0 degrees (EZNEC standard) is an ARC-COSINE
function of the current amplitude. For instance, at 45 degrees
away from the feedpoint, the current is ~0.707 amps. ARC-COSINE
of 0.707 is 45 degrees. You were correct when you said that
the information in the forward and reflected waves is preserved
in the standing waves. Kraus' graphic proves it.

But it has yet to be explained how Roy (and Tom R.) could
use the essentially unchanging *phase* of the standing wave
current to "measure" the phase shift through a loading coil
- since the phase of the standing wave current cannot even
be used to determine the phase shift through a wire. This
question has been asked many times. The absence of an answer
stands out like a sore thumb.

> Roy said:
>> What I measured was a 3.1% reduction in magnitude from input to output,
>> with no discernible phase shift.

Of course there was no discernible phase shift as can be seen from
Kraus' graphic above. But Kraus' graph gives us a way to deduce
the phase shift from the amplitudes. Assuming a reference amplitude
of 1.0 amp at the bottom of the coil, a 3.1% reduction would give
us 0.969 amps at the top of the coil. ARC-COSINE(0.969) = 14.3 deg.
That's a close approximation of the phase shift through the coil
being undergone by the forward current and reflected current.

If the forward current at the bottom of the coil is 0.55A @ 0 deg,
and the reflected current at the bottom of the coil is
0.45A @ 0 deg, the total current at the bottom of the coil
is 1.0A @ 0 deg. With a 14.3 degree phase shift through the
coil, the forward current at the top of the coil would be
0.55A @ -14.3 deg and the reflected current would be
0.45A @ +14.3 deg. Adding those two phasors together yields

0.55A*cos(-14.3) + 0.45A*cos(+ 14.3) = 0.533A + 0.436A = 0.969A
at the top of the coil. 0.969A is 3.1% lower than the 1.0 amp
at the bottom of the coil. Everything is perfectly consistent
with a 14.3 degree phase shift through the coil for the two
traveling waves.
--
73, Cecil http://www.w5dxp.com

5367. Re: Scanned Antennas book by Kraus

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 14:58:42 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <CunZh.5460$Ut6.2798@newsread1.news.pas.earthlink.net>
Source record: 41883

"Cecil Moore" <nospam@w5dxp.com> wrote in message
news:nolZh.2305$tp5.1550@newssvr23.news.prodigy.net...
> Jimmie D wrote:
>> A real shame you cant copy and paste text from a pdf file.
>
> Will the full-featured Adobe Acrobat do that?
> --
> 73, Cecil http://www.w5dxp.com

You can copy and paste TEXT from the pdf file. As mentioned the Kraus book
is scanned in the gif fromat and the text you are seeing is actual an image.
To get part of the text out of the gif that is in the pdf file , you have to
treat it as a picture and use the snapshot tool and cut out what you want to
paste into another documment.
What you have done is move part of an image file and not part of a text
file.

Atleast that is how it works with the Adobe Reader 7 and MS word.

5368. Re: Distributed capacitance effects Q?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 15:36:29 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <l12c33l87kjogrbh5re03dkqgfsglgm9sp@4ax.com>
Source record: 41884

On Mon, 30 Apr 2007 06:37:10 -0500, "amdx" <amdx@knology.net> wrote:

> >Are you exploring an intellectual curiosity or trying to
>> remedy a defect in application?
>
>No, I just have experienced the effect that Bill ask about and
>gave my own pet theory about why it happens.
> Now I'm looking for a little confirmation or where I went wrong.

Hi Mike,

Well, that is fine and good, but neither of you have given us any real data, and certainly no Q values to judge if what you both experienced was within the range of "normal" or out in left field. RF measurements are difficult to do to any particularly fine accuracy, and what was observed may have been simple variation due to the measurer's proximity (offering just one of many things that can go wrong).

>>Loss still remains the province of resistance.
>
>Richard, That's like saying rain has water in it. No matter how many times
>you say it,
>I'm still going to agree with you.

Then this diverges from Bill's premise of Capacitance being the source of loss and you and he are separable at this point of your common experience.

>>Your best argument is that Capacitance exacerbates loss.
>
> I would rephrase that as "interwinding capacitance exacerbates loss".
>
>And with that, you have summed up my argument perfectly.
>
>You have helped reduce my argument to 4 words.
>
> Now, do you agree that interwinding capacitance will reduce Q?
>(yes, I know it's the province of resistance)

Give me some metrics to show it is not skin effect.

The issue at hand is your (both you and Bill, or either of you separately) loops keep changing to fit to the loss rather than to the application. It makes for a rather strained progression of design as loops are added, proximity becomes a greater issue, as coil length collapses, insulation is added, and as frequency shifts to follow

these changes. It is as though a good 10M loop is evolving to operate poorly there or, worse, in the 160M band where its resonance has finally come to rest through optimizing for loss.

I can imagine there being enough turn-to-turn capacitance to induce large currents, but so many correlating factors would have to ride along with this that they could easily eclipse that contribution of loss. In other words, it seems the goal of your argument is to raise that capacitance, which by ordinary means has you drawing the loops together (insulated or not). This compounds the skin effect and for a constant frequency demands a lower inductance. The lower inductance, in turn, then demands a smaller coil which forces a lower Radiation resistance. A smaller coil (to again follow the demand for more Capacitance) drives closer loops.

It seems like this is in an infinite regress.

73's
Richard Clark, KB7QHC

5369. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 17:16:39 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1177953399.303882.26730@y80g2000hsf.googlegroups.com>
Source record: 41885

On Apr 29, 2:18 pm, Roy Lewallen <w...@eznec.com> wrote:
> K7ITM wrote:
> > . . .
> > I'm very curious now to see exactly what Pearson & Maler and Van
> > Valkenburg say in their texts. Are they clear with a mathematical
> > definition, or do they end up just using words that can be interpreted
> > in different ways? . . .
>
> Sorry, I've been swamped, but will post some quotes soon.
>
> Roy Lewallen, W7EL

More from my research (which is probably at an end at this point):

Bell, "Fundamentals of Electric Circuits," calls a phasor a rotating
vector, period.

IEEE Standard Dictionary of Electrical and Electronic Terms has
entries for both non-rotating and rotating definintions.

Christiansen, "Electronic Engineers' Handbook," defines a phasor
clearly as a non-rotating quantity.

This has been educational. Clearly there are people in both camps.
I'm obviously in the non-rotating camp, and it seems to be one with a
high population. I'll be careful to ask when someone writes of
phasors and their definition is not clear from the context, at least
if the distinction between the two definitions matters in that case.

Cheers,
Tom

5370. Re: Rotational speed

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 17:56:25 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <c5qZh.5091$H84.5040@newssvr22.news.prodigy.net>
Source record: 41886

K7ITM wrote:
> This has been educational. Clearly there are people in both camps.
> I'm obviously in the non-rotating camp, and it seems to be one with a
> high population.

I thought the non-rotating camp was the only one. Because
of that, I need to apologize to Roy, W7EL, who is apparently
in the rotating camp when he said that standing-wave phasors
have a rotational speed the same as the traveling wave. Since
he doesn't read my postings, would you please reply to this
one so he will see it? TNX
--
73, Cecil http://www.w5dxp.com

5371. Re: Effectiveness of decoupling radials

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 18:00:58 UTC
From: Frank <ve6cb@spamfree.telus.net>
Message-ID: <u9qZh.14500$JF6.4868@edtnps90>
Source record: 41887

"Owen Duffy" <none@no.where> wrote in message
news:Xns99228D403252Cnonenowhere@61.9.191.5...
>
> I have been playing with some NEC-2 models of a multiband vertical with
> radials.
>
> The vertical is an unloaded vertical of 13m height, and it is mounted on
> a 6m high grounded metal mast, and an ATU installed at the feedpoint
> (base of the radiator). I have fitted a pair of opposed nominal quarter
> wave radials for each of the 80, 40, 30 and 20m bands.
>
> To simulate ground loss, I have modelled a 20 ohm resistance in the
> bottom of the mast, and used a MININEC ground.
>
> An interesting observation is the sensitivity of this model to length of
> the radials. Properly adjusted, each pair of opposed radials near
> eliminate current on the mast (more than 20dB below the current into the
> radiator). The exception to this is the 30m radials which seem to suffer
> some interaction with the 80m radials (near third harmonic). Without the
> appropriate radials, current in the mast to ground is large, and losses
> can be 10dB or more.
>
> The ideas I take away from the modelling excercise is that:
> - inadequate decoupling exacerbates ground loss;
> - decoupling is very dependent on the length of the radials;
> - one pair of opposed radials is enough for a narrow band;
> - the radials for different bands have some interaction; and
> - the optimum length may be quite a deal longer than the expected length
> of legs of a half wave dipole in the same place.
>
> I am grappling with some other way to optimise such a system, other than
> measuring the mast current (which often isn't easy).
>
> These effects probably also apply to a trapped vertical with similar
> counterpoise, and the traditional wisdom of tuning either the length of
> the vertical or radial length to achieve low VSWR is probably less than
> optimal, there is an optimal length for each of them.
>
> The traditional wisdom that elevated radials are generally significantly
> lower loss than buried radials probably depends on careful "tuning" or
> isolation of feed point ground to minimise current flowing to the real
> ground.
>
> Comments, thoughts?

>
> Owen

Owen, It may not be too critical, but would not the Sommerfeld/Norton method improve accuracy?

Frank

5372. Re: EZNEC Example of Short Vertical w/ Matching Coil

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 18:09:00 UTC
From: Frank <ve6cb@spamfree.telus.net>
Message-ID: <0hqZh.14503$JF6.1620@edtnps90>
Source record: 41888

"Al Lorona" <al_lorona@agilent.com> wrote in message
news:1177913916.934042@newsreg.cos.agilent.com...
> Hi, Everybody,
>
> A short vertical such as for mobile use is capacitive and this Xc is
> usually
> tuned out with a shunt coil at the feedpoint. Yet, when I model this with
> EZNEC I cannot simulate this effect properly. I must be doing something
> wrong. Does anyone have an EZNEC example showing a shunt matching coil
> inserted as an EZNEC Load at the feedpoint that they can send me?
>
> Thanks very much.
>
> Regards,
>
> Al W6LX

In any case, whatever you do, it is unlikely that a single element will
achieve
a match. Unless you are very lucky you will need a two element network.
For example a shunt L, series C, or Series L, shunt L, or series L, shunt
C will achieve a match for virtually any capacitive load. A Smith Chart
is ideal for such analysis.

Frank

5373. Re: Distributed capacitance effects Q?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 19:07:48 UTC
From: amdx <amdx@knology.net>
Message-ID: <3a9ef$46363e6e$18d6b40c$14587@KNOLOGY.NET>
Source record: 41889

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:l12c33l87kjogrbh5re03dkqgfsglgm9sp@4ax.com...
> On Mon, 30 Apr 2007 06:37:10 -0500, "amdx" <amdx@knology.net> wrote:
>
>> >Are you exploring an intellectual curiosity or trying to
>>> remedy a defect in application?
>>
>>No, I just have experienced the effect that Bill ask about and
>>gave my own pet theory about why it happens.
>> Now I'm looking for a little confirmation or where I went wrong.
>
> Hi Mike,
>
> Well, that is fine and good, but neither of you have given us any real
> data, and certainly no Q values to judge if what you both experienced
> was within the range of "normal" or out in left field. RF
> measurements are difficult to do to any particularly fine accuracy,
> and what was observed may have been simple variation due to the
> measurer's proximity (offering just one of many things that can go
> wrong).
>
Yes, RF measurements are difficult to do to any particularly fine
accuracy.
And I claim no great knowledge of how to minimize errors or even how to
recognize where they come from.

>>>Loss still remains the province of resistance.
>>
>>Richard, That's like saying rain has water in it. No matter how many times
>>you say it,
>>I'm still going to agree with you.
>
> Then this diverges from Bill's premise of Capacitance being the source
> of loss and you and he are separable at this point of your common
> experience.
>
>>>Your best argument is that Capacitance exacerbates loss.
>>
>> I would rephrase that as "interwinding capacitance exacerbates loss".
>>
>>And with that, you have summed up my argument perfectly.
>>
>>You have helped reduce my argument to 4 words.
>>

>> Now, do you agree that interwinding capacitance will reduce Q?
>>(yes, I know it's the province of resistance)
>
> Give me some metrics to show it is not skin effect.
>
> The issue at hand is your (both you and Bill, or either of you
> separately) loops keep changing to fit to the loss rather than to the
> application. It makes for a rather strained progression of design as
> loops are added, proximity becomes a greater issue, as coil length
> collapses, insulation is added, and as frequency shifts to follow
> these changes. It is as though a good 10M loop is evolving to operate
> poorly there or, worse, in the 160M band where its resonance has
> finally come to rest through optimizing for loss.

My experience is limited to winding small inductors rather than
loop antennas.
>
> I can imagine there being enough turn-to-turn capacitance to induce
> large currents, but so many correlating factors would have to ride
> along with this that they could easily eclipse that contribution of
> loss. In other words, it seems the goal of your argument is to raise
> that capacitance, which by ordinary means has you drawing the loops
> together (insulated or not). This compounds the skin effect and for a
> constant frequency demands a lower inductance. The lower inductance,
> in turn, then demands a smaller coil which forces a lower Radiation
> resistance. A smaller coil (to again follow the demand for more
> Capacitance) drives closer loops.
>
> It seems like this is in an infinite regress.

I don't understand why you think we want more interwinding capacitance,
We want less.
I will agree that the mechanics involved in trying to reduce interwinding
capacitance
will probably reduce proximity effects and so to seperate out any affect
from the
reduces interwinding capacitance would be difficult.
I need to go,
Later, thanks Richard

5374. Re: Current in 1/2WL Dipoles

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 19:51:40 UTC
From: Gene Fuller <W4SZzzzzzz@att.net>
Message-ID: <gNrZh.391273$5j1.222839@bgtnsc04-news.ops.worldnet.att.net>
Source record: 41890

Cecil Moore wrote:

> But it has yet to be explained how Roy (and Tom R.)

Cecil,

I don't post under an alias. My name is neither Tom nor Roy. I have never attempted to measure the phase shift in a loading coil.

See you the next time you try to practice physics without a license.

8-)

73,
Gene
W4SZ

5375. Re: Reciprocity of vertical antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 20:40:43 UTC
From: David <nospam@nospam>
Message-ID: <18ednQJwM_vTyavbnZ2dnUVZ8t-nnZ2d@bt.com>
Source record: 41891

If the radials are horizontal, the field of the radials cancels out. If the radials are drooping, the radials radiate considerably. Is there any advantage in either configuration? Perhaps for feedline decoupling?

The field pattern will be different between transmit and receive, because in receive mode the radio wave can be coming from the source in any direction. Does antenna reciprocity theorem cover this, as usually people state that the field pattern is the same for transmit and receive?

5376. Re: Current in 1/2WL Dipoles

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 20:57:58 UTC
From: Cecil Moore <nospam@w5dxp.com>
Message-ID: <oLsZh.3190$HX7.2322@newssvr19.news.prodigy.net>
Source record: 41892

Gene Fuller wrote:
> I don't post under an alias. My name is neither Tom nor Roy. I have
> never attempted to measure the phase shift in a loading coil.

What do you think about the methods of those who did?
--
73, Cecil http://www.w5dxp.com

5377. Re: Effectiveness of decoupling radials

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 21:46:46 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns99234F24CA9FCnonenowhere@61.9.191.5>
Source record: 41893

"Frank" <ve6cb@spamfree.telus.net> wrote in news:u9qZh.14500$JF6.4868
@edtnps90:

> Owen, It may not be too critical, but would not the Sommerfeld/Norton
> method improve accuracy?

Hi Frank

My understanding was that the MININEC ground model was the better to use if the model caused current to flow into ground (as mine does).

The draft model is at http://www.vk1od.net/multibandunloadedvertical/13MVERT01.nec if you want to play with it.

Owen

5378. Re: Effectiveness of decoupling radials

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 21:56:17 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns992350C2380B9nonenowhere@61.9.191.5>
Source record: 41894

Chuck <no.spam@no.spam.at.all> wrote in
news:1177939588_22029@sp12lax.superfeed.net:

...
> Just as an aside, Owen, have you
> considered just a single pair of
> non-resonant, opposed radials for all
> bands? The ATU can just as easily "tune"
> a single radial pair + vertical
> element as it can the vertical element
> alone.
>
> Any additional benefit of separate
> radial pairs for different bands may be
> slight.

That would seem the case if you just regard the radials as providing a counterpoise, the "other" connection that provides a return path for current to the source. I have modelled this scenario where the source is at the feedpoint (ie no transmission line) and the radials and radiator are suspended above ground by a non-conducting structure, and you are right that the radials need not be resonant, residual reactance being dealt with by the auto-tuner at the feed point.

However, if you connect the radials to ground by some conductor (eg feed line and / mast) that conductor is not part of the picture, and as I modelled a conducting mast with a lossy ground connection, the big picture is very different.

Here is a plot of modelled system losses with the configuration that I described: http://www.vk1od.net/multibandunloadedvertical/13mEV03.gif . Not the large losses at 5MHz, this loss is mostly in the 20 ohms equivalent earth resistance. The high ant+gnd loss at 1.8MHz can be reduced to less than a dB with a pair of ~40m long radials (but tuner losses increase to 3+dB).

So it seems that one could do as you suggest and effectively isolate the radiator and radials from ground, or the radials need to be carefully adjusted to minimise the mast / feedline current to ground, especially where the feedpoint resistance is small wrt the equivalent mast to eart resistance.

Owen

5379. Re: Effectiveness of decoupling radials

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 21:59:29 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9923514D1A830nonenowhere@61.9.191.5>
Source record: 41895

Danny Richardson <n_group@k6mhe.com> wrote in
news:9uob335pfh9ma695fphogo10gicu05m21i@4ax.com:

...
> My first thoughts are while such a situation can be modeled, in the
> real world I would doubt you can build a system as you describe where
> the radials are balance. Just as one can not install a dipole in a
> typical back yard (garden) that is truly balanced.

I agree that practical antennas on suburban blocks are a challenge. But that doesn't eliminate the effects, and I think the key issue that the models raise is the value in effectively decoupling the mast / feed line. Tuned radials are not the only method, and as I suggested in my post, short of measuring the mast current, I cannot see any other obvious method of "tuning" the radials for maximum decoupling.

Owen

5380. Re: The Formula

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 22:10:10 UTC
From: David <nospam@nospam>
Message-ID: <qIGdnRfOfuzZ9KvbRVnysQA@bt.com>
Source record: 41896

I find that there are many anomalies in RF theory. For example, Maxwells Equations show reflection at a boundary where current flows in the metal surface down to the skin depth. Books then state that this boundary condition applies to waves guided by two wires. The wires therefore sort of reflect the wave and guide it. Power flows as the Poynting vector.

Current can be a flow of electrons or holes. If the current in a P type semiconductor is holes, it is a flow of emptiness or nothing.

Current is normally said to be the flow of electrons. The electrons actually move very slowly with a drift velocity of a few mm per second. The signal part of the current that flows near speed of light is the electromagnetic wave that flows in the area outside the conductor.

There seem to be a number of disputes in RF e.g. about the effectiveness of conjugate matching with Walter Maxwell refuting articles in his book "Reflections".

RF seems to be a black art e.g. when it comes to S parameters, network analysers, phase matching and batch matching of cables. Little seems to be written down.

5381. Re: EZNEC Example of Short Vertical w/ Matching Coil

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 22:44:25 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns992358EAF8F8nonenowhere@61.9.191.5>
Source record: 41897

"Frank" <ve6cb@spamfree.telus.net> wrote in
news:0hqZh.14503$JF6.1620@edtnps90:

...
> In any case, whatever you do, it is unlikely that a single element
> will achieve
> a match. Unless you are very lucky you will need a two element
> network. For example a shunt L, series C, or Series L, shunt L, or
> series L, shunt C will achieve a match for virtually any capacitive
> load. A Smith Chart is ideal for such analysis.

But one of those reactances can be supplied by detuning the loaded antenna,
the second typically by a shunt coil.

For example, if the R component at the base at resonance is say 20 ohms
(radiation resistance, equivalent coil resistance and equivalent ground
resistance), detuning the radiator + loading for about 25 ohms of capacitive
reactance will allow a shunt coil of about 2uH to form an L match at 3.6MHz.

Owen

5382. Re: The Formula

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 23:26:26 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <133cup7ocitahae@corp.supernews.com>
Source record: 41898

The problems you're encountering are the result of trying to oversimplify electromagnetic theory by reducing it to conceptual models which are far from adequate. Your basic conceptual models are faulty, so any conclusions you draw from using these models will eventually lead to contradictions. That same problem has, in fact, been the cause of a huge number of argumentative postings on this newsgroup.

You have a great deal of curiosity about electromagnetic phenomena, so you'd benefit a great deal from a bit of education. To fully understand electromagnetics, you need a solid background in mathematics. Without the solid background of math and electromagnetic theory, you'll always find it necessary to use oversimplified models, and those will always lead to contradictions. It takes considerable time and effort to gain the necessary background, but if you truly want the answers to your questions, it's the only way.

Roy Lewallen, W7EL

David wrote:
> I find that there are many anomalies in RF theory. For example, Maxwells
> Equations show reflection at a boundary where current flows in the metal
> surface down to the skin depth. Books then state that this boundary
> condition applies to waves guided by two wires. The wires therefore sort of
> reflect the wave and guide it. Power flows as the Poynting vector.
>
> Current can be a flow of electrons or holes. If the current in a P type
> semiconductor is holes, it is a flow of emptiness or nothing.
>
> Current is normally said to be the flow of electrons. The electrons actually
> move very slowly with a drift velocity of a few mm per second. The signal
> part of the current that flows near speed of light is the electromagnetic
> wave that flows in the area outside the conductor.
>
> There seem to be a number of disputes in RF e.g. about the effectiveness of
> conjugate matching with Walter Maxwell refuting articles in his book
> "Reflections".
>
> RF seems to be a black art e.g. when it comes to S parameters, network
> analysers, phase matching and batch matching of cables. Little seems to be
> written down.
>
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>
>

>
>

5383. Re: Distributed capacitance effects Q?

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 23:30:40 UTC
From: amdx <amdx@knology.net>
Message-ID: <95113$463683de$18d6b40c$11765@KNOLOGY.NET>
Source record: 41900

"amdx" <amdx@knology.net> wrote in message
news:3a9ef$46363e6e$18d6b40c$14587@KNOLOGY.NET...
>
> "Richard Clark" <kb7qhc@comcast.net> wrote in message
> news:l12c33l87kjogrbh5re03dkqgfsglgm9sp@4ax.com...
>> On Mon, 30 Apr 2007 06:37:10 -0500, "amdx" <amdx@knology.net> wrote:
>>
>>> >Are you exploring an intellectual curiosity or trying to
>>>> remedy a defect in application?
>>>
>>>No, I just have experienced the effect that Bill ask about and
>>>gave my own pet theory about why it happens.
>>> Now I'm looking for a little confirmation or where I went wrong.
>>
>> Hi Mike,
>>
>> Well, that is fine and good, but neither of you have given us any real
>> data, and certainly no Q values to judge if what you both experienced
>> was within the range of "normal" or out in left field. RF
>> measurements are difficult to do to any particularly fine accuracy,
>> and what was observed may have been simple variation due to the
>> measurer's proximity (offering just one of many things that can go
>> wrong).
>>
> Yes, RF measurements are difficult to do to any particularly fine
> accuracy.
> And I claim no great knowledge of how to minimize errors or even how to
> recognize where they come from.
>
>
>>>>Loss still remains the province of resistance.
>>>
>>>Richard, That's like saying rain has water in it. No matter how many
>>>times
>>>you say it,
>>>I'm still going to agree with you.
>>
>> Then this diverges from Bill's premise of Capacitance being the source
>> of loss and you and he are separable at this point of your common
>> experience.
>>
>>>>Your best argument is that Capacitance exacerbates loss.
>>>
>>> I would rephrase that as "interwinding capacitance exacerbates loss".

>>>
>>>And with that, you have summed up my argument perfectly.
>>>
>>>You have helped reduce my argument to 4 words.
>>>
>>> Now, do you agree that interwinding capacitance will reduce Q?
>>>(yes, I know it's the province of resistance)
>>
>> Give me some metrics to show it is not skin effect.
>>
>> The issue at hand is your (both you and Bill, or either of you
>> separately) loops keep changing to fit to the loss rather than to the
>> application. It makes for a rather strained progression of design as
>> loops are added, proximity becomes a greater issue, as coil length
>> collapses, insulation is added, and as frequency shifts to follow
>> these changes. It is as though a good 10M loop is evolving to operate
>> poorly there or, worse, in the 160M band where its resonance has
>> finally come to rest through optimizing for loss.
>
> My experience is limited to winding small inductors rather than
> loop antennas.
>>
>> I can imagine there being enough turn-to-turn capacitance to induce
>> large currents, but so many correlating factors would have to ride
>> along with this that they could easily eclipse that contribution of
>> loss. In other words, it seems the goal of your argument is to raise
>> that capacitance, which by ordinary means has you drawing the loops
>> together (insulated or not). This compounds the skin effect and for a
>> constant frequency demands a lower inductance. The lower inductance,
>> in turn, then demands a smaller coil which forces a lower Radiation
>> resistance. A smaller coil (to again follow the demand for more
>> Capacitance) drives closer loops.
>>
>> It seems like this is in an infinite regress.
>
> I don't understand why you think we want more interwinding capacitance,
> We want less.
> I will agree that the mechanics involved in trying to reduce interwinding
> capacitance
> will probably reduce proximity effects and so to seperate out any affect
> from the
> reduces interwinding capacitance would be difficult.
> I need to go,
> Later, thanks Richard
>

Ok, I'm back.
Richard, I was starting to lean towards proximity effect possibly causing
all of the affect we have been discussing, so I did some Googling. I kept
find the

same line " increased capacitance lowers Q" But, I think you agree that as I said
above most efforts to reduce capacitance will also reduce proximity effect.
I ran across W8JI's page, he's usually pretty exacting in his wording, and he says,

"Capacitance across any inductor carrying time-varying current increases circulating
currents in the inductor, increasing loss while simultaneously reducing system bandwidth."

snip "Anything that increases capacitance will reduce component Q"

He never mentions the correlation between interwinding capacitance and proximity effect

These line were taken from;
http://www.w8ji.com/loading_inductors.htm

What do you think?
Mike

5384. Re: Effectiveness of decoupling radials

Newsgroup: rec.radio.amateur.antenna
Date: 2007-04-30 23:56:14 UTC
From: nm5k@wt.net
Message-ID: <1177977374.455297.47410@y80g2000hsf.googlegroups.com>
Source record: 41899

On Apr 30, 3:56 pm, Owen Duffy <n...@no.where> wrote:

>
> So it seems that one could do as you suggest and effectively isolate the
> radiator and radials from ground, or the radials need to be carefully
> adjusted to minimise the mast / feedline current to ground, especially
> where the feedpoint resistance is small wrt the equivalent mast to eart
> resistance.
>
> Owen

Any elevated radials need to be resonant, and show a low Z at
the freq being used. If they show a high Z, they are basically
useless. You have to think of them more as the lower half
of the antenna, rather than ground radials. I read a post of
Roy's the other day that kind of touched on this. There really
is no "RF ground" when elevated, according to him, and I agree.
It's all one total antenna same as any other.
Of course, the number of radials used for the lower half of the
low GP antenna will greatly effect the ground loss, and to some
extent the decoupling of the feedline.
I've noticed that adding more than four radials to a 1/4 wave GP
on 2m did improve decoupling.
So even if ground losses are not an issue, IE: the 2m example,
the performance can still be improved by improving the decoupling
of the line. And it's noticable too.
But with your low band, low height antenna, ground losses are
a larger issue than decoupling. 2 radials are going to be lukewarm
at best, even elevated at your low height in wavelength.
Your ground losses are going to be pretty high.
MK